

THE OFFICE OF WORKS AND THE RENOVATION OF
THE SCOTTISH UNIVERSITIES 1808-

David Grant

A Thesis Submitted for the Degree of PhD
at the
University of St Andrews



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The Office of Works and the Renovation of the
Scottish Universities
1808 -1889

David Grant.

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St. Andrews, July 2001



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The Office of Works and the Renovation of the
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1808 -1889

Volume I. (text)

David Grant.

Submitted for the degree of Doctor of Philosophy

St. Andrews, July 2001



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Abstract

This thesis is in four parts and documents the redevelopment in the nineteenth century of the dilapidated University buildings of St. Andrews, Glasgow and King's and Marischal Colleges at Aberdeen. The period under examination dates from 1808 through to the Scotland (University) Act of 1889.

The areas researched included the reasons why the University authorities failed to keep their buildings in good repair and the steps taken by their governing bodies to rectify the situation. It was found this problem was caused by a continuing yearly fall in their income and it was imperative that government funding was made available to alleviate the situation. Similarly researched in detail was the part played by the Office of Works in Scotland along with the private architects who were responsible for the rehabilitation of the old buildings and the erection of new purpose built accommodation.

Part One looks at the historical background leading to the formation of the Scottish Office of Works in January, 1827 and its subsequent downgrading to that of a regional office of the Office of Woods and Forests in 1840. The Office of Woods and Forests was under the control of H.M. Treasury until 1857 when a major change took place with the appointment of a First Commissioner of Works responsible to parliament.

Parts Two, Three and Four, examine the situation relevant to each individual University and College. Their protracted negotiations with the Treasury are highlighted, as are the subsequent delays in releasing the necessary funding, due in some measure to the bureaucracy of the period. The review of the building process is completed by examining the details surrounding the appointment of the architects and contractors involved in the construction of these new buildings. By mid century architects were having to cope with new technological advances, new materials, new methods of construction and new revived architectural styles which are dealt with in the text.

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Abbreviations

A.C.C.A.R.D.	Aberdeen City Council Arts and Recreation Department.
U.A.H.C.S.L.A.	University of Aberdeen Historic Collections, Special Libraries and Archives.
U.St.A.L.P.C.	University of St. Andrews Library Photographic Collections.
U.St.A.L.M.	University of St. Andrews Library Muniments.
U.St.A.L.Ms	University of St. Andrews Library Manuscripts.
G.U.A.	Glasgow University Archives.
n.	Notes.
n.d.	No date.
n.p.	No page number.
N.L.S.	National Library of Scotland.
N.M.R.S.	National Monuments Record of Scotland.
N.A.S.	National Archives of Scotland.
P.R.O.	Public Record Office.
R.I.B.A.	Royal Institute of British Architects.
R.G.C.	Ronald Gordon Cant.
D.P.C.	Damp Proof Course.
M.L.	Mitchell Library, Glasgow.

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- Fig. 168 Glasgow University Gilmorehill : Bute Hall internal view showing columns.
- Fig. 169 Glasgow University Gilmorehill : Bute Hall showing detail of decorative spandril.
- Fig. 170 Glasgow University Gilmorehill : Plan of Van Hecke heating and ventilating system. Redrawn by D. Grant.
- Fig. 171 Glasgow University Gilmorehill : Section through south east front showing heating and ventilation ducts. Redrawn by D. Grant.
- Fig. 172 Glasgow University Gilmorehill : S. W. end pavilion.

Introduction

The subject of this thesis resulted from a class discussion with Professor David Walker when it was agreed the development of public buildings in Scotland during the nineteenth century was worthy of research. The length of the period and the range of buildings covered determined, at an early stage, the need for selectivity. This led to the decision to concentrate on the foundation of the Office of Works in Scotland 1827-40, and the extension and rehabilitation of the Universities of St. Andrews, Glasgow, and King's and Marischal Colleges in Aberdeen. Edinburgh University has been omitted from this study as it was a special case, being legally under the control of Edinburgh Town Council from its inception in 1553 through to 1861. The Town Council were responsible for the buildings and University finances, and like the other Universities Edinburgh's buildings were in a poor condition. In 1789 new buildings designed by Robert Adam were begun and received government funding over a period of years from 1793 -1832. Its completion was in response to the 1810 Memorials submitted to the Treasury by the Senate, Town Council, and the Royal Burghs. The Treasury were concerned that by giving support to Edinburgh they would leave themselves open to similar applications from other Scottish universities. This was thought unlikely as the buildings of St. Andrews and Aberdeen were described as adequate for their student population, while Glasgow had received £2,500 to bring their accommodation up to standard. The following investigation will prove how flawed this information was.

Particular attention has been given to the role played by the Scottish Office during its brief period of autonomy and as a regional office of the Office of Woods and Forests/Office of Works. There has not been a sustained programme of research carried out which has detailed the allied problems the Scottish Universities had to surmount in obtaining government funding, without which they would not have been able to improve their dilapidated and unsuitable accommodation. In the case of the rebuilding of Marischal College and the removal of Glasgow University to Gilmorehill, public subscriptions were necessary to supplement official aid. In the account which follows care has been taken to maintain a comprehensive overview of the measures adopted which led to the repair, extension and renewal of the

properties listed during the period under review. No major development has escaped analysis or comment.

Robert Reid was appointed by Royal Warrant the King's Architect and Surveyor in Scotland in June 1808 and this has been selected as the starting date of this thesis. To introduce the subject a brief resume of historical events outlines the progression from the earliest fourteenth century mason designer to the creation of the short lived Scottish Office Of Works. The significance of Reid's appointment as first Principal Officer cannot be overlooked as he was the first salaried architect. The detailed protracted negotiations each Institution had with the hard pressed Treasury officials between 1823 and 1862 are fully detailed. Treasury delays in releasing funding were due to changes of government and incorrect and incomplete submissions by the applicants. Under the College Removal Act of 1846 the Treasury had the added responsibility of approving John Baird's designs for the buildings for Glasgow University's move to Woodlands. This scheme failed due to procrastination in approving a suitable design.

The periods of building activity are fully covered beginning in 1829 with the renovation of St. Mary's College and the rebuilding of United College at St. Andrews and ending with the completion of Glasgow University's new buildings at Gilmorehill in 1887. At King's College little building was carried out after John Smith's modernisation finished in 1825. Further renovation and rebuilding was carried out by Robert Matheson of the Edinburgh department of the Office of Works between 1859-63. In the sixteenth and seventeenth centuries political and religious divisions and in the eighteenth and nineteenth centuries rivalry, not least for funding, had prevented the union of the Aberdeen Colleges until 1858. In July 1834 Marischal College received £15,000 the unspent portion of the £30,000 allocated from the King's Hereditary Revenues to the Scottish Universities in 1826. This sum plus public subscriptions allowed Marischal College to be rebuilt between 1836 -1844. The completion of Glasgow University's new building signalled the end of the modernisation and rebuilding of the Institutions under review. These buildings remained under the care of the Office of Works until the Universities (Scotland) Act of 1889 removed the Universities from government control and this date has therefore been selected as the finishing date for this study.

One Ph.D. Thesis and three undergraduate Dissertations have been researched and written on areas applicable to this Thesis and are as follows:

R. D. A. Evetts, "The Architectural Expansion and Redevelopment of St. Andrews",
Ph.D. Dissertation, University of St. Andrews 1988.

D. Mays, "The Old University Buildings St. Andrews", M.A. Dissertation
University of St. Andrews 1984.

S. Blomfield, "The Architecture of Scottish University Museums", M.Phil.
Dissertation, University of St. Andrews 1999.

S. Matko. "Glasgow University Removal; Scott on Gilmorehill", B.Arch Dissertation,
Mackintosh School of Architecture Glasgow 1985.

The Ph.D. Thesis and two Dissertations were written under the supervision of Dr. John Frew and Professor David Walker in the Department of Art History at St. Andrews University. The remaining Dissertation was written and supervised by Dr. James Macaulay at the Mackintosh School of Architecture in Glasgow.

Sources

A principal source of information has been the Senate Minute and Removal Committee Books, correspondence, private papers, architectural drawings and photographs housed in the archives of St. Andrews, Glasgow, and Aberdeen Universities. Of equal importance have been the Minute books, Ledgers and documents of the Office of Woods and Forests/Office of Works and the Treasury plus private correspondence and photographs held in the Public Record Office at Kew. Further relative correspondence and architectural drawings held in the National Archives of Scotland in Edinburgh have been examined. The resources of The National Monuments Record of Scotland and The Map Library of the National Library of Scotland have also been consulted. The printed Evidence and Report of the University Commissioners for visiting the Universities of Scotland was a prime source.

Contemporary nineteenth century architectural historical literature and current commentaries are listed in the text and bibliography. Secondary published

material of the period which have been particularly helpful include the *Glasgow Herald*, *Aberdeen Weekly Journal*, *The Builder*, *The Building News and Engineer*, *The Illustrated London News*, *Edinburgh Courant* and the *St. Andrews Gazette*.

Other information has been freely given by my supervisor Professor David Walker and from a number of other sources who are acknowledged elsewhere.

The Scottish Office of Works 1827 -1840

Historical Background

The old relationship of enmity that had existed for centuries between Scotland and England came to an end in 1603, when James VI succeeded Elizabeth I as her nominated heir. Despite promises to the contrary he returned only once to Scotland in 1617 and his son Charles I who succeeded him in 1625 made a belated visit in 1633. Scotland remained a sovereign state governed by the pen of their absent monarchs whose written instructions were executed by the Scottish Privy Council. That situation remained in force until political necessity forced England to seek political union with Scotland in 1707, which in theory made the countries partners but in no sense equal. The larger population and wealth of England made equality impossible, but at no time was Scotland totally subjugated by her larger and wealthier neighbour.

After 1603 and up to the parliamentary Act of Union in 1707 Scotland in theory at least, was still in charge of her own affairs. English foreign policy was now forced upon Scotland who still retained her own religion, legal, educational systems and a Royal Household appointment which had existed for centuries, that of the King's Master of Works. The English equivalent covered a much larger area of responsibility. The earliest mason designer in Scotland has been identified as John Morvo, a man of unknown nationality who worked in Scotland between 1380 and 1420 and it is known he had also visited Paris. This is confirmed by his signature and inscription on his work at Melrose Abbey. He was noted for his curvilinear tracery and carving which can also be seen at Lincluden and Paisley Abbeys. (1)

Royal patronage was essential if artistic and musical talent was to flourish and James III (1452-88) gave freely of his patronage. During his reign Thomas Cochrane, "became very ingeneous into that craft and bigit money stain houses". (2) He was appointed King's master mason and he could have been the designer builder of the Great Hall at Stirling Castle. If the Great Hall at Stirling was "the first large scale building in Great Britain to display the influences of the Renaissance" and these took the form of Italianate motifs rather than structural innovations. (3) Cochrane, as one of the King's favourites upset vested aristocratic interests, good

birth no longer qualified one for a post as a royal courtier. Those who "faine would have servit the kings grace ... could gett na place for this Couchrin and his companie". (4) This was a situation the nobility could not tolerate and Cochrane was hanged by them at Lauder Brig (1482), such drastic treatment effectively killed off the new artistic ideas.

James IV (1473-1513) was the first Scottish King to import stone masons from France and he added to the royal apartments at Stirling, Rothesay and Edinburgh Castles. At Edinburgh he altered the royal apartments and constructed the new Great Hall. The Hall 29 x 12.5 metres was built on the south side of the square. Large rectangular windows provided light in the north and south elevations, some windows having mullions and transoms, a style indicative of French influence in the vocabulary of the early Renaissance. The corbels which supported the roof wall posts, were carved as sophisticated classical consoles with James IV's cipher carved on them. (5) The roof's complex hammer beam construction was similar to the roof of the Great Hall at Stirling Castle, emulating the roofs at Westminster and Eltham. The first substantial Renaissance work in Scotland was pioneered at Falkland Palace (1537-1541) by James V's remodelling of the south and east ranges built by James IV. The north elevation of the south courtyard was designed by French masons, principally by Nicholas Roy, in a self consciously classical style. At Falkland the building consists of the facade and little more as only a corridor width separates it from the old building. The five bay facade is built in the style of the Loire School modelled on Francois I's own house at Villers-Cotterets. (1533) Buttresses separating the bays are designed in the form of classical columns attached to piers standing on pedestals which are extended a full storey in height. The columns are surmounted by inverted consoles and in each bay are two French portrait medallions. (6) French influence at Falkland was the result of James V's marriage to two French brides in the space of one year (1537) where he spent some time. Falkland Palace is the most sophisticated of the Scottish royal residences and its courtyard at that time displayed the most advanced Renaissance work in the British Isles. James V's Castle of Stirling predominantly Gothic in character, has some very fine examples of Scottish Renaissance architecture especially the elaborate Palace Block (1538) sited at the southern side of the square. Elaborate baluster

shafts supporting curved figures of planetary gods are placed in the recessed sections of the wall springing from the carved string course on which the windows rest. There is abundant carving with gargoyle-like corbels at the base of the balusters. (7) French influence was transitory, making little impact, even allowing for the appointment of three French masons to the Scottish Court between 1535-39. The statuary gives impact to the Stirling palace exterior by following Falkland's example where planetary deities were also used as decoration.

William Schaw (1550-1602), who served as master mason to James VI between 1583-1602, travelled to Denmark in 1594 for the wedding of the king to Anne of Denmark. On his return to Scotland Schaw built the Chapel Royal (1594) at Stirling Castle. Post Reformation churches were normally three winged T-plans but at Stirling Schaw built a simple rectangular building. The main elevation had a centrally placed arched doorway framed between coupled doric columns, the doorway was flanked by paired windows in round headed openings creating a simple symmetrical design. The only surviving building showing evidence of his travels abroad. Scotland imported northern European Renaissance architectural forms from Italy, France, Denmark and Holland. Sir James Murray of Kilbaberton, Master of Works from 1607-1634 along with William Wallace, master mason to the crown from 1617-1631 rebuilt the palace block at Edinburgh castle (1615-17) in the latest Franco-Anglo style for James VI/I's visit to Scotland in 1617, using pedimented windows and ogee capped angle turrets. They rebuilt the north range at Linlithgow Palace in the same style, what was remarkable was the different treatment used on the courtyard and external elevations. The internal elevation followed the Scottish Renaissance model with single light windows, the fenestration of the external wall had large transomed and mullioned windows common in England. Sir Anthony Alexander, Murray's partner from 1629-1634, was Master of Works from 1634-1638 now included the title of Architect to the King. This role has been disputed, John Dunbar believed that design was in the hands of the royal master masons and recent research by Aonghus MacKechnie suggests Murray combined both roles of architect and clerk of works. (8)

Parliaments were held infrequently in Scotland after 1603 and a parliament building was eventually built in Edinburgh between 1633-1640. Sir James Murray is

credited with the design and direction of the project, being a key figure in the development of the 'Court School' of architecture in Scotland. (9) Parliament Hall had several common features associated with buildings of this period bearing a marked resemblance to the rustic portals of Glasgow University 1636. The building was used for intermittent sittings of parliament and doubled up as government offices and law courts.

The master masons and the royal masters of work each in turn added to the continued development of Scottish architecture. Scotland's craftsmen made use of and adapted foreign influences and from about 1500 Scottish architecture had reached a high degree of sophistication. Sir John Summerson wrote about "Scotland's somewhat delayed development and a vigorous tendency to convert old forms to new purposes". (10) After 1603 architecture was one area where English influence failed to make an impact. The self assurance of Scottish architecture was retained. No English style brick buildings appeared in Scotland and little or no anglicisation or English architectural features appeared in the houses of the nobility and lairds. The unfinished Barnes Castle in East Lothian was planned round a formal courtyard, a style favoured in England. A few buildings followed the classical architectural style favoured in London which was related to the idea of British classicism. Winton and Pinkie houses had a mixture of Scottish and English features, the twisted chimney stalks at Winton 1620-27 plus cornice and parapet on the square tower recalls the style of Elizabethan England. Winton was built for the third Earl by William Wallace, King James' Scottish master mason. (11)

Sir William Bruce of Balcaskie (1630-1710) held the position of Master of Works from 1671-1678 and he was recognised as one of the two chief architects in Scotland after the Restoration of Charles II in 1660, the other being James Smith. Bruce, in 1671 designed the rebuilding of the fire damaged Holyrood Palace (1671-79) and enjoyed the title of the Surveyor General and Overseer of the King's Buildings in Scotland. From that time Bruce became the most sought after arbiter of good taste by the landed classes of the period. At Holyrood Bruce retained the James V tower incorporating it into a symmetrical composition with a new south west tower. (12)

During the eighteenth century the duties of the King's Master of Works

steadily diminished and public buildings came under the aegis of the Scottish Court of Exchequer. These buildings included the Palace of Holyroodhouse and the great churches which on the abolition of episcopacy in 1690, reverted to the crown. The cathedrals of Glasgow, Kirkwall, Elgin and St. Andrews were either in ruins or in need of repair. By the early nineteenth century the position of King's Master of Works in Scotland had become a grace and favour appointment worth £400 per annum. Since the Union of 1707 this position had virtually no duties yet it remained in existence until 1831. In 1832 the Treasury carried out another review of the ailing and cumbersome institution of the English Office of Works, a review which would have a direct bearing on the future of its Scottish counterpart. On the 31st January, 1827 George IV issued a Royal Warrant which created the new Office of Works in Scotland. Robert Reid was named as Principal Officer with a salary of £500 per annum. (13) It is worth documenting the effort Reid made in having such a department established in Scotland.

Robert Reid appointed
King's Architect and Surveyor in Scotland, August 1826
Principal of the Scottish Office of Works, January 1827

Robert Reid was born in Edinburgh in 1776, the son of Alexander Reid a stonemason but nothing is known of Reid's early life, education and architectural training. His first commission of note was his design for the Bank of Scotland building on Edinburgh's Mound in 1800. Reid was involved with William Sibbald in planning the development of Edinburgh's new town to the north of Queen Street. (14) In 1803 his career took a significant change of direction when he was commissioned by the Barons of Exchequer, to prepare a scheme for refurbishing and extending the city's Parliament House. Major internal alterations were required to provide additional accommodation for Scotland's Justiciary and Exchequer Courts and from this point his career as a public architect can be said to have begun. It took two Acts of Parliament, 46 (Geo. III) cap154 (1806) and 48 (Geo. III) cap146 (1808) before the Treasury authorised the barons of Exchequer to instruct the work to proceed. Reid found it necessary to reface the building, the external wall having been declared 'dead' by an unknown mason. Whether this action was absolutely necessary is not clear as there is no documentary evidence to support this statement. Reid replaced the original frontage with an Ionic facade on both the south and south west sides of the square, very much in the monumental style of the Adam brothers, based on their Edinburgh University design. The same elevational treatment was used on the eastern side of the building after the fire of 1824. Enthusiastic admirers of the old Parliament building were loud in their condemnation of Reid's design, none more so than Lord Cockburn who wrote in his memoirs: "When I first saw the Parliament House both outside and in it was a curious and interesting place, no one who remembers the old exterior can see the new one without sorrow and indignation." (15)

Those who had known the old building felt the area had been stripped of its historical character. [Self appointed critics and conservationists have, through the ages railed against changes in architectural styles. Such criticism can be justified if it is well informed, and in many instances the concerns and observations voiced have been justified.] In this instance Lord Cockburn disapproved of Reid's public

architecture which was not totally justified as his buildings are by no means ungainly. Reid was resourceful and on the strength of this prestigious public commission, petitioned the crown to be allowed to use the title of King's Architect and Surveyor in Scotland. He was recommended for the post by Mr Robert Dundas (1771-1851), the Lord Chief Baron who became the second Viscount Melville and Chancellor of the University of St Andrews. Dundas played an important role in Reid's work at that university during the late 1820's. The Royal Warrant was issued on the 29th June, 1808 appointed Reid to a purely honorary post that carried no financial remuneration. (16) Prior to his appointment as King's Architect, Reid was occasionally employed on a professional basis by the Barons of Exchequer and was paid in the normal way "by charging fees according to the rules of the profession", a system with which he had no complaints. (17) Reid was to find that as his career in public service expanded so would his professional contact with the Barons.

The Barons of Exchequer were constituted under Article 19 of the 1707 Parliamentary Act of Union between England and Scotland. The Act provided that the Court of Exchequer in Scotland was to be modelled on the English Exchequer Court. Under section two of the Act the Lord High Treasurer of Great Britain, the Lord Chief Baron and Barons in Ordinary were declared to be Judges of the Court, preserving a connection between the Treasury and the Exchequer. The Barons, as well as holding judicial powers, controlled the Hereditary Revenues of the Crown in Scotland, money accrued from rents, personal estates, fines, forfeitures or penalties and income raised through Custom and Excise Duties. The Act placed the Barons in charge of public buildings, the Palace of Holyroodhouse and other ancient palaces and buildings. These buildings were placed under the superintendence of the Master of Works for Scotland, who received instructions from the Barons who were responsible for authorising and paying for their maintenance. (18) The Barons did not have overall financial control as they were subjected at all times to the directions of the Lords Commissioners of the Treasury. The Treasury had the final say on all applications for funding from either public or private bodies. The Barons could vet and examine applications and make recommendations to the Treasury, their role formed an unnecessary layer of bureaucracy. This led to protracted negotiations and delays in money being released by the Treasury. The system

remained in operation until February, 1833 when a Royal Warrant was issued "authorising the transfer of the management of the Hereditary Revenues in Scotland to the Commissioners of Woods and Forests". (19) The transfer of this function to the Office of Woods and Forests made little difference to the workings of the Treasury who continued to prevaricate over the allocation of funding.

Having obtained royal patronage, Reid probably hoped that his new title of King's Architect would enhance his chances of securing commissions from new sources. Whether that happened is hard to tell but Reid did build up a large and flourishing practice. In 1809 the architectural profession was still in the embryo stage, architects had previously relied mainly on noble patronage and were slowly becoming emancipated from this method of gaining employment. The development of the profession was hampered to a degree by the difficulty in defining the role of the architect through the inability to make a clear distinction between the artist and tradesman. Architects were usually well born and enjoyed their position in society and in this respect Reid was no different; he enjoyed the social prestige the title King's Architect gave him.

In the aftermath of the Napoleonic wars in 1815 the country underwent a period of economic and social change with demand for new buildings of all types increasing. This demand was matched by advances in building technology and methods of construction as new materials were developed. There was also an awareness of the growth of professionalism despite the public's innate hostility towards the increasing number of professional associations. The first to be created was the Institute of Civil Engineers in 1818, architects and surveyors had had associations during the previous century but they appear to have been little better than dining clubs. (20) The Institute of British Architects was founded in 1834 and Reid wasted no time in applying for a Fellowship which was granted on 9th February 1835. (Appendix A) The Institute of Architects in Scotland was established six years later in 1840. What did have a significant impact on the architectural profession was the creation of the Scottish Office of Works in 1827. This department was headed for the first time by a salaried architect, an entirely new concept, which was unlike its English counterpart, which used attached architects as and when they were needed. The impact of the salaried architect was

minimised at first as the establishment carried by the Scottish Office was small, and much of the work carried out was routine maintenance and repairs. With the passage of time and as more capital works were dealt with in house a certain amount of resentment developed between the private and public sectors which is still evident in the present day, especially in periods of depression when commissions are hard to come by.

The Barons of Exchequer continued to employ Reid as did the City of Edinburgh who in 1810 engaged Reid to adapt Robert Adam's expensive design for St. George's Church at the west end of Charlotte Square. Designed as a focal stop the church was visible for the length of George Street, its most salient feature being its leaded dome rising into a cupola 150 ft. above the ground. The church is still a prominent feature of the Edinburgh skyline. Reid's design was approved and was built between 1810 and 1814 at a cost of £24,000. The end result was criticised by a section of Edinburgh's architectural circle and was invariably compared with Adam's original design. An article published in the *Scots Magazine* of March 1814 carried comparative elevations with the writer making a few remarks which were in fact a criticism of Reid's design stating that:

We cannot however accuse this artist of inconsistency, since each part seems to have been designed with the same cool and deliberate bad taste which characterises the whole plan - the same crude judgement in the regulation of the various parts - with a rooted determination to despise and neglect the illustrious examples handed down to us by the Ancients in almost the whole of his works. (21)

St. George's has been successfully converted with minimal external alterations to become part of the National Archives of Scotland.

Despite the criticism the Town Council engaged Reid in 1810 to prepare drawings for the completion of Robert Adam's unfinished University Building. Reid based his scheme on Adam's original plan leaving the southern front open as a special feature. The plan and estimated cost were submitted to the Treasury but lack of money prevented work going ahead. The Town Council paid Reid £220 for his services and their minutes of 4th March, 1812 note that Reid's drawings were now the property of the council (22). In 1815 money partially funded by the government was released and the project was revived. Reid tried unsuccessfully to

profit from his position as King's architect and surveyor. He asserted that he had a legitimate claim to the commission because of the government funding because he was already familiar with the job. The Town Council however invited selected architects to submit proposals and the list included Thomas Hamilton, William Burn and William Playfair. Reid was obviously upset by this and in August, 1816 he wrote to the town council giving his reasons why he declined to enter the competition. He believed, as he held the post of architect and surveyor to his Majesty in Scotland, his experience in supervising public works gave him a certain claim to be given the commission.

There is no record of Reid having received a reply from the Provost or Town Council. The latter apparently rejected his plan because it did not meet the accommodation requirements. Playfair and Burn submitted the best designs with Playfair adjudged the winner. This led to an acrimonious relationship between them, resulting in Burn's virtual withdrawal from architectural competitions. Burn was probably justified in feeling aggrieved as the selection committee was drawn from a meritocracy of lawyers, politicians and professors of whom Playfair's uncle was one. Playfair and Burn continued to be given preference over Reid for other public works consigning Reid to the second division of Edinburgh architects. This is perhaps unfair as Reid was an older architect in competition with some of the most creative architects of the next generation. Perhaps it was Reid's personality rather than his ability as an architect which coloured contemporary opinion of his architectural work. Reid was described as a dull staid person with an overbearing manner which made him difficult to get on with.

Nevertheless Reid continued to enjoy the confidence of the Barons of Exchequer and through them he began setting up Edinburgh's Botanic Gardens in 1816, and in 1822 was commissioned by the General Register House Trustees to prepare plans for its completion. Two-thirds of Adam's design had been completed by 1800 but by the early 1820's it was found to be too small for the purposes for which it had been designed. Reid prepared drawings and the contract for its completion was signed as early as October 1822. According to Youngson work proceeded at a leisurely pace and the building was not completed until 1834. Due to the Trustees having applied to Parliament in 1827 for additional funding it had

become necessary to alter and enlarge the original plan. Reid was responsible for some interior alterations, the most striking feature being the large double stair leading to the gallery.

In 1825 the Barons of Exchequer instructed Reid to investigate and report on the condition of the buildings of the University of St. Andrews. This work was still ongoing in 1827 when Reid became principal of the new Office of Works in Scotland. This commission was absorbed into the workload of the new department which is ironic considering that Reid had tried unsuccessfully to have his new government department recognised by being given public work contracts.

Reid also took on board the responsibility for the maintenance of Holyroodhouse, duties neglected by James Brodie the King's Master of Works and was to prove beneficial to Reid in the long term. He petitioned the Treasury in 1820 pointing out that as the King's Architect and Surveyor, he was now covering for the Master of Works. He also requested that both posts be amalgamated as he was carrying out this additional work without payment. The Treasury referred the matter to the Barons of the Exchequer who declined to make a decision until the post became vacant which it did in 1824 when Brodie died. (23) The impending visit of George IV to Edinburgh in 1822 did Reid's prospects no harm as the King intended to hold his Court at Holyroodhouse. The Barons of Exchequer were quick to point out that extensive repairs were required to make it fit to receive the King. In 1821 the Treasury dispatched Lt. Col. Stephenson the Surveyor General of the Office of Works in England, to assess the situation. There were no dissenting voices at Stephenson's visit, despite the fact that Holyroodhouse came within the remit of the Barons of Exchequer. A report and estimate for the work involved was prepared by Reid, and his report was ready by September 1822. (24) Reid estimated repairs to the fabric of the Palace would cost £18,155 plus a further £4,000 for a new stable block with an additional £1,800 for a new courthouse and prison.

In Scotland in the early part of the nineteenth century the question of who was responsible for instigating the erection or the repair of public buildings was extremely confused. County business was dealt with by Commissioners of Supply drawn from the landed classes. From 1667 their main function was the assessment and collection of the land tax which gave them control of County government. By

1815 they had wide ranging financial duties and the power these duties implied. Between 1839-65 the government increased their powers of taxation in order to finance local projects, but it rarely gave any direction to the Commissioners as a body. They had been allowed to raise revenue by taxation for building prisons before the Police Acts of 1839, 1857 and 1860 and in 1857 they were given powers to tax for asylums and county buildings.

Prior to the enactment of Public Bills in parliament, the Commissioners had to raise Private Bills in the House of Commons before any project could proceed. The Commissioners also controlled the committees who were drawn from their number responsible for providing police stations, asylums and other public buildings. It was the Commissioners who financed the growing number of public buildings which were becoming increasingly necessary due to social and economic changes taking place. The Commissioners appointed their own architects and some practices specialised in certain types of building. A good example was the Edinburgh firm of Brown and Wardrop who built Sheriff Court Houses throughout Scotland. Three fine examples of their work can be seen at Forfar (1869-71), Stranraer (1872-73) and Stirling (1874-76).

Reid and Stephenson, the Surveyor General, met for the first time in 1821 and Reid wasted no time in relating his current problems with regard to his additional duties and his request to take over as Master of Works. He raised the issue of the need for an Office of Works in Scotland similar to the Office of Works in England. Stephenson supported the idea but it was to take five years before a result was achieved. During this period Reid continued to badger Stephenson stressing he was the only suitable candidate to head the Scottish Office of Works. Between September 1822 and November 1823 Reid corresponded with Stephenson trying to enlist his help in securing a salary for his position as King's Architect and Surveyor. In his letter of 8th September, 1822 he referred to his memorial to the Treasury of 1820 in which he pointed out that he was "now being consulted and employed by their Lordships in all matters coming before them by the Lords of the Treasury or otherwise".(25) The Barons were asking for reports and opinions on buildings all over Scotland in which the Crown had an interest. Reid was finding it difficult "if not altogether impracticable to make out any specific Bill for this type of work". (26)

In November Reid wrote to Stephenson referring to the proposed repairs at Holyroodhouse pointing out: "that when the proposed repairs are officially authorised to be executed at the Palace of Holyroodhouse that he should be paid for his professional services in superintending and directing these repairs". (27)

Reid suggested that when the Lords of the Treasury authorised the repairs to the Palace they should have directed the Barons to put him on the establishment on the same basis as the attached architects in England. He thought this would be a short term solution until the Master of Works position became vacant, when he hoped both posts would be amalgamated, with the salary being transferred to him. Reid did have a genuine case as he was covering for Brodie who continued to draw a salary of £400 per annum for doing nothing and Reid needed his position clarified. He was also pressing the Government to accept his report on Holyroodhouse and he wrote:

the question in my mind is whether the government will grant a few thousand pounds for gradually repairing the Palace or will they abandon it. This is the alternative I hope for the honour of the Crown, as well as the credit of the government that they will agree to spend an annual sum on the building until the whole is by degrees put into a proper state. (28)

In April 1824 the Treasury instructed the Barons of the Exchequer to inform the Duke of Hamilton, Keeper of the Palace, that repairs would be carried out under the direction of the King's architect for Scotland at an estimated cost of £24,775. (29) The acceptance stipulated annual expenditure should not exceed £4000 in any one year, which was exactly what Reid had hoped for an annual budget figure. A phased renovation programme began in June 1824 which gave continuity of work to Reid and his staff. The annual accounts show that yearly expenditure was kept within the prescribed limits. (30)

The Duke of Hamilton proved to be difficult, being reluctant to move out of his apartments in the palace. These rooms were in the west front and west wing and were described as being in poor condition in Reid's report: "The roof over Queen Mary's apartments and other adjoining parts occupied by His Grace the Duke of Hamilton are in a total state of decay." (31) The Duke's right to apartments in Holyroodhouse was questioned but he resolutely refused to move. In 1825 the Duke petitioned Robert Peel, the Home Secretary, that as Hereditary Keeper he had held

the right to be accommodated in the palace long before the Union of 1707. The Barons of Exchequer confirmed he held his office under a charter issued by Charles I but that it did not give the Duke any right to accommodation. (31) The difficulties created by the Duke added to Reid's problems in programming the areas in need of urgent repair. Alternative accommodation for the Duke was found when Lord Dunmore placed his apartments in the palace at the Duke's disposal.

By 1824 it had been established that the responsibility for the maintenance of Holyrood house came within the remit of the King's Architect. A right that was automatically transferred firstly to the Master of Works in 1825 and to the Office of Works on its creation in 1827. Lord Broughton was appointed by the Prime Minister Lord Melbourne, in July 1834, to the post of chief Commissioner of Woods and Forests with a seat in the cabinet. The following extract from Broughton's diary dated 1834 reads:

Went with Mr R McKenzie, and Mr Burn Crown architect to Holyroodhouse to look at the best mode of improving the royal palace and to restore it and the park to the Crown in spite of the Duke of Hamilton and Lord Haddington, who have shamefully encroached on both. (33)

The reason behind Broughton's visit is difficult to gauge considering the palace had undergone an extensive renovation programme sanctioned by the Treasury and supervised by the Office of Works. The Commissioner probably wished to see at first hand the current situation to judge if further improvement work on the park was necessary. His Lordship's influence would have been extremely limited as he had held the post of Commissioner for only a few months. (34) In March, 1836 Reid submitted a report which listed the repairs carried out and financed by the original "Grant obtained for the repair of those premises". (35) Brodie died in January 1824 and Reid wrote to Stephenson informing him of his death and asking for his help in securing the vacant position. He continued:

I have no doubt but many individual applications will be made for the sinecure of Master of Works, but I presume to think my claim to it as a professional person under all the circumstances are strong and I humbly hope with your assistance to succeed in my views. (36)

Stephenson had written on Reid's letter dated 7th February, 1824 the following note, "wrote to remind Lord Melville of Mr Reid's application" and in his letter he

recommended Reid as Brodie's successor. (37) In February of 1825 the Barons of the Exchequer recommended to the Treasury that the two offices, the post of King's Architect and Surveyor and that of Master of Works "be conjoined in the person of Mr Reid". (38) They stipulated that the newly created office was to take on board the responsibility for the following buildings:

The Royal Palace of Holyroodhouse, the Buildings appropriated for the Courts of Law, and apartments and offices connected therewith belonging to the Court of Session, Court of Justiciary, Court of Exchequer and Jury Court and to the Court of Admiralty and Commissary Court. (39)

This list, which was by no means exhaustive, included crown properties which were considered worthy of preservation. Those included were "The Cathedrals of Elgin, Glasgow and St Andrews, the Abbey of Arbroath and others plus the Palace of Linlithgow". (40) The Barons added the rider that in the case of extensive repairs, new or alteration work would not be the prerogative of the new combined office. Reid was still some way short of his ambition to be given an automatic right to the control of all crown property. His maintenance work was being restricted to Edinburgh and the exclusion clause prevented him from tendering for new works. Despite his present work load at Register House, Holyroodhouse, Parliament Square and the Botanic Gardens, he had no guarantee that private architects would not be appointed in the future.

Reid had been challenged by James Gillespie Graham (1776 - 1855) for the vacant post of Master of Works. Henry Jardine wrote to Lord Melville in June, 1824 informing him that Mr Gillespie was using every endeavour to be appointed to that office. Gillespie had enlisted the help of the Dukes of Montrose and Hamilton plus several members of Parliament in support of his application. Jardine reminded Lord Melville that he was disposed to recommend Reid whose application might fail without his support. (41) Gillespie Graham was totally unscrupulous in his dealings with others who stood in his way. Like Reid he was ambitious and had successfully built up an extensive practice in Scotland specialising in Gothic churches and castellated country houses. In June the Lord Register wrote to Lord Melville recommending "that James Gillespie Architect to the Prince Regent in Scotland be

appointed Architect and Surveyor of Churches to be built in Scotland". (42) In May, 1819 Gillespie had written to the Barons of Exchequer on the same subject "as the Bill for Scottish Churches is likely soon to be carried through - may I beg you will have the goodness to remember me to Lord Melville and the committee who may be appointed to carry the measure into effect". (43) From 1818 he had styled himself Architect to the Prince Regent and in 1822 when George IV visited Scotland he used the title of Architect to his Majesty in Scotland much to the chagrin of Robert Reid who had carried that title since 1808. Reid wished to stop Gillespie using such a title and he wrote to Lord Melville in November outlining the circumstances behind Gillespie's reasons for using it:

The appointment of Mr Gillespie was by a commission from the Lord Chamberlains Office, The Duke of Montrose His Majesty's Lord Chamberlain, his Grace was pleased to say that on enquiry he had found the Commission had been granted by his Graces predecessor through a mistake to Mr Gillespie, and that his Grace had ordered the Commission to be cancelled and returned to the Lord Chamberlains Office. (44)

Reid was convinced Gillespie and his friends were aware of this irregularity and had either made or were about to make an application for the Commission in question to be regularised. If that were the case Reid too was making use of every means at his disposal to make his own position secure.

The amalgamation of the two posts which Reid was striving for was never in any doubt. Reid enjoyed the support of the Barons of Exchequer and he must have been reasonably confident of the outcome. The Treasury instructed Lt.Col. Stephenson to carry out a feasibility study on the current situation in Scotland, and in his report he recommended the setting up of an Office of Works in Scotland with Reid as Principal Officer. The new office would be responsible for all public buildings in Scotland. This was the exact opposite of what the Barons of Exchequer had recommended and they pointed out if the remit of the new combined office included all public buildings, those buildings belonging to civil departments connected with managing Public Revenues, should also be included for building costs incurred by them. The Barons argued building costs for these properties could not be charged against the King's Hereditary Revenues as in the same way as palaces and Courts of Justice. The costs of these buildings were the responsibility of the

Treasury.

The Post Office and Customs and Excise Departments, with headquarters in Whitehall, objected to the idea that their buildings would come under the Scottish Office of Works. They claimed the works thought necessary by that office might not be thought essential in Whitehall. Lt.Col.. Stephenson supported Reid being appointed by King's Warrant on the 21st August 1826 to the new post of King's Architect and Surveyor and Master of Works in Scotland. This placed Reid on the Civil Establishment with an annual salary of two hundred pounds per annum, half of what Brodie received for doing nothing. Despite Stephenson's recommendation the question of whether or not to set up an Office of Works in Scotland was not resolved, nor were the terms of reference under which it would operate.

It took some time for the terms of reference for the Scottish Office of Works to be agreed, the result of protracted correspondence between the Treasury, the Barons of Exchequer and Stephenson. The Instructions drawn up by Stephenson reflected the stringent rules which governed the incompetent English Office of Works, rather than provide guidelines for a small new department. These Instructions setting out the conduct for the Office of the Master of His Majesty's Works in Scotland were sent to the Lord Chief Baron and the Barons of Exchequer on the 19th January, 1827. (45) The Royal Warrant and the Instructions were equally clear that the new department had no ex-officio right to new works, and there was no reference to the Scottish Office of Works having responsibility for all public building. Instead it was clearly stated:

in the event of a public building or any considerable addition to or alteration in any such building, undertaken by an architect who may be specially selected for that purpose ... it is at the time to be clearly understood that in all public works to be executed by any architect so appointed, the Master of the Works is not to interfere ... unless some mismanagement be discovered. (46)

The Master of the Works' involvement was restricted to examining contracts and accounts of private architects and certifying payments. This instruction effectively ended any hopes Reid had of being given work by right of office. The Master of the Works could only intercede if there was an obvious defect or omission in the design. The Treasury, who had overall financial control, reached a compromise with the objecting Revenue Departments and allowed the Board of Customs, the Excise

Office, and the Post Office, to retain control of their own buildings outside Edinburgh. The new Office of Works assumed control over Leith Custom House, the Excise Office and General Post Office in Edinburgh. The terms of reference which appeared to have been thought out were never absolutely clear and the question has to be asked why bother to create a new department and then immediately emasculate it? Such a move is not altogether surprising as the same confused thinking had placed the Treasury in control over the English Office of Works. This is confirmed by several further attempts at reorganisation which would in time have an adverse effect on the new Scottish Office of Works resulting in its loss of independence.

In 1828 the Duke of Wellington's administration recognised the way forward was to have a fixed annual budget limiting expenditure on public buildings under one Board of Works' supervision. The major problem for the government was that financial control was vested in the Treasury over which Parliament had no direct control. This gave the Lords Commissioners of the Treasury arbitrary control over what was built. Treasury indecision and meddling by officials often led to long and acrimonious delays in money being released. It can be argued the *laissez-faire* style of government at that time had not taken on board the need for large scale government departments. These departments were created as a result of the economic and social changes that engulfed the second half of the nineteenth century.

The Scottish Office of Works 1827 -1840

The Royal Warrant, issued in January 1827 which set up the Office of Works in Scotland with Reid as Head and Principal officer, allowed for an establishment of one clerk with a good working knowledge of the building industry and their accounting methods, plus a Clerk of Works or Labourer in Trust and a junior clerk or messenger. (47) The junior post had not been filled officially as was discovered in November, 1839 when the Scottish Office of Works became the victim of further Treasury inaction and economy. Reid had achieved what he set out to do but whether he was happy with the outcome is unknown. The Exchequer Chambers in Parliament Square which were designated to be the home of the new Office of Works were still under construction in 1827. Alternative crown property known as the Tenement at The Cross in Edinburgh's High Street was made available by the Barons of Exchequer. Reid rejected this property as being unsuitable as he was concerned about the image his new department would make on the public. He had independently secured the lease of 20 Young Street in the new town, at an annual rent of £60 of which he agreed to pay £20. The Barons agreed and Reid continued to subsidise the rent until 1832, the year the office transferred to Parliament Square.

The transition to the new Office of Works made little immediate change, as the workload remained the same. The new department took over the ongoing work at Holyroodhouse, Parliament Square, Courts of Justice, General Register House and restoration work at Glasgow Cathedral. Reid's responsibilities with regard to public buildings were ill defined and nobody quite knew what his remit was in that area. In 1827 Reid wrote to all the government departments in Scotland demanding that their buildings be placed under the superintendence of the Office of Works but he made little headway. With few exceptions the hereditary properties belonging to the crown were in poor condition. The Barons of Exchequer used Reid to inspect and submit reports on these properties thus ridding themselves of maintenance and constructional problems as they arose. This also freed them from having to commission local architects and surveyors to produce reports over which they had little or no control. During 1827 Reid made site visits to and reported on St. Magus cathedral in Kirkwall and the Abbeys of Elgin and Arbroath, and St. Mary's College

in St. Andrews, he also included a visit to London on university business.

His extensive travels throughout Scotland were no mean feat considering the state of the roads which made travel neither quick nor easy. The new department was not allocated an annual financial budget and the Barons of the Exchequer had to approve all monies spent. They in turn had to have Treasury approval, another example of the bureaucratic complexities of this and every other age. Reid also had problems receiving payment for work he was commissioned to do outside his maintenance responsibilities. Having produced plans and estimates for work at St. Andrews University in 1825/26 and revised drawings in 1827, his claim for fees was rejected by the Treasury, because they thought his proposals were too expensive. The Royal Warrant setting up the Scottish Office of Works made it clear Reid had no automatic right to undertake new works on the strength of his appointment and if he did his fees would be fixed by the Treasury. (48) The instructions for the conduct of business in the office of the Master of His Majesty's Work in Scotland had been drawn up by Lt. Col. Stephenson at a time when the Office of Works in London was particularly inefficient and possibly corrupt. To compound the issue, Reid was instructed to exercise supervisory control should any problems arise over private architects who were given commissions for public works.

In October of 1827 a few months after the Office of Works had been in operation, Reid was asked to intervene in a dispute which had arisen between the Royal Commissioners for the Visitation of the Universities in Scotland and the Faculty of Glasgow University. The dispute centred on inappropriate alterations being carried out on one of the professors' houses situated in the outer quadrangle of the University. The Faculty had employed a local architect, John Herbertson and instructed him to remove and replace the existing stair with a larger staircase and provide a new kitchen. No elevations were provided by Herbertson other than a few sketches for his own use. Work was fairly well advanced when the Commissioners began their visitation and they were unhappy with what they saw. In an effort to resolve the matter Reid was invited by the Lord Advocate - who was one of the Commissioners - to visit Glasgow and submit a report, which he did on the 13th October 1827. The Commissioners ordered that the work in progress should stop and the Faculty complied under protest because they did not recognise

the Commissioners' authority in matters concerning the management of college property. Reid followed up his report by submitting a letter with two sketches to the Faculty on 30th November, 1827, showing what he considered to be the best solution for satisfactorily completing the alterations. This letter remained unanswered and the Faculty in contravention of the Commissioners' order, commissioned David Hamilton to submit drawings. Without consulting Reid or the Commissioners the Faculty adopted Hamilton's proposals at a meeting held on 17th December, 1827. They had disobeyed the Commissioners' Injunction on two counts, firstly they wished to make the building watertight before the onset of winter, secondly as the Commissioners were not in session, they could not submit Reid's or Hamilton's plans for their consideration. Hamilton's plan had not allowed for the taking down and rebuilding of what had already been constructed, as in Reid's plan. Hamilton's drawing had been prepared with the permanent completion of the current alterations in mind albeit with a few minor changes. This resulted in the Faculty being severely censured by the Commissioners who declared their Injunction would remain in force until a plan had been agreed with the Office of Works. This plan was to allow:

For the taking down and reconstructing the building in the outer Quadrangle of the College in such form as may sufficiently correspond with the outer tower in the same Quadrangle, and with the style of architecture of the adjoining buildings. (49)

This early recognition by a public body in making use of the Office of Works as arbiters must have been encouraging to Reid and his staff. He had hoped to be given architectural commissions from all public departments by right of his office and he must have been very disillusioned at the outcome but undaunted he concentrated on the maintenance side of his remit. He again wrote unsuccessfully to all government departments informing them of his responsibilities and requesting access to survey and report on the conditions of their buildings.

George IV died in June 1830 at a time when the English Office of Works was under review. Henry Gouldburn, the Chancellor of the Exchequer, had also examined the new Civil Lists with similar intentions and this led to the new monarch surrendering the Hereditary Revenues of the Scottish Crown to Parliament and the functions of the Barons of Exchequer being transferred to the Office of Woods and

Forests. Parliament now had to vote on all financial matters pertaining to public works in Scotland, on the recommendation of the Treasury. The new administration, led by Lord Grey the Prime Minister, viewed the downgrading of the Scottish Office of Works to a branch of the English Office of Works as a means of saving money. The resulting merger of the English Office of Works with the Woods and Forests on the 5th April, 1832 posed problems which pushed Scottish affairs into the background and no immediate changes were made other than the loss of the Scottish Department's independence.

As already discussed the buildings of the Revenue Departments in Edinburgh had been placed in Reid's care in 1827 after much argument about whose responsibility they were. At Reid's insistence the matter was again reviewed in 1832 and the Commissioner of Stamps and Taxes and the Post Master General were instructed to put their Edinburgh Departments under Reid's management. Reid, despite all his efforts, had not managed to secure control of all public works in Edinburgh. The ongoing battle for control came to a head in 1839 when plans prepared by James Gillespie Graham (1776-1855) were approved for the Victoria Hall in Edinburgh. This church was for the use of the General Assembly of the Church of Scotland. The use of a private architect gave the Treasury the opportunity to again review the Scottish Office of Works. The new executive headed by Viscount Lamb, was demanding further savings be made. The Treasury, despite protests from the Office of Woods and Forests, recommended that the "superintendence of the Works and Public Buildings in Scotland may be efficiently performed by a superior Clerk of the Works". (50) Consequently Reid, on 3rd June, was instructed by the Office of Woods and Forests:

That the Office of Master of Works in Scotland and the establishment employed by him shall be abolished and their Lordships at the same time state that they will be prepared to consider the claims of yourself and the persons employed under you to compensation. (51)

The closure of the Office was to be effective from 31st March, 1840 thus ending Reid's rather false position as superintendent of the Scottish Office of Works.

One of Reid's final duties was to submit to the Treasury details of the salaries and length of service of his staff, to allow compensation payments to be agreed. In complying with this request he claimed that from his appointment as

Architect and Surveyor to His Majesty George III and his successors he had completed thirty one years in office. During this time because of the increasing amount of official business, he had found it necessary over the years to curtail "his extensive private personal practice and wholly abandon it". (52) Financially Reid was more generously treated than some of his English counterparts during their reorganisation in 1832. Reid received a pension equal to his salary of £400 per annum. James Raeburn the first clerk, was given £70 a year and the second clerk James Millar was retained at his current salary of £100. It is interesting to note that Robert Matheson, a future head of the Scottish Office, lost his job as junior clerk after eleven and a half years' service. Matheson had been appointed by Reid in 1828 and for some reason his engagement had not been ratified by either their Lordships of the Treasury, the Barons of the Exchequer, the late Surveyor General or by the Board of Works. (53) Because of this Matheson was not entitled to compensation, but in recognition of his services their Lordships made him a one off payment of £60.

Matheson might have disappeared from the scene altogether had it not been for the behaviour of Millar, the second clerk, who was reported by William Nixon, Reid's successor, in September, 1840 for "serious misconduct". (54) Despite an appeal by Millar the Office of Woods and Forests instructed Nixon to dismiss him, and he was directed:

to communicate with Mr Matheson ... formerly employed in the Office of Works ... and to whom under the circumstances which attended the discontinuance of his services, the Board would be willing to afford employment if it would be acceptable and to appoint him clerk in the situation now held by Mr Millar. (55)

Was Matheson offered this promoted post from a sense of guilt at his peremptory dismissal in April, 1840 or was he considered purely on merit? For whatever reason, Matheson accepted and he was to remain with the Department for a further thirty-seven years until his death in 1877. His promotion to Head of the Scottish Office in 1848 was by no means straightforward, in March of that year shortly before Nixon's death he had been placed in temporary charge of the Scottish Office. This situation continued after Nixon's demise because: "the board has decided not to fill this vacancy at present but as a temporary arrangement you will remain in charge". (56) The Board allowed him to employ a clerk on a weekly basis adding:

in authorising the present temporary arrangements I have to impress upon you that they are not to be considered as affording grounds of claim permanently to fill the vacant appointment. (57)

In April 1848 David Rhind applied for the vacant post and in their reply the Board referred to letters Rhind had sent to Decimus Burton "offering his services in the event of it being necessary to consult an architect in connection with any of the public buildings in the charge of the Scottish Office". (58) Rhind was given a polite refusal as the Board were leaving the post vacant for the foreseeable future. There appeared to be a great deal of interest shown in the vacant post and the Board received applications from the following architects:

Andrew Gibson.
James Collie.
John Henderson.
James Matthews.
J. T. Rothead.
David Rhind.
John Dick Peddie. (59)

On 1st June, 1848 Matheson was informed that the Chief Commissioner of Her Majesty's Woods and Forests had nominated him to take over as Clerk of Works for Scotland. However there was a proviso that he would be appointed on condition he passed "an examination as to your professional qualifications for the appointment". (60) Matheson was instructed to travel to London to take the examination and while in the city he was to take the opportunity to make himself acquainted with the requirements of the Office of Woods, particularly in relation to his accounts. The Board nominated "Mr Pennethorne, Mr Inman, and Mr Phipps, Surveyor and Assistant Surveyors of Works within this Office, to attend the examination for the purpose of making the examiners aware of the especial requirements of this Board in regard to this appointment". (61) The examination was supervised by the Official Referees appointed under The Metropolitan Buildings Act, Matheson failed the examination. The examiners were concerned "more especially as regards construction" and as a result the Board could not appoint him to take over the Scottish Office and he resumed his former duties. (62) After a lapse of several months he was again appointed interim Head, a situation which lasted for about a year and having satisfied the Commissioners on his running of the Department, he was confirmed in his appointment. (63)

Reid's successor William Nixon (1810-1848) was appointed "Clerk of the Works for Scotland with a salary of two hundred pounds per annum, and an allowance of £60 per year for house rent, and that your appointment shall take place from ladyday next". (64) It is worth noting the Treasury had reduced the salary by half, possibly on economic grounds, or the salary was now seen as commensurate with the downgrading of the Scottish Office. Nixon, like his father, was employed in the public service as a Clerk of Works and was transferred from Phoenix Park, Dublin. After reorganisation had taken place the workload of the Department steadily increased, a fact recognised by the Treasury, when in 1846 they raised Nixon's salary to £400 per annum.

Since the reforms of 1832 parliament had shown little interest in the running of the Office of Woods and Forests or the erection of public buildings. By 1851 the day of the gentleman connoisseur of architectural taste, who imposed his judgement on the architect, was fading fast. The foundation of the R.I.B.A. in 1834 and the growing professionalism of the architect had discouraged such interference. In 1848 the escalating costs presented in the annual budget of the Office of Woods and Forests prompted an investigation by a Select Government Committee on Miscellaneous Expenditure. The House of Commons was now beginning to see the need to appoint a minister with overall control of spending on public buildings, directly responsible to parliament. Under the old system, the Office of Woods and Forests was directly controlled by the Treasury and it was the Treasury who decided what would or would not be built. In March, 1851 a motion was put before the House of Commons that the expenses of the Woods and Forests be submitted as yearly estimates for parliamentary approval. The Act of October, 1851 which implemented these proposals, created a new Office of Works under a minister of the Crown as the First Commissioner of Works responsible to parliament. This finally consigned to history the ancient posts of Master Mason, Master of Works and the King's Architect in Scotland.

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Part Two: Renovation and Rebuilding at the University of St. Andrews 1823-1861

Deterioration of the Mediaeval and Eighteenth Century University Buildings

A group of graduates, mainly from the University of Paris, began teaching in St. Andrews as early as May 1410 and in 1412 Bishop Henry Wardlaw granted them a Charter of Incorporation. This charter was confirmed and expanded in a series of six Papal Bulls issued by Pope Benedict XIII in 1413. The most significant was the Bull of Foundation which endorsed Wardlaw's Charter and placed St. Andrews on the same academic footing as the established European universities. The Bulls were promulgated on Sunday, 4th February, 1414 thus formalising the existence of Scotland's first University. The University now had official status and the privileges that went with it but little else as they had no property or official buildings. The town's ecclesiastical buildings were used for faculty meetings, teaching was carried out in the private residences or pedagogies of the masters. The first buildings in which the University had an interest were the Chapel and College of St. John the Evangelist. The College was situated in South Street and came into the University's possession in 1419. Robert of Montrose, the secular canon of the Chapel Royal and rector of Cults Church in Fife, gifted a tenement of land plus the rent of a further two tenements on which to found the College of St. John the Evangelist. The site was a long rig, a strip of cultivated land which stretched southwards from South Street.

The foundation was set up to support the Masters of the Faculties of Art and Theology to provide suitable accommodation for holding classes and lectures with the property vested in Laurence of Lindores, the first Master of the New College. This arrangement lasted until 1430 when Bishop Wardlaw granted further tenements of land to the Dean of the Faculty of Art for the express purpose of founding a separate Arts Pedagogy. The two pedagogies continued to function until 1538 when they were replaced by St. Mary's College and the two sites merged as one.

In 1537 Archbishop Beaton applied to the Pope for permission to erect a College within the diocese of St. Andrews to be known as St. Mary's College. This new College was to be primarily a seminary for candidates to the priesthood where

they would be taught Theology and Canon Law. Building work was under way when Beaton died in 1539 and his nephew Cardinal Beaton assumed responsibility for the New College. It was left to his successor Archbishop Hamilton in 1544 to continue and finally complete the foundation of St. Mary's. The buildings by Hamilton were first remodelled by Provost (Principal) Howie (1607-1646) during his term in office replacing the old ruinous hall with a new one in the west building. It is thought at the same time that he may have built the arcaded north building on the site of the original Wardlaw pedagogy. The coat of arms of Archbishop Hamilton can still be seen above the entrance door of the original stair tower. (1) Robert Reid's 1825 survey drawings Figs [1 & 2] of St. Mary's and the Library block, apart from minor changes, are almost identical to John Oliphant's 1767 drawings confirmed that the buildings had changed little in the intervening period other than having deteriorated through lack of maintenance Figs [3 & 4]. There is one odd discrepancy, Oliphant shows the arcaded north building with what appears to be a flat roof and on his library drawing the roof is shown pitched. The development of the university building sequence in South Street is shown graphically on plan. Fig. [5].

In 1456 the Faculty decided to found the first University Library which was called the Library of the Faculty of Arts and of the College of St. John the Evangelist. The Library was housed in a room in the Big School which was part of the battlemented College in South Street. (2) This building is clearly shown on the Bird's Eye View of St. Andrews c.1530 by John Geddy. On Geddy's plan this building was incorrectly named St. Mary's, as this particular area was never the site of St. Mary's College. Fig.[6] The buildings which housed St. John's Pedagogy have long since disappeared. The Colleges of St. Andrews had acquired few books and it was Mary Queen of Scots' intention to gift the University a Library, something she was unable to achieve. It was left to her son James VI, himself a scholar and writer, to found the University Library in 1612 because it had pleased him:

Out of the gude affection and principal desire of his Highness'
hairt to have ignorance banished barbarity rooted out, virtue
advancit and gude letters to flourish within his kingdom of Scotland. (3)

The Library was to be known as the Public Library of the University, an expedient title used to distinguish it from the College libraries which were private and accessible only to Faculty members. (4) George Gledstanes was appointed

Archbishop of St. Andrews in 1604 at the time when Andrew Melville (1545-1622), the protestant reformer, was Principal of St. Mary's. Gledstanes, apart from having an earnest desire to educate the ignorant clergy, is remembered for his efforts in establishing the University Library. When James VI visited St. Andrews in 1617 he was received by the Rector of the University at the Town Church in South Street, who proudly pointed out the still roofless unfinished library on the other side of the street. (5) Alexander Henderson, a former student and Regent of the University (1603-1613) visited the University in 1642 as one of the Commissioners of the General Assembly. Henderson "did willingly and of his own accord, make offer of the sum of ane thousand pounds" which was the sum thought necessary "both for perfecting the house appointed for the library and for the Publick School destinat for the solemn meetings of the University". (6) This donation allowed the library to be finished, but over the years as more volumes were acquired, storage space and space to display books became critical and the building was in constant need of repair. The decision was made to create more space by simply adding an additional storey onto the 1612-1642 building with work beginning in 1764. Nobody knows for certain who designed this extension. The University had attempted to consult local architects but seemingly without success. Documentary evidence points to John Gardner a local wright, as the most likely candidate. A Quaestor's Voucher for the eighteenth century shows a payment amounting to £39.16.4d was made to Gardner for "making out several plans and estimates of the whole and different parts of the elevations of the north and south walls for John Neice". (7) During rebuilding the work was supervised by Gardner and the building was finished in 1767.

In 1450 Bishop Kennedy of St. Andrews, the Chancellor of the University, laid the four corner stones of St. Salvator's College. These mediaeval buildings were to be the forerunners of subsequent developments on the same site which over the years have been replaced. The only mediaeval structures to survive are the three-storey building immediately to the west of the Tower, the Tower itself and the College Church. These buildings have been subjected to change and it is believed the three-storey block could predate the foundations of the College. Dr. Ronald Cant produced a perspective drawing of how he thought the mediaeval College might have looked "at the close of the mediaeval period". (8) Fig. [7] The site lay between North

Street and the Scores, bounded on the west by Butts Wynd, and was approximately five tenements wide. Fig.[8] A burgher tenement was a little over 30ft. in width and within the old burgh there are still feus which match this dimension. Two other University sites, Parliament Hall and St. Mary's College, with frontages which are multiples of the burgher tenement, are in South Street. (9)

Alexander Skene was elected Provost of St. Salvator's College in 1680 and he set about restoring the fortunes of the decaying College buildings. He raised money from various sources to allow a programme of repair and restoration to be undertaken. On architectural matters he was advised by James Smith who, in 1692, was responsible for designing Melville House, a private residence in Fife, which has a very plain austere unpedimented harled exterior with two advanced end bays. How much influence Smith had over Skene is unclear and whether or not he introduced the classical style into the rebuilding of the College can be nothing more than speculative. Work on the College was still in progress in 1688 but it is unclear if the restoration programme was completed as Skene was removed from Office in 1690. (10) Judging from the comments of visitors to St. Andrews in the 1720's one cannot help wondering just how bad the condition of the buildings were before Skene tried to improve the situation. J. Macky, writing in his *Journal Through Scotland* in 1723 gave a graphic description of the general state of St. Salvator's College at that time:

This College consists of two spacious Courts: over the gate is a very fine Stone Spire; and to the right, as in the Colleges at Oxford is a handsome Church or Chapel, in which is an ancient noble Monument of the Founder; and behind it ... a neat Cloister well paved and supported by Pillars; but neither it nor the Church, so well preserv'd as in the Colleges of England but seem rather entirely neglected. On the ground floor of the other side of the other Court are common schools very spacious; and over these schools a Hall full 50 foot long and 30 foot wide and high. There are in this Court very good apartments for the Masters and Scholars all built of free stone, but unaccountable out of repair, they being hardly at the pains of keeping out the rain or mending the windows. (11)

The authors and travellers, Daniel Defoe and William Douglas, writing in 1727, made similar observations. Defoe mentions the large hall over the school and comments on its size. He thought:

there would be few Colleges in England go beyond it for Magnificence: But want of this and other encouragements cause the whole building to seem as it was in its declining state, and looking into its grave. (12)

Douglas reinforced these sentiments by advocating "A Royal visitation in order to lay the distressed condition of this poor College before His Majesty would be a great blessing". (13)

In the early eighteenth century it was not only the buildings that were in decay. Study conditions had become easygoing and students no longer sat their final examinations. Student numbers continued to fall and coupled with the poor state of the buildings, matters came to a head in 1738 when negotiations began for the unification of the Colleges of St. Salvator and St. Leonard. The prime reason behind the quest for union was the state of the buildings and the lack of funds to finance proper renovation of the property. On 24th June the passing of an Act of Parliament brought both Colleges together as the United College of St. Salvator and St. Leonard. The Act did mention one of the Colleges was in a state of great disrepair but it gave no indication of a choice of site for the new United College. In the end St. Salvator was chosen but the provision of decent accommodation was left on hold for a further seven years. Between 1754 and 1757 the old Mediaeval College of St. Salvator was drastically remodelled, with the two old courts redesigned as one. Repairs were attempted on the existing residential block which in the end had to be rebuilt. In May 1754 John Douglas designed a new three storey block which formed the northern side of the enlarged courtyard. Douglas was principally a country house architect and his building was based on Dr. Fraser's King's College, Aberdeen, built earlier in the eighteenth century. (see pp.115-116) Both buildings had features in common with the barrack block at Fort George in Inverness built between 1753-64. The principal feature of the St. Andrews building, built at a cost of £1,467.16.5d, was the arcaded ground floor behind which the classrooms were situated, with student accommodation on the floors above for about forty students sharing two to a room. (14)

This building was in constant use until 1844 when it was demolished to make way for William Nixon's replacement building, the second stage of the nineteenth century redevelopment of St. Salvator's. From the beginning this building had problems with damp walls and a roof which had to be replaced within thirteen years. The roofless north and west sides of the cloisters partially demolished in 1759 were finally taken down, leaving the roofless east building which was further

to the north, this left. the eastern boundary of the court in a sorry state. In 1763 it was proposed to build a new block on the east to complete the courtyard but it never went ahead. The eastern side remained in a ruinous condition until Reid's new eastern block was built (1829-31). Three drawings by the artist John Oliphant gives a valuable insight into what had taken place during the 1754-57 refurbishment. [Figs. 9,10] The ruinous eastern boundary is clearly seen and the sketch, which was taken from the castle, gives a graphic illustration of the unfinished state of the eastern boundary. [Fig.11] These sketches share a remarkable affinity with Reid's survey drawings although unfortunately not all of his elevations have survived. Photographs taken in the 1840s show the buildings as they were in the 1820s. Fig.[12]

Diminishing Revenues.

The University administrators had never been in a sound enough financial position to be able to set aside an annual sum of money to keep the fabric of the University in good repair. Any repairs that had been carried out were at the expense of the Principal and Professors. The poor condition of the University buildings was carried into the early decades of the nineteenth century and documentary evidence shows that the Senate were only too aware of that fact and their own inability to do anything about it. The University Minutes of 15th January, 1823 record it was again decided to apply to the government for compensation because of the losses sustained in the University's annual income and for a review of staff salaries. The loss of revenue had arisen as a result of the augmentation of parochial stipends financed from the Teinds, a tax on the value of land, which formed a large portion of the original endowments to the Colleges. Principal Nicol and the University Chancellor, Lord Melville, had discussed the situation and as a result the Senate submitted a Memorial to His Majesty's Lords of the Treasury in January 1823. (15) The Memorial dealt primarily with financial matters caused by the continued defalcation of the Colleges' revenues. The loss of revenue it was argued, was reflected in the level of the salaries of the University teaching staff. At United College the Principal received in excess of £300 per annum with the teaching staff averaging £300 per year. The Principal and teachers at St. Mary's received in the region of £220 each. It was pointed out that deductions for house rent further reduced staff salaries by a fifth. The Masters at St. Mary's were also burdened with the cost of repairing their decaying buildings, an expense they could ill afford. (16) The Masters of United College had incurred a considerable amount of debt in paying for essential repairs to the Chapel and classrooms. These debts they were in the act of liquidating had made little impact on the ruinous state of the buildings. Two sides of the court remained roofless with the rest of the buildings in a state of dilapidation. (17) The Senate's decision to raise the question of a salary review was probably more in hope than in anticipation of success. The underlying reason for the continued and increasing loss of revenue was twofold, firstly:

the original endowments at St.Salvators College consisted wholly of Teinds or Tythes; of St.Leonards partly of Teinds or Tythes and partly of Estates in Land; of St. Mary's wholly Teinds and all the successive Grants of these Colleges were in Teinds, in money or in feu duties which never increased. (18)

Leases of land had been granted to the Colleges as Titulars at very moderate rents for short specific periods. The Commissioners of Teinds appointed by the Scottish Parliament granted prorogations or prolongations to these leases in some instances for very long periods. In one example a lease was granted for a period of 19x19 years and another was to run until 1900. (19) Secondly the most damaging cause of defalcation of revenue was the decision which had been taken to augment parochial stipends. The money was taken out of the parish teinds which made up a large portion of the original endowments granted to the Colleges. Despite protest these increased stipends were upheld by a decision at law which found the clergy's claim to increased income was good.

In consequence of these augmentations of parochial stipends within the last thirty years the yearly revenue of the United College had suffered a diminution of betwixt £700 and £800. The yearly revenue of the College of St. Mary's a diminution of £530. (20)

The Memorialists referred to a similar submission made to the Treasury in May, 1810, which had included a prepared financial statement showing defalcations had risen to £600 per annum. A projected figure showing the estimated increased loss of revenue had been included. Mr. Spencer Perceval, the then Prime Minister (1809-12) and First Lord of the Treasury had replied to Lord Melville, the 1st Viscount and Chancellor of the University: "I do not think that the expectation of future probable reduction should make any part of the ground for present proceedings". (21) The application was passed to the Barons of Exchequer for their attention. The death of both Lord Melville and the First Lord of the Treasury delayed any response from the Barons until 1812. A reply was received from Mr. Wharton, one of the secretaries of the Treasury who wrote: "My Lords adverting to the Salaries in the other Universities in Scotland do not see any reason at present to make any addition to those of the said Professors in the University of St. Andrews". (22)

By 1812 circumstances had changed and were continually changing. Revenue losses progressively rose and by 1823 annual losses had risen to £1,300. The

argument supporting a salary review was ignored. When looked at on a pro rata basis with the other Scottish Universities, the salary scales at St. Andrews were found to be above average. Although their actual salaries were in real terms less, the reason was because of the relatively small number of students, approximately 250, at St. Andrews. The 1810 Memorial had made no impression on the Treasury but it did add weight to the 1823 submission. The Senate also pointed out that the funds of the original endowments to Colleges were considered to be sacred. A precedent had been set by William III in 1701 who, by a Royal Grant had:

Assigned to the College of St. Mary's 500 merks yearly, being as the Grant bears in remuneration to them of the Damage sustained by a decret of augmentation of the Stipend of Tynningham by which the sum of 500 merks was taken from the College. (23)

It was made quite clear by the Senate that unless help was forthcoming the buildings at St. Andrews would continue to decay. They also pointed out that other Scottish Universities had received monetary grants in compensation for loss of revenue for exactly the same reasons, diminution of revenue by augmentation of stipends. King's College, Aberdeen was given £700 yearly with Marischal College receiving £400 in 1809. The well endowed Glasgow University was given £2,500 and Edinburgh had received an annual sum of £10,000 since 1812 to allow the completion of their University Buildings. The Senate were asking the pertinent question - why treat St. Andrews differently? The Memorial ends with a statement which promises that a proportion of any revenue granted to them would be set aside for the maintenance of the College buildings. (24) At a meeting of United College in March, 1825 it was minuted that His Majesty's Treasury had not replied to the Memorial submitted by the University in 1823.

By April, 1825 after a period of twenty-seven months of Treasury inactivity, the Barons of Exchequer finally received a copy of the 1823 Memorial with instructions to prepare a report. Before making any recommendations the Barons instructed Robert Reid, the King's Architect, to report on the condition of the buildings at St. Salvador's and St. Mary's. Reid submitted his first report in July and he made it clear that because of the inadequate accommodation provided by the existing buildings, and their generally dilapidated state, he favoured rebuilding rather than reinstatement. The minutes of United College dated 25th June, 1825

shows a report by Professor Duncan stating that Sir Henry Jardine, Remembrancer of Exchequer, had instructed Reid to prepare drawings "of the old ruinous buildings of St. Salvator's College and the grounds with which it stands". (25) This instruction must have been issued sometime before June as the drawings were almost ready. At the same meeting Dr. Jackson and Mr. Alexander were instructed to produce a written report on the present state of the buildings and a list of new accommodation required for students and teachers at St. Salvator's. A copy of this report along with the plans of the existing buildings and grounds were sent to Sir Henry Jardine in Edinburgh on the 28th June by the Fife Coach.

Due to the delay in receiving a reply from the Treasury it would appear that the College administrators, perhaps with the help of the Barons of Exchequer, were compiling additional material to present to the Treasury in respect of their 1823 Memorial. It was fortuitous the Barons received their copy of the Memorial when they did as they could now officially prepare a report for the Treasury. Reid was asked to prepare estimated costs which he submitted in January, 1826. The rebuilding of United College was to cost £28,500 with a further £1,650 for the renovation of St. Mary's. (26) The report requested by the Treasury had been compiled in a little over seven months but it had taken the Treasury a little over three years to have made little more than token progress. The Treasury can be accused of indecision in high places as the Lords of the Treasury appeared to have no clear cut financial strategy, and were seemingly unable to commission their technical advisers to good effect. The Chancellor of the Exchequer, F. J. Robinson was described as irresolute and fussy and the Secretary of the Treasury, J. C. Herries was known to be pedantic and uninspiring. It is also possible political events influenced the Treasury's actions as Lord Liverpool's Tory administration (1812 - 1827) was unable to control the House of Commons. The government could never be certain of having funds voted for projects they supported. (27) It is also interesting to note that Lord Melville, the Chancellor of the University had held the post of First Lord of the Admiralty in the Liverpool government. Before work on such a major project could begin a parliamentary grant would be required and money was released for this purpose from the Hereditary Revenues of Scotland in September 1826 when £30,000 was made available. (28)

What was equally important to the undertaking was the assistance given by Robert Saunders Dundas (1771-1851) 2nd Viscount Melville, Chancellor of the University of St. Andrews from 1814. Melville was a powerful man, a privy councillor, cabinet minister, Lord Chief Baron of the Exchequer in Scotland and a Governor of the Bank of Scotland. According to Sir Walter Scott, Melville was not a literary man but he was judicious, clairvoyant and uncommonly sound headed like his father. Melville used the connections he had with Treasury officials to good effect which is confirmed in his correspondence with them in furthering the University's cause in their request for government grants. The University were perhaps fortunate at this time to have an experienced parliamentarian looking after their interests. He was also a Commissioner of the Royal Commission for Visiting Scottish Universities 1826-1830 and his influence on that body would have been equally effective. (29)

During the nineteenth century St. Andrews University was to undergo more changes than at any other period in its history. From 1826 to 1898 there was to be a continuous succession of government commissions, investigations and reports. The first significant visitation and the first for over one hundred years, was the 1826-1830 Royal Commission for Visiting Scottish Universities. Following their visit, the Commissioners recognised the need and the urgency of providing new University Buildings at St. Salvator's and the restoration of St. Mary's. However no building work could take place until the Commissioners' report and recommendations had been submitted to the government for approval which further delayed the commencement of building work until 1829.

Before examining the rebuilding programme at United College and the rehabilitation of St. Mary's in detail, it would be advantageous to look at the reasons why the University Buildings were in such a run down state in the 1820s. The availability of funding or the lack of it was what determined the final outcome of the development which took place at St. Andrews, with finance having played a prominent part in all negotiations. In 1828 the financial situation regarding ongoing government funding remained uncertain. It was not until the 1850s, some twenty years later, that it could be said building work at United College had been completed, not as originally planned but in a modified form. From correspondence

between the University administrators and Her Majesty's Office of Woods and Forests in November 1849, it is possible to track down reasons which emanated from the seventeenth century as to why the University failed to keep their buildings in a decent state of repair.

The Commissioners of Woods and Forests had written to the Principal, Sir David Brewster, on 27th August, 1849 asking:

That they may be furnished with a statement of the Receipts Expenditure and present state of the Fabric Fund, with a view to determining the question whether there are not any Funds specially applicable to the maintenance and repairs of St. Andrews College Buildings. (30)

In their lengthy reply dated 24th November, 1849 the University pointed out there had never been a specific fund solely for building maintenance. By the end of the seventeenth century the University's financial resources had been severely depleted due to defalcations and augmented stipends already discussed. In their answer three Acts of the Scottish Parliament were quoted. The Act of 1672 granted to the Scottish Universities the stipends and benefices of vacant churches for a period of seven years. Such provision was thought necessary because of the dilapidated condition of the buildings and the poor provision made for the support of the Masters and Professors. The poor salaries of the teaching staff at St. Andrews were noted and a second Act of 1681 was passed which provided St. Andrews with :

a half months cess should be imposed upon the land rent of Scotland to be paid and stocked for the use of ... St. Andrews and divided proportionally to the several masters and professors in the several Colleges therein. (31)

It was pointed out by the Senate that since 1679, when the grant of Vacant Stipends had ceased, they had relied on the half month's cess to provide the major portion of staff salaries. This income was generated from land purchased by the revenue raised from this tax. A further Act of 1696 decreed that income from this source would be divided proportionally between the Principal and Professors. This left no money which could be allocated to a building or any other fund. It was also noted that as rents increased this additional income was included and periodically shared out between the staff. In 1784 it was agreed that the surplus revenue would be set aside and be known as Diet Money. In the College's 1849 reply to the Commissioners of Woods and Forests they reported that: "henceforth the whole diet money as well as

that payable at the yearly settling of the factors accounts ... shall be considered as part of each Master's benefice for the year". (32) The 1696 Act was passed with the intention of improving the conditions of the Academic Staff and the buildings by using the vacant stipend fund. This Act was repealed in 1814 and the income from the stipend fund was redirected into a fund for Ministers' widows. From that time the situation remained unchanged and temporary repairs were effected whenever funds allowed, which was very infrequently, as there was no special building fund.

Dr. Chalmers, a member of staff, brought the matter to the attention of the Royal Commissioners in 1827 when he raised the question of the appropriation and division of surplus funds between academics, stating he did not agree with the present system of disbursing additional monies. This was a view which he had made known long before there was to be a visitation. It is ironic that despite his opinions, he always accepted his share. The Commissioners recognised the practice was unsatisfactory but made no recommendations to change the system, as did the 1840 Commissioners who agreed that the incomes of the Principal and Professors were inadequate. What emerged from Chalmers' protest was the setting up of an Accumulating Fund in 1825 which interestingly was set up before the Royal Commissioners' visit. The fund was established to provide some support for the fabric but it was to be used "more especially to repair, enlarge and otherwise render more suitable, the classrooms of the several professors". (33) This suggests the University was doing its best to control this additional revenue by not creating a viable fabric fund. It was decided to pay £40 per year into the Accumulating Fund for a period of two years when the situation would be reviewed. This never happened and was quietly forgotten after the full government grant was obtained in 1828. The University Factor received no instructions to stop making this payment and he continued to do so for the next eighteen years. Money from this fund was spent on repairs to the College fabric and it also financed the erection of some farm buildings.

The main thrust of the University's answer to the Commissioners of Woods and Forests' question focussed on the chronic shortage of money which had plagued the University over the centuries, making it impossible to allocate money to a Fabric Fund. Such repairs that were carried out had been paid for by the Principals and

Professors out of their meagre salaries. The evidence produced in support of their actions, assuming it is correct, gives a clearer picture as to why the University buildings were in such a dilapidated state in the opening decades of the nineteenth century.

Reconstruction and Rehabilitation of United College and
St. Mary's College 1823 -1831

Reid submitted his first Report and recommendations to the Barons of Exchequer on 4th April 1825 after having inspected the buildings. His Report began by identifying the location of each site and gave a description of the accommodation provided in each complex. In his Report on St. Mary's he sets the tone of his findings by stating the building is in a dilapidated state with the exception of a portion of the Principal's House which could be described as habitable. Figs [1, 2, 13, 14, 15, 16] The repairs which had been carried out on the house were paid for by the Principal out of his own pocket. The roof timbers were unsound and the roof slates were in need of renewal, the walls were also in poor repair. The condition of the internal finishes were equally in a bad state, walls and ceilings required to be lathed and plastered. Reid was derogatory about the accommodation provided, mentioning specifically the Prayer or Common Hall and the Divinity Hall. In his opinion both were too small for the functions they performed and he proposed they should be increased in size. To achieve this he recommended cutting out both existing sub-standard floors thereby reducing the building from three to two storeys. The insertion of one new floor would create adequate ceiling heights throughout the building. Considering the state of the building generally, the cost of such drastic refurbishment would have to be balanced against the complete renewal of the building. Reid concluded his report on St. Mary's by asking the question does a building in such a condition justify such expense when: "It would not be better at once to pull them altogether down and erect in their stead a plain substantial new building more suitable and appropriate for the purposes of the College". (34)

Reid's comments on the condition of the buildings of United College were similar to those he had made on St. Mary's and in many instances worse. Figs. [17, 18, 19, 20, 21] These buildings were situated immediately to the north of the College Church and had originally enclosed a court of considerable size. The south and east sides were in ruins with only parts of the walls standing and the west wing, which formed the western boundary, adjoined the entrance gate to the College. This block contained a public hall for student assembly, kitchen and dining room plus several

classrooms and offices. The floor level of the public hall was well below existing ground level, it was badly lit and very uncomfortable. Classrooms were small in size, inconveniently situated and not suited to the needs of the College. The western range is almost certain to have dated from the fifteenth century and formed part of Bishop Kennedy's original building programme. It was described by Reid as:

being in a state of great disrepair. The walls are insecure being forced out by the pressure of the roof. The timbers of the roof are in many places giving way and are much sunk and bent inwards. The beams and joisting of the floors are likewise sunk down and the boarding in general greatly decayed, and the whole interior finishing of the different apartments require to be renewed. (35)

Reid's survey drawing No. 7 of the original United College buildings shows a small section of the west building. This drawing confirms the east wall was well off the plumb, unfortunately the omission of the existing ground level on the drawing makes it impossible to judge how far the floor level was below ground level. Fig. [21] The Public Hall was a little over 26'0" wide x 75'0" in length and a pencil note on drawing No. 2 shows the intention was to partially demolish the west wing from the stair lobby northwards. Fig.[17] Reid thought the west wing was in such a dilapidated state the obvious solution was to demolish and rebuild it. The north building was the most modern building on the site at that time built by Douglas in 1754 - 57. He considered the roof was in a tolerable condition, but internally the finishings were in a very poor state. The ground floor consisted of four classrooms which varied in size from 16'0" to 26'0" in length x 13'4" wide. These relatively small rooms had outlived their usefulness. The students' lodgings on the upper two floors were in a bad state and inadequate for the purposes of housing students. Reid was of the opinion the accommodation provided at United College was substandard, damp and badly laid out. Survey drawing No. 6 shows the lower sashes of the second and third floor windows on the north elevation of the north building boarded over as were some of the windows on the west elevation of the west building. Fig. [20]. Coupled with the poor structural condition of the buildings generally, Reid thought as the accommodation was inadequate for present needs: "It would be more advisable to erect an entire new range of buildings for the accommodation of this College than to expend so considerable a sum as must now be required on a general renewal of the present buildings." (36)

The date of the Barons' request for a second Report is not known but they asked it to include estimated costs for the work involved. There is no way of knowing what instructions were issued to Reid but it does seem incredible that his first report would have been submitted without costs. It appears highly unlikely he would have been asked only for a structural report on the condition of the buildings as Reid refers to: "The new buildings here suggested might be so arranged as to be executed and the old Buildings gradually evacuated and ultimately altogether removed". (37) This immediately infers he had produced sketch plans but there is no evidence to confirm such drawings existed. To be able to produce drawings he must have had an idea of the type of accommodation the University administrators were looking for. A minute of United College dated 25th June, 1825 states:

that he [*Professor Duncan*] had requested this meeting to be called that direction might be given for preparing a written report on the present state of the College buildings, which report should also state what new buildings might be required for the accommodation of the students of the different classes and for other necessary purposes. (38)

At this same meeting Dr. Jackson and Mr. Alexander, members of staff, were instructed to prepare a report including these points as soon as possible. Three days later this report was discussed and approved. (39) This gives the impression that there could have been collusion between the parties concerned to produce as damning a report as possible condemning the state of the existing buildings. This type of action by the University authorities is again evident in the answers given by the Principal and Professors when they were questioned on the same subject by the Royal Commissioners in 1827. The answers printed in Evidence appear to have been carefully edited. From the information available it is clear Reid had had some instruction from the University on the accommodation they required as he makes a direct reference in his Report to: "having received from the Principal and Professors of the College descriptive memorandums of the nature and extent of the accommodation which would be necessary in the event of a new building being erected". (40) What he does not divulge is the date when he received these memoranda. In an undated memorial to the Barons of Exchequer he again makes it clear he had had frequent communication with the professors of the College on the question of their accommodation requirements. (Appendix B). No early sketch plans have been found for United College or St. Mary's, making it impossible to know

exactly what Reid's original proposals were. It can only be assumed the inferred sketch plans were used to produce the costs which accompanied Reid's second Report in January 1826.

It has been suggested Reid had a bias towards rebuilding rather than carry out major renovations which is unfair comment, given the contents of his Report. There are several cogent reasons why a rebuild would have been the better option. In nearly every case it is more cost effective and the client has a building designed to meet his accommodation requirements. Contemporary experience has shown, then as now, that there is a misconception among the lay public that remedial work is cheaper than new. Unforeseen constructional problems are more likely to arise in rehabilitation work leading to increased costs which the client is often at a loss to understand. Constructional problems can arise in new work but are relatively uncommon and are usually of a minor nature. The contract for new work tends to be shorter and it would be surprising if Reid had not looked at all the options before recommending a complete rebuild. It is always difficult to reach a balanced judgment when a building of particular architectural merit or historical value is subjected to this kind of debate. The Barons, on receipt of Reid's report in January, 1826, passed it to the Treasury in February of that year when they recommended that St. Mary's could be renovated for the sum of £1,650, to which suggestion the Treasury fortunately agreed, as much of the present day charm of St. Mary's College is due to Reid's skilful reconstruction.

Therefore it is a fair assumption these drawings were used to produce the estimated costs he submitted with his second Report. The Barons, having considered Reid's Report, favoured the rebuilding programme as they were:

humbly of the opinion that it is absolutely necessary to rebuild the United College of St. Salvator and St. Leonard in the manner pointed out by Mr. Reid and that any temporary repair would not answer the purpose. This of course must be attended with a very considerable expense not less than £28,500 as stated in the report. (41)

Viscount Melville was clearly disturbed by the costs produced by Reid in his second Report and they met in London on the 19th March, 1827 to discuss his Lordship's misgivings. From Reid's letter to Lord Melville dated 30th March, 1827 it becomes obvious the main subject under discussion was the costs of the United College design. The outcome of the meeting was that savings would have to be made and in

the Abstract which accompanied his letter, a cost of £2,850 appeared for the first time in connection with a proposed Library extension. There was no mention of a Library extension in either of Reid's earlier Reports to the Barons. It has to be assumed that negotiations had taken place and a decision taken about this extension some time after he produced his Reports and before he wrote his letter of 30th March. Three drawings exist for the Library extension dated January 1827 which was two months before his London meeting and it is worth reproducing in full his letter to Lord Melville.

Craven Hotel,
Craven Street,
Strand,
London.

Mr. Reid begs very respectfully to acquaint Lord Melville that he may give the subject of the buildings at St. Andrews his further consideration and thinks the best mode of reducing the scheme is by lessening the general dimensions and he accordingly proposes that the two ranges of buildings intended on the east and west sides of the College Court should be made each 5 feet narrower than by the plans - in that way the classrooms will still be of larger dimensions than those now stated by Dr. Nicol to be insufficient, and with the decreased dimensions of the buildings generally and in omitting in a great measure, the ornamental points of the exterior elevations Mr. Reid calculates the expense to be as stated in the enclosed abstract.

Lord Melville will be pleased to observe that in this abstract the expense of the great hall and the observatory are altogether omitted as matters not indispensably necessary. Mr. Reid has not made any further plans as no satisfactory change of position or arrangement of the buildings has as yet suggested itself to him, but if Lord Melville approved of it Mr. Reid will take back with him to Edinburgh the whole of the plans and papers relating to the business and prepare others, after consulting with Dr. Nicol and Sir Henry Jardine, limiting however, the amount of expense to what is stated in the enclosed abstract. (42)

Abstract

New Buildings for the United College.

Amount of the estimate of completing the buildings proposed on the east side of the College Court supposing it has been reduced by 5'0" in the width and the ornamentation of the exterior elevation dispensed with. £8,500

Building costs on the west side of the College Court.
Reducing it by 5'0" in the breadth and omitting the external ornamentation. £9,800
Fitting up house for the Porter £ 500
Forming and making drains and the enclosure £1,800
£20,650

St. Mary's College.

Amount proposed and allowed for repair and alterations on the Building of the College. £2,000

Amount of the expense of building and finishing the proposed addition to the Library. £2,850
£25,500

Add 7 1/2 % on the foregoing £1,912
£27,412

From Reid's letter the plans to which he is referring are more than likely to have been his original proposals for the rebuilding programme at St. Andrews. There is no documentary evidence to suggest that Reid had produced another set of designs by January, 1827. If he had, only the Library drawings survive. The instruction to produce plans for the Library extension must have been issued during 1826 and it is probable these were the only new drawings he had produced. It is worth noting that the Library drawings included part of the ground and first floor plans of the Principal's house. Figs. [22, 23, 24] These plans show no alterations and tally exactly with the 1825 survey drawings of St. Mary's College. This could

suggest the Principal's house was not included in the original proposals for St. Mary's because it was thought to be habitable. Reid, in his Abstract, shows the cost of St. Mary's renovations had increased from £1,650 to £2,000 for which he gives no explanation. Perhaps Reid had been instructed to include the Principal's house or ordered to proceed with a renovation, rather than a rebuild which he had originally suggested and in the interim he had allowed an additional £350 to cover extra costs.

The proposals submitted by Reid in 1826 were under review, principally on the grounds of costs and Lord Melville had pressed for savings to be made. Reid indicated his willingness to redesign the buildings and in his letter to Lord Melville 30th March, 1827, had outlined a relatively easy way to effect immediate savings by reducing the width of the east and west ranges at St. Salvator's by 5ft.. (43) (See p. 50) He also indicated that the classrooms would still be larger than the existing classrooms which Dr. Nicol found to be too small. This suggests that his original design must have been of ample proportions, based on the descriptive memoranda issued by the Principal and Professors. Also omitted on grounds of economy, were the Observatory and Great Hall. There is no record of the accommodation which he was to provide or the style of architecture to be adopted. What is clear is that the east and west buildings were extensively decorated, and the decoration immediately became a victim of the cost cutting exercise. The alterations to the Porter's house, the entrance gateway, drainage and site works were not affected by the quest for savings.

Reid was willing to return to Edinburgh and prepare new drawings after he had consulted with Dr. Nicol and Sir Henry Jardine. (44) These proposed savings reduced the cost of the United College redevelopment to £20,650. In his letter to Lord Melville Reid was only concerned with the buildings intended for the west and east sides of the College Court. No mention was made of the north wing or of its renovation and it might be that it was scheduled for demolition thus leaving an open ended quadrangle at the mercy of the elements. Reid favoured a phased redevelopment beginning with the new east wing. This would have meant retaining the north wing until the new building was erected. He may have preferred this open type of design as he had submitted a similar scheme for the completion of Edinburgh University in 1810. The amended costs of the United College redevelopment plus

the Library extension and additional work at St. Mary's included a contingency figure of £1,912. This gave an amended figure of £27,412 and represented a saving of £1088 over the original figure of £28,500. The net gain to the University was an extension to the Library which was to the benefit of the whole University. The negotiations between Reid and Lord Melville to effect savings in the case of United College turned out to be a fruitless exercise. This was as a result of the Evidence taken in 1827 by the Royal Commissioners which brought about further changes in the plans to rebuild United College.

Evidence taken by the Royal Commissioners of Visitation to the Universities of
Scotland - St. Andrews, August, 1827

In July and August, 1827 the Royal Commissioners visited St. Andrews and in their remit they were specifically instructed to inspect the condition of the buildings of St. Mary's and United College. This inspection was carried out and further information on the condition of the property was gathered using two methods, by a series of written questions and answers and by interviewing members of staff. The written answers dealt mainly with the living-in conditions of the students and this was applicable to both St. Mary's and United College. It was found the number of students living-in had declined over a period of years and dropped to such levels that student accommodation was no longer a matter of great relevance. The written answers also produced evidence that since 1747 the total amount spent on repairs at both Colleges was abysmally small - £1,800 at St. Mary's or £36 per annum, and £5,500 at United College or £70 per annum. It was established that there had never been a separate fabric fund in either of the Colleges. (45) The members of staff who were interviewed were Principal Haldane, Professor Duncan, Drs. Hunter, Jackson and Chalmers.

In all cases the interviewees were agreed that the buildings were in a very poor state and Dr. Hunter saw the need to present the College in a good light as he saw the:

Meanness of the buildings will lower the establishment in the eyes of the country and strangers. For my own part I am ashamed when any person from a distance wishes to see the College, the exterior of it is so discreditable. (46)

Dr. Jackson was questioned on the present accommodation required and he was adamant that there was a need for new classrooms. In his opinion the existing classrooms were low ceilinged and small and those in the north range were badly proportioned. He also felt a new building was needed, one that could be shown to any visitor. It was his belief the buildings of the University should be respectable and in keeping with its function, presenting to the eye nothing unsightly. (47) Professor Duncan was of the same mind and thought the buildings of United College should be renewed. He concurred with Dr. Jackson's views on the condition of the classrooms, adding the need for an observatory for the study of astronomy and

meteorology. In his opinion: "the buildings of the University were not respectable for a great seminary of education, and is apt to degrade it in the eyes of the students as well as the public". (48) Dr. Chalmers was of a like mind in condemning the sizes of the classrooms and he called for a building which looked like a University and not an old cotton mill. (49)

From what would appear to have been carefully orchestrated testimonies, the general opinion was that the buildings were in a dreadful state and beyond repair. What is evident is the staff were ashamed of the general appearance of United College. From the evidence collected, despite the obvious bias of those interviewed, it has to be recognised that the buildings, regardless of their condition were no longer suitable, as they did not meet the requirements of an expanding University. The Commissioners' Report recognised that the restoration of the fabric at St. Mary's and the quest for new buildings at United College had been led by Viscount Melville. In his official capacity as Chancellor of the University he had urged the government to provide the necessary funding to allow the erection of the urgently required new buildings at a time well before the Royal Commission was appointed.

Rehabilitation of St. Mary's College and the Library Extension 1827-1831

When work began on St. Mary's in 1829 it is more than likely to have been the scheme covered in the 1827 Abstract. (See p. 51) This scheme does not appear to have differed greatly from the original proposals as the present buildings by and large reflect the surviving drawings which date from 1829 and 1830. The odd thing about these drawings is that their numbers do not coincide with the dates and it is possible there may have been more than one set, with the 1830 drawings superseding the earlier set. A financial statement prepared by the Scottish Office of Works for work carried out in Scotland between 1829-1830 and supervised by them, is countersigned by Robert Reid dated February 1831. This statement shows £1,756 had been spent on St. Mary's which gives a good indication that work by this time, was well advanced and nearing completion. A sum of £750 was shown charged against the Library extension which indicates work on the Library was at an early stage. (50) Unfortunately the final completion date or the final cost for the rehabilitation of St. Mary's is not known. The first recommendation to refurbish St. Mary's College at a cost of £1,650 was made to the Treasury by the Barons of Exchequer in February 1826. Reid's letter of 30th March to Lord Melville has already been dealt with and the figures presented in Reid's Abstract were used by Melville when he wrote to J. C. Herries, the Chancellor of the Exchequer on 27th December, 1827. Melville was trying to persuade the Chancellor to put in motion the recommendations made by the Royal Commissioners who were: "Unanimously and decidedly of the opinion that the buildings and repairs ... now proposed by Mr. Reid ... are indispensable and the whole ought to be completed at as early a period as may be practicable." (Appendix C.) No details of the recommendations made by the Royal Commissioners were included in the dispatch.

A private letter to Herries from Melville was enclosed along with the official one in which Melville reminded him that £30,000 had already been earmarked from the Hereditary Revenue of Scotland for "such repair or new buildings that may be required at St. Andrews or Aberdeen". Melville also referred to earlier correspondence dated 6th September, 1826 in which he had highlighted the great losses sustained to University incomes since the Union of 1707. In conclusion he

asked for "a favourable and an early reply". (51) In spite of Melville's efforts, further delay occurred. Henry Goulburn had taken over as Chancellor of the Exchequer and he asked for additional information, information which was supplied by Lord Rosebery who wrote on behalf of the Royal Commissioners. He enclosed copies of the minutes taken by the Commissioners on 7th July, 1827 plus a copy of the report on the University buildings by Robert Balfour, a local architect. Almost a year later Lord Melville received a letter dated 24th November, 1828, from G. R. Dawson, one of the secretaries of the Treasury, which informed him that the Barons of Exchequer had been authorised to proceed with the building programme at St. Andrews. (52) Lord Melville wrote to the Rector Robert Haldane expressing his satisfaction in enclosing a letter from Mr. Dawson. The Rector was delighted with the news and he wrote to Melville acknowledging that due "to your Lordships powerful and friendly interposition we are entirely indebted for the pecuniary grant". (53) To what extent Melville was able to prevail on the Chancellor of the Exchequer is not known, but there is no doubt he used his position to exert what influence he had.

Work began on site at St. Mary's College in 1829 and by making a comparison between Reid's comprehensive 1825 survey drawings of the existing buildings and John Oliphant's sketches with Reid's 1829-1830 drawings, a clearer idea of the proposals to restore the fabric at St. Mary's becomes apparent. The buildings of St. Mary's College occupied a site on the south side of South Street with the buildings forming a right angle with South Street and the western boundary of the site. The South Street frontage was approximately 100ft. in length and consisted of the original College building which was built between 1537-54 and included the Principal's house. The 1607-46 extension which adjoins the University Library, completed this range. The western leg runs southwards for approximately 175ft. and is approximately 5ft. wider than the South Street frontage Fig. [13]. The existing accommodation which was on three floors is as follows:

Ground Floor: The area between the entrance tower with turnpike stair and the southern gable, houses cellar, storage space and the College kitchen. The Prayer Hall approximately 48ft. x 21ft. stretches between the stair and the Principal's house which shows a

cellar and storage space. The kitchen and dining room both front onto South Street; a small porch also projects into South Street. A second entrance to the Principal's house is located in the internal angle of the building in the College Court. The northern block adjacent to the Library has store rooms and stabling for a gig immediately behind the arcaded piazza. Fig. [14].

Second (First) Floor : Immediately to the left of the entrance stair is the College Dining Room and chartroom. To the right of the stair is the Divinity Hall 29ft. 4ins x 20ft. 6ins and on either side are rooms designated as student lodgings. The accommodation provided in the Principal's house consisted of bedrooms, study and drawing room. The remainder of the north wing shows a turnpike stair rising from the ground floor giving access to student lodgings and a room for the Professor of Hebrew. A Porter's lodge is situated over the main entrance into the College Court. Fig. [15].

Third (Second) Floor: A room for the Professor of Church History is situated next to the southernmost gable with rooms for student lodgings taking up the whole of this floor. The bedrooms of the Principal's house provided a barrier between the north and south wings. Fig. [16].

The Principal's house took up progressively less floor space on the first and second floors of the southern wing, with the bulk of alterations and renovations confined to the central area of the western leg between the entrance staircase tower and the Principal's house. The evidence taken by the Royal Commissioners confirmed Reid's Report to the Barons of Exchequer in 1826, that both the Prayer and Divinity Halls situated in the oldest part of the building, were in need of repair. The Divinity Hall was considered to be too small for its purpose and when coupled with its low ceiling it was known to be very uncomfortable. Principal Haldane, when questioned, told the Commissioners that he had spent £150 on repairs to his house. The ground floor, which was considerably below street level, was damp and

uncomfortable, especially the area to the south of the kitchen. Robert Balfour confirmed the unsatisfactory state of the property when interviewed by the University Commissioners in August, 1827. (Appendix D). Haldane indicated he would be happy with the accommodation provided if the ground floor was renovated. (54) The run down arcaded block between the Principal's house and the University Library was scheduled for demolition to make way for the Library extension.

The 1829 ground floor drawing shows the area to the left of the entrance staircase tower subdivided to form two rooms with closets with the College kitchen remaining in the same place. The Prayer Hall is shown reduced in size by approximately 20ft.. The additional space created was used to form a lobby with closet and robing room and benches or pews were to be provided in the Prayer Hall. Reid was trying to eradicate the problems of the area to the south of the kitchen in the Principal's house by redesigning the area to form a servants' room, pantry and scullery. The kitchen, dining room and the existing porch which projected into South Street remained untouched. The lack of sectional drawings makes it difficult to assess what steps were taken to overcome the problem of dampness. It has to be assumed the floor level was raised as the present floor level is very slightly above the ground level of the College Court. Fig. [25]

Similarly the Second (First) floor plan shows the position of the College dining room as unchanged with the Chartroom reduced in size to accommodate a closet and store. The Divinity room is shown slightly increased in size with an extra window and fireplace. It had also been fitted out with benches or pews and provided with a robing room. The rooms which were used as student lodgings disappeared and the area designated as a laundry along with one of the lodging rooms shown on the survey drawings, were taken into the Principal's house to form a much larger dining room. The dining room was given three new windows which overlooked the College Court. The fact that the kitchen remained on the ground floor does not appear to have been thought inconvenient. No information was given as to the use to which the existing dining room would be put. Fig.[26]. It has to be kept in mind the 1829 drawings were nothing more than sketch plans.

The eastern elevation of the main block shown on the 1829 sketch elevation

does not correspond with the finished building. However it does illustrate the changes Reid had in mind. This elevation shows the first floor windows enlarged and arranged in a regular pattern, the windows consisting of astragal profiled casements divided by a simple mullion and transom. All the windows are framed by a plain margin surround surmounted by curved curvilinear Jacobean pediments with a heraldic motif and scrolls at either end as seen in the finally executed design. The entrance door leading to the Prayer Hall was enlarged and embellished with a double round moulded door surround with a segmented arch-head and a transom light above. Fig. [27]

It has been suggested that on the elevational drawing a rough pencil sketch shows what could have been the half dormers which appear in the final design. The small sketch on the second floor plan gives a better indication that Reid was contemplating dormer windows. In the final executed design the pedimented first floor windows alternate with those which have the half dormers above. The suggestion that the half dormers were a later addition lacks credibility because the 1830 elevational drawing of the north wing of the Principal's house shows a similar dormer to those used on the finished College building. This would give authentication to the belief the dormers were part of the original alterations, plus the fact that there is a lack of documentary evidence to suggest otherwise. On the original survey drawing of these elevations the ogee roof, the centrally placed dormer and first floor windows have been pencilled in. This is a further indication that Reid's original thoughts were carried through to the final design. Fig. [1] The 1830 drawings are more detailed in giving the finishes to be applied to the Principal's house, the most striking alteration being to the entrance. Figs.[28, 29]. The entrance tower is shown raised a full storey in height and capped with a four sided ogee roof. It also shows the removal of the outside stair to the south court and in its place a new imposing doorway was slapped in the east facing wall of the tower. This opening is complete with moulded surround and strapwork with armorial panel above. The door is approached by a broad balustraded stair. Immediately above the door a double window, similar to the main elevation and topped with strapwork, lights the internal staircase. On the south side of the stair tower a new back entrance was to be formed with a similar moulded surround. This elevation is

decorated with a fleur-de-lis and two plain recessed panels above and below marked A, B and D on Reid's drawing. Fig. [29] The remaining south elevation of the Principal's house has the number of windows reduced from five to three. One window to each floor centrally placed immediately above each other closely followed the elevational treatment of the main block. On close inspection of the stonework the outline of some of the original windows can still be seen. No plans are available for the second floor of the Principal's house and it is possible no changes were envisaged in this area and the bedrooms were left as shown on the original survey drawings.

From the submission of Reid's reports to the Barons in 1826 to work beginning on site in 1829, there does not appear to have been any major deviations from his 1827 proposals. The ceiling height in the Divinity Hall was successfully increased by removing a floor and reducing the number of floors from three to two. This is deduced from the elevations as there are no documentary records to indicate what was actually done. Reid was able to achieve his aims because at this time there was a change in attitude to the use of College buildings. It is stated in a written reply taken in Evidence by the Royal Commissioners that student lodgings had always been provided, however over the past twenty years numbers actually living in had steadily decreased. Students preferred lodgings in the town which it was said were more comfortable and away from the watchful eye of the Principal. (55) This left St. Mary's second floor full of redundant student accommodation. The inclusion of the half dormers did nothing more than light the attic roof space. In 1938 additional rooms were required and these were created out of the old attic space and ironically, by lowering the Divinity Hall ceiling. The dormers originally designed to enhance the east elevation at St. Mary's were now used to light proper rooms. (56)

The major renovation work carried out at St. Mary's did not spoil the character of the place due to the retention of the finest features of the old buildings and Reid's sympathetic detailing. Figs [30, 31]. It is evident Reid had no plans to alter the South Street elevation of the Principal's house as his 1827 drawing of the Library extension shows the plan of the Principal's house identical to that in his 1825 original survey. Both the entrance porch and the moulded shafts are shown

unchanged. These shafts probably date from the middle of the sixteenth century and it can only be assumed they are shown in their original positions on Reid's survey which is confirmed by an early photograph. It is obvious the entrance porch was removed later and the panel bearing the Royal Arms repositioned and extended. Fig.[32] The early photograph is undated and there is as yet no documentary evidence uncovered to indicate when this work was carried out. There is an instruction from the Office of Woods and Forests in June, 1851 to Matheson to carry out an inspection of the Principal's house. (57) In the same month he received from the Principal, "a specification of certain repairs at present requiring to be made on the College buildings". (58) There is no instruction which specifically mentions the removal of the porch or the resiting of the Royal Arms, items which would not normally be classed as repairs. The only documentary evidence found, which indicates work was carried out at St. Mary's, gives no clue as to the type of work undertaken. This appears in the Office of Works Abstract of Cash Payments 1854-55 which shows an entry in the Ladyday Quarter of 1853 for work carried out at St. Mary's amounting to £631.5.8d. A further £69.17.1d was spent in the Christmas quarter on both United College and St. Mary's College - £17.0.11d was specifically for mason work at St. Mary's and this sum might have accounted for the removal of the porch and the resiting of the Royal Arms. The figures suggest that extensive work was carried out during this period and it is logical to conclude the street elevation of the Principal's house was altered at this time. It has remained unchanged to the present day. Fig. [33]

There is a published account of the work carried out in a *Memoir of Sir Hugh Lyon Playfair*, Provost of St. Andrews, which made it clear that the following work had been carried out: "The Principal's house was modernised, the hideous porch removed, the house ornamented inside and the proper entrance to the premises adopted; the coats of arms were also cleaned, re-cut and replaced with many other improvements and renovations". (59) How much actual input Provost Playfair had in this work being carried out is not known but his influence appears to have been exaggerated by the sycophantic writings of the author of the Memoirs.

Library Extension 1829-31.

The University records show that by the early years of the nineteenth century the problem of finding enough space to accommodate the steadily increasing number of books had become acute. Extra book presses had been provided in every available space, even the entrance lobby to Parliament Hall was being used to store books. In 1817 drastic action was taken when the fixed benches along the walls of Parliament Hall were removed and replaced with 13ft. high bookcases. This, in turn created problems with lighting and as a result the original finely moulded and rebated mullioned windows on the south side of the building were removed and the original window openings enlarged. Within ten years the additional storage space provided could no longer cope and an extension was the obvious solution. In 1827 a committee of the Royal Commission for Visiting Scottish Universities visited the Library on 31st July, 1827. In their report they agreed the building was no longer suitable for the purpose for which it had been designed. They also declared the building to be damp but concluded this could be rectified and as a result of this visitation and Lord Melville's influence, the Barons of Exchequer were instructed to proceed with the Library extension. (60)

During the period between 1829-31 the refurbishment of St. Mary's College and the Library extension were completed; the exact dates are unknown but both were finished some time during 1831/32. There are only three drawings prepared by Reid dated January, 1827 which show his proposals for the Library extension. Figs.[22, 23, 24] The Library is shown extended by approximately 39ft. to the west on ground which had previously been part of St. Mary's College. The arcaded three storey block which contained dormitory and other accommodation was demolished to make way for the Library extension. Principal Haldane had raised no objections to the demolition of the arcaded north building but he was cautious enough to say that before going ahead we must have the necessary permission before giving up part of our College. The additional accommodation provided consisted of two single rooms with one on each floor. The first floor room was provided with a gallery corresponding with the existing first floor of the Library. This upper floor room was, to begin with, set aside as the Professors' reading room.

The old entrance porch, which originally protruded 10ft. beyond the building, was pulled back to give a continuous building line. Protruding porches and stairs were common features in St. Andrews at this time. For most of his architectural career Reid designed in the classical style and his Library extension was sympathetically designed to be in keeping with the original style of John Gardner. The north elevation followed the existing pattern of slightly salient pedimented bays. The increased length gave the building greater composure obviating the earlier staccato rhythm. A note on the elevation indicates that it was the intention to slightly increase the recessed panels on the ground floor and form windows in the openings, marked X on Reid's elevation. Fig. [24] The transomed and mullioned two light windows which are now a feature of the elevation, were much later nineteenth century additions. These were added at the same time as the first floor room which had become the Senate Room in 1898-1901 and which was re-designed internally and decorated in the Georgian style by Rowand Anderson. Figs [34, 35]

The southern elevation shows quite visible variations in the quality and colour of the stonework used by Reid in 1829-31 and that used by Gardner in 1764-67 for his upper floor extension. The stone used by Gardner was a yellowish coloured sandstone which contrasted with the more regular grey ashlar masonry of the nineteenth century addition. The toothed jointing which bonds the stonework of the two extensions is clearly shown as is the one remaining seventeenth century mullioned two light casement window which is in sharp contrast with the larger classical sash window immediately above. Figs [36,37]. Reid repeated the pattern of the first floor fenestration adding two similar Palladian arched windows capped with voussoir stones. The much darker decorative corbels which project from the wall between the first floor windows are an unusual decorative feature. Dr. Ronald Cant suggested that these corbel stones may have been salvaged from the original buildings of St. John's College built by Cardinal Beaton in the sixteenth century. If that is the case they must have been well preserved because a further corbel which shows the passion emblems was incorporated in the Library extension of 1890 designed by W. W. Robertson, Her Majesty's Principal Architect in Scotland. Fig.[38]

The Rebuilding of United College by R. Reid and W. Nixon

The floor plans of Reid's 1827 amended drawings are missing from the surviving collection of drawings relating to the rebuilding of United College. Only a perspective drawing of the proposed north and east wings signed by Reid and dated December, 1827 has survived. In the light of what was actually built between 1829-1831 it would appear that a decision had been taken to abandon the rebuilding of the west wing. The south elevation of the north wing is similar to the east wing shown on the perspective sketch. The combined building is L-shaped, two storeys high and one room deep. Both wings have entrance porches giving access to the stair wells, the east and north wings having one and two respectively. The entrance porches project forward at ground floor level and then step back to form a minimal extrusion to the second floor. This continues above eaves level for almost a full storey before terminating in a curvilinear shaped gable. These lofty gables give a vertical dimension to the composition and are surmounted by stone finials shaped in the form of a fleur-de-lis. The window of the stair well echoes the fenestration of the ground and first floor windows. The simple two light windows are within a plain stone surround divided by a stone mullion and transom. The first floor windows have hooded mouldings and the ground floor windows have triangular pediments decorated with strapwork. The east wing is shown as having a continuous cornice at eaves level which supports a form of trefoil gablets which in turn have sculpted heraldic shields directly above the windows. Fig. [39]

Reid's involvement in the rebuilding of United College was restricted to the erection of the east wing between 1829-31 at a cost of just over £5,500. In the absence of surviving floor plans for Reid's east wing the only indication of the accommodation provided is shown on William Nixon's drawing for the north wing dated 1844. Fig [40] The ground floor of the east wing shows the entrance lobby and stair flanked by two very large classrooms each with a floor area of 1275 sq.ft.. Immediately to the rear of the classrooms a passage connects the Professors' rooms which adjoined the classrooms. The second floor was a repeat of the ground floor plan. Nixon's drawing shows them sub-divided to form four classrooms and this in turn created access problems which were overcome by providing two small

additional entrance porches. Reid's north wing, which was to be a later addition, had basically the same elevational treatment as the east wing but with an additional porch. The major difference is in the three bay central section. On both the ground and first floors the level of the continuous window sills have been raised slightly. The hooded mouldings above the first floor windows now forms part of a continuous stepped string course at eaves level. Immediately above, the trefoil gables have been replaced by much taller triangular shaped gablets capped with fleur-de-lis type finials. These triangular gablets are in sharp contrast to the less aggressive curved gables and compete with the vertically dominant stair enclosures. The shadows shown on the north elevation indicate that the small rectangular blocks shown under the ground and first floor windows are proud of the wall surface. These blocks were obviously decorative features of some kind but this rather fussy detail upsets the rhythm of the window pattern. Fig.[39]

The elevational treatment of the completed east wing did not deviate in any great detail from Reid's perspective drawing. It is assumed the floor plans were built as shown on Nixon's 1844 drawing minus the partitions which are shown dividing the large classrooms. The most dominant feature of the west elevation of the east wing is the centrally placed entrance porch. The very fine panelled doorway is approached by four shallow steps and is surrounded by a moulded stone architrave with a continuous carved frieze. A low parapet is carried over the porch in the form of a string course at wall head level and an answering moulded cope terminates at the gable apex which has a sculpted cartouche. All the windows have plain stone rybats which form the window surrounds with the ground floor windows having pedimented heads decorated with fairly simple alternating strapwork panels. The hooded mouldings shown on the perspective sketch have been replaced on the second floor windows with a small canopy which is an integral part of the surround. Above the first floor windows is a continuous eaves string course interspersed with gargoyles. The curved gables are decorated with further cartouches in which there are heraldic motifs. The same simple two light window arrangement with mullion and transom has been retained as has the proportionally larger stair window which has retained its leaded glazing. The triangular pediment above this window is decorated in like manner. The decoration culminates with the sculpted arms of Prior

Hepburn who along with Archbishop Stewart, founded St. Leonards College in 1521 and completes the decoration. The elevation as built is richer than as shown on the original sketch perspective. Reid's original scheme was the victim of a cost cutting exercise and ornamentation of the building would have been one of the areas where savings could be made easily. It was possibly because savings were effected in other areas of the building that the architect was able to reinstate some of the original decoration. Figs [41,42]. Why Reid chose to design in the relatively newly revived neo Jacobean style is not recorded in the correspondence but is discussed in Appendix E.

The lack of working drawings and specifications seriously hampers an analysis of what actually took place during the construction of the east wing. The only written evidence available is an abridged copy of the "Revised Draft Contract". (61) This document does little more than give the names of some of the contractors and the contract figure of £5,890. The building was to be completed by 1st September, 1830. The contract sum quoted was some three hundred pounds dearer than Reid's estimated figure of £5,579. It is interesting to note that the contractors were brought from Edinburgh in preference to local tradesmen, and the reason for this is difficult to explain as no documented evidence has been found. Similar sized contracts under construction locally, were William Burn's St. Fort House at Wormit, and George Smith's Tayfield at Newport, both close to St. Andrews. This would indicate local tradesmen were capable of handling this size of contract. With the amount of construction work taking place in Edinburgh at this time, Reid would be aware of the ability and competence of the Edinburgh contractors. The rather sparse information available lists the contractors as follows: mason and builder, Lewis Alexander Wallace of Wallace & Sons, Builders, 10 St. John Street, Edinburgh. Wallace also practised as an architect and Reid may well have selected him as he would have been able to work with the minimum of supervision. He would also have been able to produce, when required, any necessary detailed drawings. Plumber work was to be carried out by George Chambers of Weirs Close, 208 Canongate, Edinburgh. Also listed was Richard Clark & Son, Chair makers, Leith Walk, Edinburgh, who presumably provided the fixed furnishings.

The exact date of the completion of the east wing is not known and from the

conflicting evidence available a reasonable estimate of the completion date is difficult to achieve. The Minutes of United College show that on 29th October, 1830 it was agreed: "that the meeting resolved to employ Geo. Nicol to assist Thos. Peattie in watching the College Buildings from 7 o'clock a.m. to 5 o'clock p.m. and that his services be retained from month to month at a rate of 7/- per week". (62) This indicates the building was under construction and that materials were on site, but the size of contract hardly warrants the use of two watchmen. Nicol was employed in October when it became dark earlier and it would make more sense if he had been employed as a night watchman. This meeting also agreed to insure the building and on the 27th November, 1830 it was confirmed that the New College building would be insured with the Dundee Insurance Office for the sum of £3,000 at a premium of 4/6d per £100. (63) The insured sum only covered half the contract figure, which suggested that even allowing for materials on site, the building could not have been any more than 30% completed and with the onset of winter, progress would slow down.

In new building, Quantity Surveyors use a figure of 36% of the contract sum as covering concrete and builder work. This figure would correspond with the sum insured by the University for the new building in November of 1830. The search for a completion date is further complicated by the Financial Statement issued by the Office of Works in February, 1831 which shows a figure of £6,244 as having been spent. This represents a 6% increase or £354 above the contract figure, a sum well within the contingency sum allowed. These figures however, do not relate to the insurance cover agreed on some three months earlier. The February figures would also suggest the building was nearing completion. A Memorial sent by the University to the Royal Commissioners in March, 1844 gives a vague completion date as sometime between 1830-31. (64) A further Minute of United College dated 29th October, 1832 shows that a John Keddie was appointed to watch the new building at the rate of 1/-d per day. (65) The exact finishing date will never be established unless some further evidence comes to light. From the available information it would appear the building was not completed in 1831 but probably sometime in 1832.

The final statement of accounts prepared by Reid dated 26th November, 1832 covers the total costs for the new wing at United College, St. Mary's College

renovations and the University Library extension. (Appendix F) These accounts at least confirm all building work had been completed by 1832. The need to employ a watchman in October would imply this was a temporary appointment, perhaps due to the building having not been handed over to the University.

Dr. Cant suggested that the yellow coloured sandstone used to build the east wing may have originated from the Ravelston group of quarries near Edinburgh, where stone of a similar quality and colour was produced. Reid would certainly have been familiar with the stone, having used it in the building of Edinburgh's New Town. Transportation of stone over such a long distance would have been difficult and the most likely mode of transport would have been by sea. Coastal shipping lists from 1828-1831 do not show stone being shipped to Fife from the Lothians during this period and no other evidence has been found to support Dr. Cant's theory. The origin of the stone used, therefore, remains an enigma.

The second phase of the redevelopment of United College

The new east wing was barely finished before the University authorities renewed their attack on the Treasury. They were attempting to get the Treasury to release the balance of the original grant of £30,000 to allow the completion of the rebuilding programme at St. Andrews. This money had been set aside out of the Crown's Hereditary Revenue in Scotland for the express purpose of renewing or repairing the fabric of certain Scottish Universities. Both St. Andrews and Aberdeen had been informed that Sir Henry Jardine, the King's Remembrancer, had deposited the money in one of the Edinburgh banks where it would gather interest. This money was to be held until The Lords Commissioners of the Treasury had completed their investigations on the current state of the Scottish Universities. The result of this investigation would then determine the proportion to be allocated to each University whose buildings were in need of renovation or renewal. (66) The situation at Aberdeen was not as clear cut as that at St. Andrews, where both Colleges had been united since June, 1747. A decision had not yet been reached at Aberdeen on the unification of King's and Marischal Colleges. Out of the original sum St. Andrews had received some £13,000. This money had financed the rehabilitation of St. Mary's College, the Library extension and the new east wing at United College which provided only four of the ten classrooms which were urgently needed.

The Memorial presented to the Royal Commission for the Universities of Scotland in March, 1844 by the members of the University of St. Andrews, was for additional funding. The Memorialists argued that £10,500 of the original estimate and grant "for the above object has not been so applied". (67) Dr. Cook had written to Lord Melville in early April, 1833 on the advice of Lord Rosebery, one of the Commissioners appointed for visiting the University of St. Andrews. Rosebery had stated to Dr. Cook that Melville, as your Chancellor, can second any application made by the University to the government for the release of funds. He also indicated he would be happy to aid Melville's endeavours at the Treasury to obtain for St. Andrews what is just and reasonable. Cook had pointed out in his letter that "the old fabric which the Commissioners found to be in a ruinous state and in which several of the classes meet have now become most uncomfortable".

(68) Melville, in his reply, stated he would be glad to render assistance and he wrote:

I should have thought and indeed should have been certain in former times that the government might and would have made up their minds long ago on the several matters submitted to them by the University Commission ... that if nothing has yet been decided on the reports from the Commission, at least on the Union of the two Universities at Aberdeen the government is not in a state to determine what portion of the sum now laid aside for the repairing of the College buildings at St. Andrews and Aberdeen may and shall be appropriated to the former. (69)

The Duke of Wellington's Tory government had fallen in November, 1830 and a new Whig administration was formed by Earl Grey. His government was responsible for introducing the Reform Bills of 1831 and 1832 and Melville's efforts to secure funding for St. Andrews may have been made more difficult now the Tories were in opposition. (70) The failure of the government to deal with the Report of the Royal Commission was the main stumbling block to any forward movement on the appropriation of funds. Principal Haldane wrote to Viscount Melville in June, 1834 asking him to do all in his power to get some agreement on the completion of the buildings at St. Andrews. Haldane made the point that "It is very difficult to get the present government to attend to any object of this kind". (71) Meanwhile in February, 1834 Robert Reid had received a letter from the Commissioners of Woods and Forests informing him:

that the Lords Commissioners of Her Majesty's Treasury having had under their considerations applications on behalf of the University and Colleges of St. Andrews for the completion of the buildings there ... but before their Lordships further consider the claims of St. Andrews, they are of opinion that the state of the buildings of the University of Aberdeen upon which no expenditure has been made ... and are represented to be in a state to require a very considerable outlay ... I am further directed to instruct you to proceed to Aberdeen ... and after making the requisite survey of the buildings of Kings and Marischal Colleges you are to report the present state and condition of each ... with plans specifications and estimates of what may be required and with such observations ... as may appear to you to be material. (72)

The reference in the above letter which refers to Aberdeen University is misleading as both King's and Marischal Colleges, at this period, were operating as separate bodies. They did not become one University until the University (Scotland) Act, 1858 paved the way for their unification on 15th September, 1860.

Reid arrived in Aberdeen on 27th February, 1834 and as instructed, produced plans, specifications and estimates for what he considered to be necessary. These appear to have been largely based on Archibald Simpson's plans of 1825. Reid estimated the cost of work required at Marischal College at £35,000 with an extra £5,000 for additions to King's College. The redevelopment of King's and Marischal Colleges are fully covered in Part Three of this thesis. The records as printed out in *Fasti Academiae Mariscallana* shows that the Aberdeen authorities were aware that St. Andrews was applying for the whole balance of the 1826 grant. It was also stated the Treasury "had found no minute of Aberdeen's former application to them". (73)

It was also recorded in this source that Reid had been criticised for his design of the New Custom House of Leith and his repairs at St. Andrews. The latter was said to have turned out a great failure. "The new building contains four huge classrooms for which there are very few students". (74) Reid has been unjustly criticised from several quarters for the supposed failure of his new east wing at St. Andrews, including Dr. Cant who wrote:

the Masters of the College who had very little hand in the whole matter, and who having been charged with incompetence in the management of their affairs by the University Commissioners now found themselves penalised by the incompetence of the government architect were understandably indignant. (75)

This was a harsh condemnation of Reid's abilities which was not totally justified but it has to be admitted there is no argument concerning the size of the over-large classrooms. The question is why were they so large? The architect is immediately blamed when the client is unhappy with the finished result. The client or clients conveniently forget that they themselves must shoulder some of the blame. How detailed was the brief given to Reid? The evidence which is available states he was given a description and instructions to design a plain building. His earlier proposals were vetted and reductions made in the size of the buildings to reduce costs and his second scheme would have received the same scrutiny as no architect goes ahead to the contract stage without reaching agreement with his clients. The underlying theme which runs through the Evidence taken by the Royal Commissioners by the staff interviewed, was that the existing classroom sizes were too small. The Treasury were renowned for withholding approvals if they were unsatisfied with proposals

presented to them. In this case they appear to have remained silent. Reid was an established architect who had had experience of University design, having submitted a credible scheme for the completion of Edinburgh University. The real reasons behind the classroom sizes will never be known unless further evidence is found.

The search for financial help continued during which time the building programme at St. Andrews remained at a standstill. The members of United College petitioned the government in February, 1837 in what was a reappraisal of what had gone before. They appealed to Parliament because the funds originally granted were no longer available as the balance of the original grant had been diverted to Marischal College in Aberdeen. St. Andrews were again appealing for money to enable the completion of the original scheme approved by the Treasury. The petition ends not without a touch of sarcasm by referring to the "enlightened and liberal legislature". (76) In February, 1837 Viscount Melville wrote to the Lord Advocate on the subject and reminded him that the Articles of Union in 1707 stipulated that the four Scottish Universities should remain on the same footing as they were prior to the Union.

The parlous financial state in which the Scottish Universities now found themselves was as a result of the House of Lords reversing a decision of the Court of Session in 1777. This resulted in unappropriated teinds being used to augment the Stipends of the Parochial Clergy rather than provide funds for the Universities. As a result financial hardship was experienced by both Aberdeen and St. Andrews Universities. Melville supported the completion of the second phase of rebuilding at St. Andrews because the existing buildings were unsafe and the money allocated for this purpose had been diverted without the knowledge of the St. Andrews authorities. This is a reference to the £15,000 plus interest which had been promised to Marischal College in June, 1834. He acknowledged that £10,000 or £12,000 of the original £30,000 allocated in 1826, had been spent on the most urgent works at St. Andrews. The point was stressed that nothing was to have been spent on Aberdeen unless the union of the Colleges had taken place as recommended by the former Commissioners of Visitation. After the change of administration in 1830 that restriction was either overlooked or withdrawn. Lord Melville also defended Reid against the accusation that the east wing already built was well

above the budget figure. (77) Despite Melville's unceasing efforts on behalf of St. Andrews University in their quest to raise money for the completion of United College, several other factors combined to make his task more difficult. The change of government in 1830, with different political priorities, must have lessened Melville's sphere of influence. The current application for funding was turned down, not because of a general dissatisfaction with Reid's east wing or an alleged overspend, or because of an excessively high estimated cost for the second phase. Funding was withheld because the original grant of money had been allocated to the Universities of St. Andrews and Aberdeen. The balance still in hand, in fact, being held on reserve for the rebuilding of Marischal College.

The situation regarding the completion of the buildings at United College remained in limbo until Provost Sir Hugh Lyon Playfair entered the arena in 1844. Reid retired in 1839 during the reorganisation of the Office of Works and his place was taken by William Nixon. (See page 28). Apparently Playfair had written privately to Nixon. In his reply dated 28th February, 1844, Nixon referred to their joint examination and survey of the buildings at United College. Nixon was of the opinion that the accommodation required could only be achieved by replacing the existing north building as shown on Reid's original design. Reid had done the ground work in 1829 and Nixon was obviously happy with the original concept. In his letter he wrote he had prepared designs for the additional new building Fig. [40]. We assume at Playfair's bidding:

generally in conformity to the original approved plans; but so modified in the interior arrangement and construction as to provide all the accommodation now desired, while the exterior elevation is designed to be in character with the present new building. (78)

There are no drawings still extant other than early sketch plans of Reid's proposals for the new north wing. The plan produced by Nixon altered and amended Reid's design to provide all the accommodation needs of the University. The new north building would not only provide four additional classrooms but a new Great Hall, Museum, Meeting Hall for Professors plus Chart Room and other offices. He proposed to sub-divide the large ground floor classrooms in the east wing to give an additional two rooms, thereby providing the ten classrooms so urgently required. It was intended to build an Observatory on top of the north east corner of the north

wing with part of the old building adjacent to the Church Tower converted into a house for the College porter. A terraced wall was to be built from the north wing to the western boundary with access to the garden ground behind, shown on the perspective sketch as a low balustraded wall. Elevationally, Nixon followed Reid's original design with few modifications, omitting one of the main entrances and substituting two smaller porches. One was positioned in the corner of the internal angle and the other was shown on the south gable of the east wing. These additional entrance porches were made necessary because of the access problems created by the sub-division of the ground floor classrooms in the east wing.

The works were to be constructed using local stone with as much material as possible salvaged from the demolition of the existing north wing. The estimated cost for this new wing was £6,000 compared to Reid's original figure of £10,000, a considerable saving and a point not missed by the Memorialists of March, 1844. Provost Playfair submitted Nixon's proposals to a meeting of the United College on 22nd February, 1844 and the meeting resolved to take whatever steps were necessary to have this work carried out. (79) Playfair was thanked for his interest and for his offer to do his utmost in having the buildings completed. On the 9th March he sent a copy of the plans and the Memorial, drawn up by members of the University, to Lord Melville for his information. The substance of the Memorial was again presenting the case for the completion of the United College buildings. (80) The Memorial and plans were submitted to the Royal Commission for the Universities and Colleges of Scotland. Their Minute dated 18th March, 1844 acknowledged receipt of the plans and Memorial and the Commissioners were: "of opinion the said Memorial ought to be submitted to the immediate consideration of Her Majesty's Government, and they earnestly recommended the early completion of the new building according to the plans prepared by Mr. Nixon". (81) By the middle of July, 1844 Lord Melville was able to report to the Rector, Robert Haldane, that: "some miscellaneous estimates recently presented to the House of Commons, among which you will find one for £6,000 to the University of St. Andrews and the correspondence relative to the proposed grant, which I trust, will be voted at an early period". (82) His Lordship was hopeful there would be enough time left before the onset of winter to be able to make some progress on site.

At the Senate meeting held on 22nd August Dr. Haldane reported he had had correspondence from Lord Melville and Sir George Gray regarding the parliamentary grant but the Senate was still waiting on a reply. The meeting instructed Dr. Haldane to write to both the Lords of the Treasury and the Commissioners of Woods and Forests requesting permission to make an early start on building the north wing. (83) The Minute of United College dated 23rd September acknowledged a request from the Commissioners of Woods and Forests for a set of drawings for the new north wing. This request was to receive immediate attention. At this same meeting Provost Playfair was appointed the University's representative dealing directly with the Office of Woods and Forests and he would also superintend the completion of the building programme. There was one dissenting voice, Professor Alexander, not without good reason, thought it wrong to delegate the powers of the College in this way, especially to a person who held no official position within the University. He believed such an action was inexpedient and unnecessary. (84)

By August, 1844 it appeared official approvals would follow shortly but for whatever reasons, which have not been documented, work on site did not begin until well into 1845. The reason for this delay may have been due to the fact that further changes were made to the accommodation requirements. This could only have happened between February, 1844 and February, 1845, the date on the working drawings for the north wing. Some amendments were made to plans as early as February, 1844 as the amended plans also have the same date. The original plans produced by Nixon show the accommodation to be as follows:

Ground Floor: The Great Hall, now the Lower College Hall, takes up the

total floor space to the west of the stair. Four windows on both the north and south elevations provide ample natural lighting. A fireplace is positioned centrally on the gable wall and is disguised as a blind window externally matching the first floor window. [This elevation is marred by the formation of an exit door at first floor level and masked by a functional modern steel fire escape.] Fig. [40] Central stair, meeting room for professors, chart room. Two classrooms each with a small professor's room.

Second Floor: Has a similar layout to the ground floor. The museum is now the Upper College Hall, central stair, small museum, two classrooms plus professors' rooms and a preparation room for the medical and anatomy classroom. Fig. [40]

The amended plan shows practically the same layout except for the removal of the small porches and the staircase at the junction of the east and north wings. The ground floor classroom marked No.6 has been extended northwards by a few feet. Fig.[43] The second floor shows no changes other than the north east classroom which was extended to the north to correspond with the ground floor. Fig. [44] The 1844 amended plan is the nearest representation of what was actually built and in the absence of the missing ground and first floor plans from the 1845 working drawings, it has to be assumed these drawings formed the basis of the finalised drawings. The Observatory is missing from the final scheme and no reason has been given for this omission which is almost certain to have been financial.

The noticeable changes were in the elevational treatment adopted by Nixon. Perhaps he wished to make his own contribution to the design as no architect particularly enjoys taking over work begun by another architect but in many respects Nixon's north wing was designed in a more literate neo-Jacobean style than Reid's east wing. The north wing was nine bays in length and extended a further 37ft. to the east to complete the external angle with the east wing. The window pattern was identical to the east wing minus the ground floor strapwork as were the gargoyles from the continuous string course. The major difference was in the decoration of the slightly salient three bay central section. The windows on either side of the entrance door formed a continuous unit rising from ground level with full depth ashlar aprons and projecting cornices which were capped at first floor level with triangular strapwork. Fig.[45] The most elaborate decoration was reserved for the main entrance where the double panelled door and transom above are united by a semicircular radial fanlight. This door is placed between two free standing doric columns whose entablature supports a sculpted Lion and Unicorn. The entablature returns to join the engaged architrave and frieze which forms the head of the door opening. This in turn supports a panelled frieze with a richly carved heraldic centrepiece. A sculptured keystone which represents the crucifixion of St. Andrew

the door surround. Figs [46, 47, 48, 49, 50]

At first floor level a three light window is framed between pillasters and the entablature above supports a stone balustrade with carved stone panels. Immediately above and behind there is a two light attic window which is capped with a strapwork panel in which the initials of Nixon can be clearly seen. Fig. [51] By comparison the north elevation is much plainer and is bereft of decoration. Fig. [52] On 1st March, 1845 the Office of Works issued the estimated cost of the new building which included itemised prices for the additional work required. This included additional private rooms for the professors and privies for the students to be erected in the east building plus the demolition and rebuilding of part of the boundary walls. Also included were repairs to the porter's house and adjoining office building. (Appendix G) The Commissioners of Woods and Forests signed the contract document with the contractors in Edinburgh on 30th April and in St. Andrews on 2nd May, 1845 at which time drawings and specification were issued. The contract document does not provide a great deal of information on what was to be built as this would have been covered in the specification, but it does give a few pointers to what was intended. It refers to the working drawings nos.1-21 and the specification and any other drawings which might have been produced from time to time by Nixon. Drawings nos. 1, 2 and 10 are missing from the surviving collection as is the specification.

The contract allowed for the demolition of the existing north wing and part of the west wing which included the Great Hall, Museum and adjoining staircase up to the division wall next to the kitchen. The buildings were to be carefully taken down in sections as directed by the architect. Access for materials and workmen was to be taken from Butts Wynd through a temporary opening formed in the boundary wall. The area to the north of the new building and part of the College Court were to be fenced off with building operations confined within this area. An attempt was being made to minimise any disruption to staff and students using the new east wing. It clearly stated that the stone for building work was to come from the quarries at Bonefield, Strathkinness or Knockhill. The stone specified was to be of the best quality, free from blemishes and of equal quality throughout. It stipulated that stone used on the south elevation was to be of uniform colour, free from all stains and

sand holes and built in regularly broached ashlar courses. (85)

It is worth noting that drawing No.4 shows the curved cast iron beams supporting the museum floor. This type of beam had been developed to improve the stability of cast iron which is known to be relatively weak when in tension and not particularly suitable for use as simply supported beams. This problem was overcome by making the bottom flange (tension) larger than the top (compression) flange. This new method created a beam of uniform strength as shown on the cross section through the beam. Fig. [53] (86) (Appendix H).

The contract period was to be for four years, 1845 -1849 and unlike Reid, who imported tradesmen from Edinburgh to build his east wing, local tradesmen were to be employed. Nixon invited Jesse Hall to become his Clerk of Works. Hall, a native of Roxburghshire, had served his apprenticeship as a mason in his brother's building firm which carried out extensive work in the border counties. His work had impressed Nixon and as a result he invited him to Edinburgh to take charge of a major drainage scheme draining the loch at the foot of Salisbury Crags. This led to him being appointed Clerk of Works at United College. In 1846 some of the scaffolding at United College collapsed killing one man and injuring two others, Hall himself suffered a broken leg in the accident. During the contract, Hall came into contact with the Principal, Sir David Brewster and Sir Hugh Lyon Playfair, who were interested not only in the College buildings but in the excavations taking place at the Castle and Cathedral. (87) In 1849 Hall returned to Edinburgh and in 1850 was appointed manager of the St. Andrews Gas Company. His decision to return may have been influenced by the fact his new post combined the superintendence of the University buildings as well as the ancient monuments in the city, the latter now being under the control of the Commissioner of Woods and Forests. Hall gradually built up a flourishing architectural practice in the town. (88).

The second phase of Nixon's involvement in the completion of the buildings at United College began shortly after construction work on the new north building had started on site. The minutes of United College dated 21st October, 1846 stated that in their opinion no more of the old College should be taken down until it was established the accommodation being provided was sufficient for their needs. This could only be a reference to the proposed demolition of part of the west building as

the old north building would have been already demolished. Nixon's reaction to such a statement is unknown but it would have been one of consternation and would not have gone down well. It was now seventeen months since the contract had been signed. Why had they waited until now to raise such an issue? This minute gives the impression that there was growing disquiet in the ranks of the members of United College. Perhaps they were trying to reassert their authority having delegated much of their control of building operations to Provost Playfair. The meeting was also of the opinion - an opinion they had held for some time - that the new boundary wall on the west of the site should be a high wall provided with a covered way to give protection to the students. It was minuted that an open railing enclosing the north street frontage would show the College buildings to advantage.

A sub-committee was formed to be chaired by Sir David Brewster for the express purpose of ensuring the wishes of the meeting were met. (89) The sub committee must have acted quickly to resolve the issues as a further meeting was held on 30th November at the request of Nixon. At this meeting he would have been looking for a frank exchange of views regarding the question of accommodation and the other items concerned with the completion of the buildings. Nixon not only dealt satisfactorily with the accommodation issue, he also won the approval of the meeting to his proposals for completing the buildings by recommending the further demolition of the west wing, which would now include the mathematical classroom and Hebdomadar's room. Internal alterations which were unspecified were to have been carried out in the remainder of the west building. The College Court would also be enclosed with screen walls on all sides. He persuaded the meeting that a covered cloister built against the north side of the church would provide shelter for the students.

Immediately the committee accepted Nixon's proposals, they were at once faced with finding the finance to cover the costs of these works. The usual procedures were followed and a Memorial was submitted to the Lords of the Treasury. Lord Melville, along with Edward Ellice M.P. for the burgh and Provost Playfair were requested to do their best in obtaining from the Treasury the necessary funding. The clerk was instructed to send the relevant documents to Playfair as the University's accredited negotiator. (90) In his reply to the University Playfair

obviously felt that this was too onerous a commission to tackle on his own and at his suggestion Sir David Brewster accompanied him to London as a deputation would perhaps have a better chance of success. A meeting was convened in February, 1847 to consider the draft Memorial to be presented to the Treasury and this was approved. The minutes of United College dated 27th March, 1847 reported the deputation had had a successful meeting with the Treasury. The Treasury had not only agreed to the extra work at United College, they also intimated their willingness to submit the estimate prepared by the Commissioners of Woods and Forests to parliament for approval. This was followed up on the 29th March by a letter from the Treasury to Lord Melville confirming their intention of submitting the estimate of £2,600 for government approval. No contract for this work survives and the only information available is to be found on the signed drawings. Figs. [54,55,56] A note on the drawings refers to the contract between the Commissioners of Woods and Forests and the various tradesmen who were local men - John McIntosh, Builder, Alexander Doig, Joiner and David Anderson, Slater. The contract was signed on 17th July, 1847 at St. Andrews. The drawings were also signed by Jesse Hall as a witness in his capacity as resident Clerk of Works. No actual starting date has been found but it is a fair assumption this contract ran concurrently with the main contract at some point.

The cloister was built directly against the north wall of the church, stretching from the apse in the east for the full length of the building, some 99ft. 5ins and it projected outwards to the north for 25ft.. The seven three-centred arches mirror exactly the number of buttressed bays on the south side of the church and would appear to have been modelled on the mediaeval gateway situated at the south entrance. Five of the arches are shown terminating at sill level approx. 4ft. above ground level. Two massive octagonal shaped piers at each end tower 35ft. above ground level. The remaining six piers are less overpowering and they terminated 30ft. above pavement level. The arches are repeated on the east and north walls of the church in the form of blind arcading. Fig. [57] The 18in wall built adjacent to the church was keyed into the church wall and was carried up to existing wallhead level where it then terminated above as a moulded parapet wall. Throughout the contract the stonework was built in polished ashlar. The main timber roof beams are

reminiscent of Tudor arched beams which were supported on the capped circular stone shafts projecting from the stonework. These beams not only supported the purlins, timber ceiling and pitched roof trusses with central hanger, they also acted as a brace to the lean-to roof. The lean-to roof which is clad in matching slates integrated well with the church roof and was carried up to the underside of the parapet wall. This wall is punctuated with 8ft. high panelled stone pinnacles decorated with crockets which correspond with the conical pinnacles and fleur-de-lis finials of the cloister arches. The punctuation of the roof in this manner upsets the clean lines of the building and roof and has an unsettling effect on the eye. It was decided at a meeting of United College not to erect the pinnacles on the south side of the church and Nixon was instructed accordingly. (91)

The plan of the cloister shown on working drawing No.1 Fig. [54] has pencil marks which shows the west bay marked as a reading room with an adjacent lobby next to the north entrance to the church. A small area is designated as a toilet with the remainder of the area marked gymnasium. This gives the impression there could have been early thoughts on how best to utilise the additional space that had been created. Andrew Lang, writing in *College Echoes*, confirms the cloister was fitted out as a gymnasium. The economy of the university authorities was praised by visitors to St. Andrews. Ruskin, it is said, was rendered speechless in admiration. It was not until 1864 wrote Cant that: "the subsequent enclosing of the 'cloister' with glass screens to form a students' reading room converted something which was neither useful nor particularly ornamental, into a centre of collegiate life that was otherwise lacking at this point". (92) In 1926 the Department of Logic and Metaphysics set up a laboratory in the cloister where they carried out psychological experiments. A photograph c.1926 shows the glazed screens still in position. Fig. [58] The cloister as it appears today, shows it has been relegated to displaying University notices. Fig. [59].

The western building was demolished to within 50ft. of the north wall of the three storey block fronting North Street. The extent of the alterations undertaken in this remaining section of the west building is unknown. The obvious changes were the new crow-stepped gable with a pair of windows on each floor including plain moulded surrounds and mullion. The gable was capped with the belfry which had

been saved from the demolition of the west building. Fig. [60] The simplicity of this gable built in the Scottish vernacular style is in sharp contrast to the much more robust cloister. Nixon continued to use the church buttresses as a role model, using the same profile on the buttresses of the screen walls which completed the court. The decision to erect 15ft. high screen walls was taken at a meeting held on 25th April, 1846 when it was indicated these walls would also act as a barrier keeping the College Court free from outside interference. The screen walls were built in rubble masonry with regularly spaced dressed ashlar buttresses. The western wall extended from the new gable on the west building northwards to where it intersected with the northern wall, which ran from the corner of the new north building westwards. A centrally placed entrance gate in the western wall gave access to the court from Butts Wynd and reflected the three centred arches of the cloister, as did the rounded shaped gable above which mirrored the wallhead of the buildings. The piers on either side of the opening were carried up above the wallhead and finished with a saddle backed cope. These piers were also shown on the Butts Wynd side of the otherwise plain wall. The north screen was of similar construction with three identical arches with two plain bays on either side, only the central arch had a shaped gable. These arches were framed between piers with saddle backed copes. The south wall is shown without openings and extends for four bays returning to form an angle with the east wall which is again shown with three openings. No elevation is shown for the east wall and it has to be assumed it was a series of arches similar to the north wall as the plan profiles are almost identical, and this wall gave access to the Court from the east.

The ground of the College Court would have suffered extensive damage during building operations and this was levelled and relaid as part of the 1845 contract. The proposals made by Nixon in 1846 as shown on the three working drawings, appear to have been successfully carried out, the only omission being the pinnacles proposed for the south front of the church. This was as the result of a decision taken by the members of United College on 13th October, 1847.

The question of the enclosure which surrounded the old burial ground to the south of the church was also under discussion in 1846. A proposal had been laid before a meeting of United College by the Town Council on 25th April, 1846. The

object was to reduce the area of the burial ground in front of the church by about 1440 sq.ft. and extend the enclosure westwards towards Butts Wynd by incorporating 798 sq.ft. of public street. The Town Council required the agreement of the College to allow them to widen North Street and the College agreed in general terms that the proposal was worth investigating and stipulated that 14ft. was to be left between the buttresses of the church and the new boundary wall. It was clearly stated this work was not to exceed £60 and was to be paid for out of the accumulating fund, which indicated this was not an officially sanctioned project.

A small sub-committee, formed under the chairmanship of Dr. Anderson, included Mr. Duncan and the Master of Works. Their remit was to liaise with the Town Council and procure estimates for the work which would then be submitted to the College for approval. Mr. Alexander dissented as this proposal involved an alienation of College property which they, as a committee, were not empowered to make. (93) The sub-committee paid little heed to their instructions by going ahead and engaging a contractor to take down the gate and wall of the cemetery enclosure. They also commissioned an expensive railing without first finding out the cost and erecting the new wall in a situation not agreed by the College. It is difficult to understand how the sub-committee were able to go this far without being stopped because as soon as the contractor began to demolish the wall, questions would surely have been asked.

Sir David Brewster read a statement at a meeting of the College held on 28th July, 1846 in which he condemned the actions of the sub-committee as "illegal and contrary to the usual and proper administration of the College". (94) Brewster had contacted the Commissioners of Woods and Forests when he indicated that the idea had originated with the Town Council. The Commissioners of Woods and Forests were about to begin an investigation into the matter, when Nixon, who had been engaged by Brewster privately, met the sub-committee and suggested a series of stone pillars with suspended chains as a solution. Astonishingly the original sub-committee were reappointed to get estimates and supervise the work. This time Nixon's proposals were laid before the College and were accepted.

Nixon was instructed to liaise with the Magistrates and Town Council with the intention of getting their approval to enclose the area to the west of the spire. At

this meeting the College had resolved to rebuild the ancient gateway in some suitable place. (95) In his statement Brewster also referred to the exchange of ground between the College and Town Council which in his opinion, was illegal. The College even when acting in concert, could not alienate any part of the College property, particularly any part on which the College stands. He also stated the proposed excambion was wrong as the portion of ground exchanged must be of equal value in this transaction. The College was losing 1440 sq.ft. in exchange for 798 sq.ft. of ground which could not be built on, therefore the proposed excambion was unjust and unfair to the interests of the College. The removal of the wall was done without the consent of the University Court and Brewster declared that the meeting which deliberated on the original proposal of the Town Council was illegal. Meetings of the College could only be called by the Clerk, Principal or Senior Regent. The meeting called by the Clerk on 24th April, 1846 did not state the business to be discussed on the notice calling this meeting and it was therefore unlawful. In his opinion the meeting could not allocate money from the accumulating fund to be spent on such measures as the fund was established for specific purposes. (96)

The Town Council were apparently displeased that their original scheme was about to fail and they then stated that the area to the west of the College Steeple could not be occupied by the University or enclosed as their own "founded on the fact of possession for any length of time". (97) This brought to an end the plans to enclose the area and Nixon was paid 10 guineas for drawing up his plans. The area in front of the College was finally delineated with a kerb stone and the ground sown with grass. With the change in plans the ancient gateway lay forgotten in the College garden and it was found "lying around in a frightfully dissolute state". (98) It was finally erected in its present position in 1906 and the gate and railings which were also erected at this time, closely followed Nixon's detailed drawings for the gate erected in the western screen wall. (99) Fig.[61]

Completion of Contracts by Robert Matheson 1848 - 1861

Nixon had taken over from Reid in 1840 as the Queen's architect in Scotland and he had had a considerable input into the transformation of United College. Under his guidance the dilapidated ancient buildings had passed into history and at his death in March 1848 only some minor works remained to be completed. Robert Matheson, who was appointed *locum tenens* by the Office of Woods and Forests, wrote to them on the 6th May, 1848 seeking clarification on whether or not he should proceed with the erection of the pinnacles on the front of the church or abide by the decision of the College. He also reported on the progress of work carried out in connection with the restoration and additions at United College. Included in the report was an estimate for £1,042 which covered extras already incurred and the costs of outstanding work still to be carried out on the buildings and grounds. The building contractor, John McIntosh, had apparently lost money on the second contract for reasons unknown, which had resulted in delays on site. These delays would have caused the Office of Woods to incur additional expenses and they would have been within their rights to have claimed against McIntosh. Whatever his problems, McIntosh eventually completed his side of the contract, in the process absorbing the losses he had sustained. In any case the Commissioner of Woods had replied that no allowance for any expenditure at St. Andrews had been included in their annual estimates and these estimates were under consideration by a House of Commons committee.

Matheson was instructed to prepare a further report for works which were considered to be essential. On the question regarding the pinnacles the Commissioner replied on 15th May asking:

whether any portion of the work has been prepared and if so to what extent and cost, and to explain whether these pinnacles are essential parts of the construction or were only intended as ornaments. And whether they were identical restorations of previous work gone to decay or new additions designed by Mr. Nixon. (100)

This appears to have been the end of the matter as no further correspondence can be found in either the records of the Office of Woods and Forests or in the Minutes of United College. The Office of Woods and Forests were probably relieved on the grounds that they would make savings. A photograph c.1845 - 1847 shows the

church still minus the front pinnacles on its south and east elevations. Fig. [62] It was not until Principal Forbes embarked on a period of restoration in the 1860s that the pinnacles were eventually erected. It is possible the parapet received attention at the same time or it may have been completely rebuilt. The pinnacles continued the style of the buttresses and are heavy and cumbersome, the saddleback copes being similar to those used on the screen walls. The small finials are the only decorative feature on the southern pinnacles which are very different from those on the north side of the church. Fig. [63] Included in the Forbes' restoration was the introduction of new window tracery; very little of the original tracery was left to give any guidance on a similar type replacement. Matheson used good Scottish gothic tracery of the period to refurbish the windows. This may have been the result of a consultation with William Burn, the government's consultant architect in Scotland, who had had experience of similar restoration work at St.Giles in Edinburgh. By the 1860's Billing's *Baronial and Ecclesiastical Antiquities of Scotland* had been published and could have provided enough suitable examples. The contract was carried out by the Dundee firm of David Kidd and Son, builders. The Board of Works had replaced the Office of Woods and Forests on 10th October, 1851 and in their Abstract of Cash Payments for 1861-62 it is shown that Kidd had received one payment of £1,167. This was for alterations carried out by him at St.Salvators between October, 1861 and November 1862. (101)

Matheson, as instructed, had submitted an amended report for essential work and had reduced his estimate to £467. The Commissioner of Woods and Forests replied on 1st June, 1848 and informed him that no submissions had been made to parliament for works over and above what was included in the original grants of £6,000 and £2,600. The Board were unable to authorise any further works at St. Andrews especially "as the works under the grants are yet incomplete". (102) They also referred to Matheson's report where he had alluded to the Great Hall being unfurnished. It was pointed out that furniture was not included in the original estimate. It was also made clear that if any further monies were to be granted to St. Andrews in the future for work required, "they would not feel justified in recommending that the supply of College furniture should form any portion of that outlay". (103) Matheson wrote to Sir David Brewster on 10th June, 1848 when he

referred to a conversation between himself and Brewster when he reminded him that he had been directed by the Office of Works to suspend work on the pinnacles. He informed the Principal that he had submitted amended costs in connection with the completion of the University Buildings including "the improvement you suggested to the windows of your classroom". (104)

A committee was appointed at a meeting of the United College on 10th December, 1848 with the prime objective of presenting a Memorial to the Commissioner of Woods and Forests for the sum of £250 to allow the completion of the buildings and supply furniture. It would appear Matheson had not passed on the comments made by the Office of Woods regarding the provision of furniture. The minutes of United College record that Matheson had written to Sir David Brewster informing him the Office of Works had asked for a report on all monies spent to date on the buildings at St. Andrews. He was to include an estimate of what was needed to complete the buildings and he respectfully requested the committee appointed by the University in early December, to "postpone making any representation on the subject". (105) In February, 1849 Matheson was able to present to a meeting of United College an estimate for £1,340, the amount required to complete the buildings. The meeting agreed to petition the Treasury to release the necessary funds. Nothing happened for a further two years and in January, 1851 the Principal informed a meeting of the Professors that Sir William Gibson, one of the Lords of the Treasury, had "recommended an immediate application be made to the Commissioner of Woods and Forests" regarding the completion of the buildings at St. Andrews. (106) The application was made on the 10th April, 1851 and it was minuted that a letter was received from the Treasury Chambers which said:

My Lords have authorised the Commissioners of Woods to make the necessary provision for the works required to be performed ... under the supervision of their Clerk of Works for Scotland and that the future charge of the buildings will be placed under his control. (107)

This was a significant step forward for the University. Having the care of the buildings of the University taken over by the Office of Woods and Forests was a situation which continued until 1890. A letter confirming this change of policy was sent by the Treasury to the Principal in March, 1851.

A contract was drawn up between the Commissioners of Woods and Forests

and John McIntosh, builder and David Balsillie, joiner, both from St. Andrews and was signed in London on 29th August and in St. Andrews on 16th September, 1851. The contract figure was well in excess of the £250 proposed in December, 1848. The contract included work of general repairs to the buildings and the erection of a new screen wall and entrance to the east of 71 North Street as shown on Matheson's drawing dated April, 1851. The successful contractor was John McIntosh, St. Andrews, who had quoted £642.19.0d, winning the contract from J. Kennedy who had quoted £940. The contract was to be carried out under the supervision of Matheson as described and contained in the said specifications and plans with work to be completed by the end of 1851. (108)

The plans prepared by Matheson dated April, 1851 were sent by the Office of Woods and Forests to William Burn as their consultant, for his approval. (109) No reason is given why the Office of Woods and Forests thought it necessary to consult Burn, perhaps it was because Matheson was a comparatively young architect who had been in charge of the Scottish Office for a little over two years. Burn wasted no time in replying to the Office of Woods and Forests' request and they, in turn, wrote to Matheson showing the amendments Burn wished to make: "so as to follow out the course indicated by Mr. Burn's suggestions, restoring the parapet of the tower of the College Church agreeably to the sketch Mr. Burn has made of your elevation". (110) The sketch made by Burn is initialled on the drawing and Matheson was instructed to be prepared to meet Burn whenever he found it convenient. Fig. (64). Jesse Hall was engaged as building supervisor at a fee of 20 guineas replacing David Gilmour who had already been engaged at a fee of 24 guineas. (111)

The contract gives a detailed account of the work to be carried out and it included Reid's east building marked 'A' on the general plan. Fig. [65]. Reid's building had by now, been in position for twenty years and according to the list of defects, was in surprisingly poor condition. This is made apparent from the amount of joint cleaning and repointing that was specified, along with an overhaul of the roof slates and refitting of window sashes. The main entrance door was to be taken down, reframed and repaired, re-hung, cleaned and varnished. The W.C.s were to be inspected and made to function despite work carried out by Nixon earlier. (112)

The state of the east building highlights the amount of deterioration that can take place due to lack of regular maintenance. The University appeared to have continued to ignore regular maintenance as in previous years due to the lack of funds. It would appear much of the trouble in the east building stemmed from poor workmanship during construction. Repair and remedial work was carried out on the block to the west of the tower with the masonry joints being cleaned and repointed. Two windows in the gable overlooking Butts Wynd were to be removed and rebuilt with good rubble. The position of these windows are still visible today. (113)

The University also wished to erect a new screen wall to improve the entrance to the quadrangle from the eastern side and this wall and entrance was to be built on the site of the Porter's house. This house was in poor condition and the University were of the opinion that it should be taken down, this was done after the Office of Woods and Forests had inquired about its condition. To be able to build this new entrance, the University would have had to acquire 71 North Street so that it too could be demolished. The Commissioners of Woods and Forests wrote to the University on 18th March, 1851 informing them that there were no funds available. The lack of funds prevented this project from going ahead and they had to make do with a modest entrance as shown in elevation on Matheson's drawing Fig. [64] and on the photograph Figs. [64,66] The College Tower was to be thoroughly overhauled and repointed with new stones inserted where necessary with the agreement of the supervising officer. Internally the spiral staircase was to be repaired and the first floor relaid with a new Caithness stone floor. The floor joists on the upper three floors were to be renewed as were all the doors in the tower. The tall lancet windows in the tower were to be infilled with dressed stone and louvres fitted within timber frames. All gutters and waterspouts were to be repaired and made to work. (114) No matter how important these repairs and additions were to the functioning of the University buildings, they were considered to be inferior to the erection of Burn's 4ft. 2in high parapet on the tower. The parapet wall was to be built off the existing mediaeval corbels. The stone work was to be built in parpendrove ashlar and the regular series of angled chisel marks can still be seen on the stonework of the parapet. (115) [Fig. 68]

The reason why a decision was taken to erect a parapet wall on the tower is

not known. The idea may have arisen from the fact that many church towers in East Fife had parapets. Over and above repairs to the buildings, attention was also given to the boundary walls surrounding the University property. The western boundary wall was to be extended from the new screen wall to the foot of Scores Lane where it was to meet with the northern wall, facing the Scores. All the dilapidated sections of the north wall and existing gates were to be rebuilt and a new central entrance with a red deal door was to be formed. The height of these screen walls was to be determined by the height of the eastern boundary wall and all walls were to have uniform coping stones. The existing iron gates were to be given four coats of stone coloured paint. (116)

Matheson, in his report dated 13th December, 1851 on the ongoing works at St. Andrews, refers to the high cost of the contract and he stated the costs had arisen:

“from the painting and other works having been neglected for a long series of years; and while the present amount required to place the whole in a satisfactory condition is considerable, yet when these are executed the future annual expenditure will be comparatively small”. (117)

The three month contract period overran, by how much is not known, which is not surprising considering how much work was involved. The contract ran into the 1852-53 financial year because John McIntosh was not paid the final instalment of his contract sum until March, 1853. At the same time Jesse Hall was also paid his superintendence fee. (118) A further reason why the contract had slipped into the next financial year could have been as a result of a delay in the construction of the parapet on the tower. A meeting of United College was called by Sir David Brewster on 8th July, 1852 for the express purpose of discussing the proposed erection of a Bartizan tower as part of the new parapet on the church tower. Brewster pointed out that a Bartizan had never been contemplated or mentioned by the College when they submitted their application to the Commissioners of Woods and Forests for the repair of the Tower and Spire. The College was not in favour of such an addition to the tower and the Principal was instructed to write to Lord John Manners on the subject. (119) No records show where this idea originated from and the surviving drawings show no traces of the Bartizan. The Office of Works became involved and their letter to Matheson dated 17th July, 1852, was not particularly

helpful in throwing light on the origins of the proposed Bartizan. Why else should they ask Matheson to?:

“remit to me forthwith the tracing and elevation on which Mr. Burn has sketched the restoration of the parapet of the College Church. You will please to report the information of the Board whether there is in St. Andrews any other ecclesiastical building with a similar parapet to the tower”. (120)

Any hypothesis on who was responsible or the reasons behind this proposal can be nothing more than speculative. It is possible when the idea of a parapet wall was first mooted the incorrect usage of the term Bartizan was used to describe the parapet which led to the ensuing confusion. The *Encyclopedia of Architectural Terms* also describes Bartizan as being used in Scotland to describe the embattled parapet of a tower. If the proposed Bartizan was to have been an integral part of the parapet design in its truest form, it would have added considerably to the costs and would have needed the approval of the University and the Commissioner of the Office of Works. From their letter to Matheson, the Office of Works seem to be equally at a loss as to what was going on. The question of the Bartizan may or may not have affected the building programme but it is reasonable to suggest the erection of the parapet was delayed. From the dates of the correspondence it would appear the parapet was not built until some time after July, 1852 and this would tie in with the 1852-53 financial year.

Since the spring of 1851 the Office of Woods and Forests in Scotland had assumed responsibility for the maintenance of the buildings at St. Andrews. From entries made in the Office of Works' Main Ledger for 1853-54 and their Abstract of Cash Payments for 1854-55 it would appear they were in fact carrying out their duties in this field. The 1853-54 ledger shows £68.10.9d set against work at United College and the second figure dated 1st April, 1854 was for a significantly larger sum of £631.5.8d for work at both United College and St. Mary's. Without further information it is impossible to know what works these figures covered or how the money was apportioned between the two Colleges. No correspondence has been found which refers to these figures. The only reference to an undisclosed sum is for repairs at St. Mary's which appears in the minutes dated 13th June, 1851. The Principal of St. Mary's had written to Matheson and referred to the undertaking given by the government to defray in future the expense of keeping in repair the

buildings at St. Andrews University. He enclosed for Matheson's attention, a specification and estimated cost of work required at St. Mary's. (121) No figure was revealed and it is possible these figures could have been included in the Office of Works' Annual estimates for 1852-53. If that were the case they could appear as payments in the 1854-55 financial year. A breakdown of these figures into separate trades is given in Appendix O.

Following Matheson's 1851 contract the only really prestigious work at the University in which he was involved, was the siting and installation of a new clock on the tower. The clock, which cost £130, had four faces and was paid for by the Office of Works. It was supplied by James Ritchie & Sons, Edinburgh, dated 1853 and was not finally in position until some time after January, 1854. The position of the clock on the tower was agreed by the Principal, Sir David Brewster, Provost Playfair and Matheson. This was shown as position 'A' on Matheson's 1851 drawing a position which did not suit some of the townspeople who objected and argued the clock would no longer be visible from their houses. The position of the new clock was much lower than the one it was replacing, shown 'B' on Matheson's drawing. Matheson asked the Office of Works for a ruling and they replied that the clock should be installed "in the way most conducive to the public benefit". (122) A second letter dated 20th January, 1854 added the rider that because of the amount of money recently spent on the renovation of the tower and steeple, the Office of Works were concerned that there was a need for "taking care that great caution is used in perforating the masonry of the tower to affix the same". (123) To begin with, the clock was illuminated at night by gas light during the winter months but by 1857 the lighting system had failed and the clock presumably remained in darkness from that time. Mr. Grace, Clerk to the Police Commissioners, wrote to the College on the 19th January, 1861: "Suggesting that the College should light up with gas at night the clock on the College Steeple". (124) The College authorities replied in typical fashion that they had no objections to the clock being lit but they would not be prepared to pay for it.

Notes: Renovation and Rebuilding at University of St. Andrews

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Part Three - Renovation and Rebuilding at King's and
Marischal Colleges, Aberdeen 1825 - 1869

The Foundation of King's and Marischal Colleges

In the early decades of the nineteenth century Aberdeen had two small impoverished Universities which viewed each other with hostility and suspicion, with both institutions badly in need of new buildings. The University and King's College situated in Old Aberdeen was the senior institution, having been founded by Bishop Elphinstone under a Papal Bull issued by Pope Alexander VI on the 10th February, 1495. In the fifteenth century higher education relied almost entirely on the patronage of the church hence the need for papal approval. This is in marked contrast to the founding of Marischal College in 1593 by George Keith the 4th Earl Marischal, which had neither royal nor papal involvement and was the only University to have been founded by a nobleman.

There was a growing awareness in fifteenth century Scotland of the lack of a well educated laity and attempts were slowly being made to redress the situation. Elphinstone and James IV were aware that because of the remoteness of the north of Scotland, the people suffered from not having a suitable educational establishment reasonably close at hand. The establishment of a University in Aberdeen to serve this area, would be open to both the clergy and laity. It would provide the well educated administrators the crown needed, not only to develop the natural resources of the area but to provide essential leadership in the service of the crown. The inaccessibility of the other Scottish Universities located in the more densely populated central belt was a crucial factor in the argument for providing another University in the north. Elphinstone presented a convincing case to the Pope and as he already had financial backing and the support of the crown, the Pope agreed. The Papal Bull conferred on the University of Aberdeen the same powers and privileges which had been granted to the Universities of Bologna and Paris, providing courses in theology, canon and civil law, liberal arts and medicine.

Capital expenditure in the early years of the University was provided by Bishop Elphinstone from his own resources. The annual salary of the mediciner of £12.6.0d was paid by James IV. The teaching staff were recruited from the senior

cathedral clerics who taught law and theology. The Scottish scholar, Hector Boece, was brought back from the University of Paris to teach liberal arts and to begin with, as at St. Andrews, students were taught in the houses of the Masters. Student numbers were small but Elphinstone lost no time in finding a suitable site on which to build a self-contained college. The only available site in Old Aberdeen was a water-logged piece of ground in the south-east corner of the burgh which ran parallel to the Powis Burn. One of the earliest maps, by James Gordon dated 1661, gives an indication of the topography of the area. Fig. [69] Before building work could begin the stability and load bearing capacity of the ground had to be improved. This was achieved by constructing large timber rafts which were allowed to sink into the earth. These rafts provided the support for the foundations of the college buildings and after a lapse of two years, work finally began on the construction of the chapel in 1500. By September, 1505 Elphinstone was confident enough to issue his Foundation Charter which not only set out the constitution of the University but the structure of the college. It was to be some years later that the college adopted the name King's.

The most important office was that of Chancellor and the immediate and future possession of that position was vested in the Bishop of Aberdeen. The Rector who was elected by the academic body, was empowered to deputise for the Chancellor when needed. His duties included carrying out a yearly inspection of the college. The Charter listed the five faculties in order of seniority and stipulated the teaching arrangements for each. Theology was considered to be the most important followed by canon and civil law, medicine and liberal arts. The latter was by far the largest faculty and was headed by a Dean. Medicine, laws and theology were to be taught by the Principal, Canonist, Civilist and Mediciner, the liberal arts having the Principal, sub Principal and Grammarian as teachers. Each Regent was responsible for the education of his students throughout their four years of study. The Canonist, Civilist and Mediciner were allowed to live and teach outwith the College, thereby escaping the rigours of a celibate existence.

By 1505 the walls of King's College were almost completed and built in the form of a defensive square with the Chapel c.1500 forming the northern side of the complex. The western gable of the Chapel and tower along with the two storeyed

Principal's quarters, formed the western leg. The eastern wing consisted of a two storeyed building known as the common school which housed classrooms on the ground floor with the common hall above, an arrangement very similar to St.Salvator's College at St. Andrews. This wing stood roughly in the same position as the present day building and was contemporary with the Chapel dating from c.1500. Bishop Dunbar's southern building constructed c.1530 contained lodgings for the sub-principal and students on two floors. This building was replaced in 1725 by Dr. Fraser's building which in turn, was replaced by Robert Matheson's classroom block in 1865. Dunbar also completed the building of the professors' manses and his south wing was almost wholly contained within the present day quadrangle which is approximately 110ft. wide. A survey carried out by Matheson in 1855 confirmed this. The survey drawing shows the quadrangle width as 78ft. 4in on its north-south axis taken from the Chapel to the face of the cloisters on Fraser's building. Fig.[70] Immediately behind the common school were ancillary buildings which housed the kitchen stores and brewery.

The stages of the development of King's College can be identified on the outline plan of the college which also gives relevant dates. Fig.[71] At both the south west and south eastern corners of the mediaeval buildings two round towers rose majestically from each corner. The south east or round tower, as it is now called, was completed in 1525 and it still remains intact - minus its steeple - hemmed in on three sides by various extensions carried out over the centuries. The Scorpio chamber, which was situated high up in the tower, was originally the library until the books were transferred to Bishop Stewart's library when it became the college armoury. (1) It has been suggested these towers were non defensive but merely architectural features. The earliest recorded view of the college c.1640 by an anonymous artist, shows both towers punctuated by fairly large windows on all floors which would suggest a non defensive role. Fig.[72] It is possible these windows were installed after 1604 when all threat of invasion or war with England had receded. In 1560 the students repelled an attack by a determined mob of reformers who intended to destroy the college. The round tower as it exists today shows evidence of several small openings fairly high up the structure. These have since been built up Fig.[73] and nothing would support the size or amount of

openings shown on the early drawing. Fig.[73] There are four reasonably large windows in the upper half of the tower which are obvious insertions but the actual date of their formation is not known. The towers were also shown capped with awkward looking telescopic type steeples which are again shown on John Gordon's view of King's College c.1660.

Bishop Elphinstone died in 1514 before he could put his second Charter into effect and it was left to his successors, Bishop Dunbar (1518-1532) and Bishop Stewart (1532-1545) to carry on what he had begun. Bishop Stewart added a narrow two storeyed building on the southern flank of the Chapel which corresponded in width with the tower. This was to house the sacristy, jewel house and classroom with the library on the upper floor and was obviously part of the original concept. The Chapel had been originally built with a range of four small square headed three light mullioned windows at a high level to give clerestory lighting. This arrangement was not uncommon in collegiate church architecture of the fifteenth century and signalled the end of the first phase of the college building programme. John Gordon's sketch c.1660 not only shows the sacristy building but the unfinished Cromwellian Tower begun in 1658. Fig.[74]

On the academic front the College continued to flourish under the direction of William Hay who followed Hector Boece as Principal. Graduates were now entering both the church and legal professions, despite Elphinstone's vision of attracting students from the laity. King's remained very much a clerical institution. In the space of fifty years from its foundation, standards had fallen alarmingly. Within the university both staff and students neglected their duties and studies. Bishop William Gordon (1546 -77) the fifth Chancellor, tried to reinstate the standards expected because at this time the catholic religion in Scotland was under threat and in 1547 he believed heresy was thriving. During the reign of Mary Queen of Scots the university had some protection and short lived respite against the rising tide of the reform movement. The success of the Reformation in 1560 was to have far reaching implications for education. At the same time it created pockets of political divisions in Scotland, especially in the north east where support for the new order was in many cases lukewarm. The opposition in the north was led by the Chancellor and his uncle the fourth Earl of Huntly, staunch Roman Catholics. The Principal, despite

his opposition to the Reformation, managed to retain his position until 1573.

The Reformers' interest in education stemmed from a desire to have an educated clergy and an informed populace. Education would play a role in developing the Protestant Church and common wealth. How they hoped to achieve this was laid down in their First Book of Discipline under the heading 'Schools'. Parish ministers would deal with elementary education at local level which proved hard to achieve, as not all parish priests had converted to the new faith. There was an acute shortage of trained clergy in the short term. To overcome this schools were to be established in every town capable of teaching latin and other subjects. In ten of these towns where the new religious superintendents had their headquarters, colleges were to be established from where suitable educated students would progress to university and become the next generation of Church of Scotland ministers. The re-organisation of University education was mooted with specialist teachers replacing the existing Regenting method of instruction. A Royal Commission was set up in 1563 to oversee the implementation of the proposed educational changes. This proved to be a fruitless exercise as nothing was achieved. It was said of the Scottish Universities at this time they were: "Cassin downe and revin, the maist part ar bot theiket with hevin." (2)

Andrew Melville, a leading reformer and scholar who advocated specialisation in teaching, had returned to Scotland in 1574 as Principal of Glasgow University. Melville not only revitalised the Reform Movement, he immediately introduced new teaching methods based on the radical ideas of Peter Ramus, the French Huguenot teacher. These new methods were to be coupled with making the best use of the resources available to the Scottish Universities. In the long term this would reflect on the quality of the residential and teaching accommodation available to students. Beginning at Glasgow, according to his sycophantic nephew James, Melville appointed specialist teachers for specific subjects, retaining divinity and oriental languages for himself. Glasgow University rapidly became known throughout Europe. "for guid letters for a plentiful and gude chepe mercat of all kynd of languages, artes and sciences". (3) In 1575 Melville discussed his plans for changing the constitutions of Glasgow and Aberdeen Universities with Alexander Arburthnot, the new Principal at King's College. It made good sense to introduce a

new foundation into Aberdeen at this time by creating a new protestant humanistic College able to train clergy and schoolteachers. (4) David Cunningham and Peter Blackburn, two of the town's ministers, in the same way they had been active in supporting the New Foundation at King's, supported the Earl Marischal in his quest to found a seminary of higher education. These proposals were far reaching. The Scottish Mediaeval Universities irrespective of having their original privileges granted by the Crown, Pope or Bishops, were totally autonomous with regard to teaching and the arrangement of their affairs. They were now faced with major change and it is not surprising that the Reformers met with some opposition.

Commissioners were appointed by Parliament and the General Assembly to examine the state of the Universities in Scotland and this resulted in new ratified constitutions for Glasgow in 1577 and St. Andrews in 1579. The Reformers met with some opposition at St. Andrews where the conservative College of St. Salvators was deeply suspicious of the new proposals. During the years 1560 -1579 the situation at St. Andrews can best be described as strange and disordered. (5) The old mediaeval order had not been totally supplanted and this caused repeated delays in the reforming process. Aberdeen was next in line for reform but the continued unsettled religious and the often violent politics of the age, delayed matters. A struggle for control had developed between James VI who favoured episcopacy and the protestant Reformers. The new constitution for Aberdeen was drafted in 1581 but failed to get royal or parliamentary approval and it was not adopted until 1597. King's College however, did not adopt the new constitution in its entirety. They rejected the professorial system and retained the status quo until 1628, with further misunderstandings and friction continuing until 1638. The opposition to their new constitution in 1581 is understandable as the leading protagonist in the area against change was the powerful Roman Catholic Earl of Huntly. A key figure in the promotion of the New Foundation at King's had been George Keith, the fourth Earl Marischal. Professor Donaldson believed the continued opposition to change by King's College was perhaps one of the reasons why the Earl Marischal decided to found Marischal College in 1593. (6)

George Keith, the fourth Earl Marischal was born in 1553 and it is possible he could have studied at King's College. Brought up as a protestant he is known to

have completed his studies at Calvin's Academy in Geneva under Beza. He travelled widely and visited most of the European courts inheriting his title from his grandfather in 1581. A powerful and rich man, Keith was one of the few highly cultivated Scottish noblemen of the age. Although active in church affairs, he could not be described as a religious bigot. His mother, Elizabeth Hay, belonged to a north east catholic family. A Privy Councillor and confidant of James VI he was entrusted in 1589 with the finalisation of the King's marriage to Anne of Denmark. A trusted servant and political ally of the crown, the Earl Marischal took the unprecedented step of personally sponsoring a new college in New Aberdeen. There has been much speculation as to why he decided to establish Marischal College and several suggestions were put forward but there is no evidence to support any of these theories. Perhaps it was the continued conservatism of the governing body at King's College to accept change that prompted his decision. It has also been suggested he was upset by his neighbour Sir Alexander Fraser, who founded a University in Fraserburgh in 1592, but this is unlikely. In the event this institution had a very short life. The Earl Marischal, a friend of Andrew Melville, became involved in trying to get King's College to accept the new constitution, but despite having embraced the new faith, King's continued to prevaricate on the question of the new constitution and curriculum. The real motive was more likely to have been political and it can be seen as an attempt to wrest power from his rival in the north, the catholic sixth Earl of Huntly. Despite his religious and political indiscretions, he was still allowed a certain amount of leeway by the King due to their lifelong friendship. Huntly spearheaded resistance in the north east and Highlands and in his position as Earl Marischal it was necessary that he made inroads into Huntly's sphere of influence. The establishment of a protestant college embracing the new educational curriculum would, in time, produce growing numbers of protestant clergy. It would be these evangelical clergymen who would lead the protestant counter attack in the hitherto resistant parishes.

The reasons behind the creation of Marischal College are shrouded in the mists of the past, and the status given to the new college was equally vague. The Foundation Charter is of little help in this respect as it used the term University once, College seven times, and Academy fifty-six, which led to confusion and

ambiguity. Was it to be a college within a university or a second college alongside King's in the existing university or was it to be a totally independent body outwith a university? The administrators at Marischal adopted the first description with King's opting for the third. "Although they acknowledged Marischal's right to grant degrees in arts". (7) The Foundation Charter was based on Melville's reformation of Glasgow University's New Foundation in 1577. The Keith family were appointed hereditary patrons with the founder as first Chancellor. The nomination of vacant professorships was also reserved to the Earl Marischal and his heirs. From the outset relations between King's and Marischal College were, to say the least, acrimonious, especially when attempts were made on several occasions to unite the two Colleges. This state of open hostility was to endure until 1860 when the long overdue Union of the Colleges took place.

The antipathy between the Colleges was further heightened in the nineteenth century when Marischal College was given a government grant to rebuild their dilapidated college building. The original Charter was confirmed by the General Assembly and ratified by the Scottish Parliament some months later. Colleges which were distinct from universities were being established throughout Europe at this time most especially in France. From the outset the Earl Marischal had the backing and support of the Provost, Magistrates and Town Council of New Aberdeen who witnessed the Foundation Charter in 1593. The Earl Marischal endowed his College with lands which had come into his possession in 1587.

Item the said erll mershell beand contractit with maister William Leslie commendator of New Abbey Domesticall servitor to the Kings Maiestie upon the heretabill dispositioun to have bene maid be the said Mr. Wallace to the said erll be confirmacioun or resignation at the said erlles plesour of all and hail the landis and annual rentis manses, bigingis and yairds with the pertenenis lyand within the schireffdom of Aiberdene that pertenet sumtyme to the quhyt and blackfriars of Aiberdene as the contract maid thairm purportis. (8)

This property had belonged to the Carmelite and Dominican Orders. The Town Council immediately responded by gifting land formerly occupied by the Greyfriars and Franciscans. These lands were made up of parcels comprising: "crofts, roads, rigs, orchards, barns, dovecots, tenements, house yards, acres and feu duties". (9) The annual rents of these lands and buildings became the income of the college as they were too far removed from the college site to be of use as teaching or residential

accommodation. The condition attached to this gift stated that these lands were to be used solely for establishing a philosophical academy. This gift, by the Town Council, began a continuing interest and support by them for Marischal College which became known as the Town's College. This interest shown by the Town Council recurs throughout the history of Marischal College and is highlighted by the prominent part played by the local authority in the rebuilding of the College in 1837-1844.

There is little doubt the action of the Town Council in 1593 was not wholly philanthropic; even at this early stage there is a sense of the growing rivalry between Old Aberdeen, King's College and New Aberdeen. Both Old and New Aberdeen were independent burghs and by the end of the sixteenth century New Aberdeen was showing signs of growing prosperity. Old Aberdeen had retained much of its original status and was still a prosperous burgh remaining the second largest town in Aberdeenshire in the early eighteenth century. By 1790 Old Aberdeen with a population of 1,713 had been overtaken by New Aberdeen whose population had grown to 20,167. The map of the cities of Aberdeen by John Wood published in 1809 illustrates this point. Fig. [75] New Aberdeen was now the emerging commercial centre and the gulf between the burghs steadily widened as time passed. This caused much resentment in Old Aberdeen as its local influence continued to diminish.

There is a clear indication the Earl Marischal had no intention of fostering rivalry between King's and Marischal Colleges. The appointment of the Principal of King's to the panel responsible for appointing staff at Marischal College presented King's with a unique opportunity to play a role in the development of the new college. It would have given King's a chance to exercise influence in the future. Unfortunately Principal Rait of King's refused to acknowledge this new school or college and he refused the invitation. (10) The Earl Marischal was appointed a Commissioner for the trial of the catholic Lords in 1594 where he again demonstrated he was no violent extremist, being one of the five judges who showed moderation by not voting for their forfeiture. (11) The original Franciscan or Greyfriars Friary, the home of the new college, was situated just within the gates of the royal burgh of New Aberdeen, a stone's throw away from the Earl Marischal's

Town House in the Castlegate. This reflected the status of the Earl Marischal and it was described as "the most conspicuous lodging in Aberdeen". It was a substantial two storeyed stone built property with courtyard and garden which ran down to the Dee estuary. (12) Fig.[76] The site of the college was well equipped with manse, offices, glebes, yards, cloisters and wells and sat on the eastern side of a sand and gravel ridge which ran northwards to Old Aberdeen.

Greyfriars Church, built by Bishop Dunbar, occupied part of the site and when first built was open to the street. In 1532 permission was given to erect booths near the environs of the church and height restrictions were enforced to protect the passage of light to the building. Access to the site in 1593 from the Broadgait was past the church and the height restriction imposed on the booths did not prevent the building of substantial housing on the Broadgait. By 1623 the church and college were completely hidden from view. (13) In June 1623 the Town Council agreed to a proposal submitted by Dr. William Guild who had offered to "mortify and dedicat frielie to the toun" a house in front of the college on condition the Town Council "would mack a fair and commodious entree to the College" through the Broadgait frontages. This was to remain the only entry from that street until 1893. The Town Council agreed but for some reason the entrance was not erected until 1633 and the Burgh arms were added in 1639 only to be replaced by the arms of the Earl Marischal. (14) Fig.[77] A survey of the site was carried out in 1834 by Robert Reid under the instruction of the Commissioners of Woods and Forests. This plan shows the restricted nature of the site, the position of the existing college buildings and Greyfriars Church. The surrounding properties are also shown as is the narrow access from Broadgait. Fig.[78] It is interesting to note that Dr. Guild, a benefactor of Marischal College became Principal of King's in 1640 which makes it difficult to appreciate why there was this continued enmity between the colleges.

During the seventeenth and early eighteenth centuries both colleges went their separate ways with Marischal College growing in popularity due to the efforts of Gilbert Gray, its second Principal, who improved the finances of the college by better management. This was in direct contrast to King's under Principal David Rait who "oppressed with age and cares" mismanaged the college resources and neglected the academic welfare of the students. (15) Student numbers barely reached 70 at King's

with an average yearly intake of 19. Marischal did better with an intake of 22. The fortunes of both colleges continued to fluctuate and in 1623, a Charter of Ratification and Novodamus was granted by William Earl Marischal, confirming the deed of his predecessor and recognising the existence of the New Institution. (16) This endorsement still did not confer on Marischal College the title of university and did nothing to clarify its status in relation to King's, this issue remained a constant source of discord. The only alteration that was made to the original Charter dealt with grants of land and Marischal College continued to function as an independent seminary on the same footing as before.

By 1641 the covenanting leadership had achieved the abolition of the office of Bishop in the church. This proved to be an important event as the General Assembly proposed that the episcopal revenues be used to support the universities. Charles I agreed, as he was trying to win the support of the covenanters, and he granted the rents of the bishoprick of Aberdeen to the two colleges of Old and New Aberdeen with two thirds to King's and a third to Marischal. He also issued a Charter which brought about the Union of King's and Marischal as one Caroline University, not surprisingly this union was resisted by both colleges. (17) A grant made by Oliver Cromwell in 1658 was apportioned similarly as he too treated the two colleges as one university. The Caroline University did not survive beyond the Restoration of Charles II when the Union was annulled by Act of Parliament in 1661. This Act returned all freedoms, powers and privileges to Marischal College and significantly preserved and protected the jurisdiction of the Provost and Magistrates of New Aberdeen as specified in the original Act of Confirmation. (18) It did nothing to clarify the status of Marischal in relation to King's and this remained a contentious issue until it was finally resolved in 1860. Throughout the reigns of Charles II and James II the two institutions continued to act as separate entities until 1693 when King William II mortified a sum of money to the University of Aberdeen. In order to receive a share of this money Marischal College surrendered its independence and called itself part of the University of Aberdeen. This action was based on the original erection of Charles I irrespective of that Act having been repealed some thirty years previously. (19) There is no evidence to suggest King's objected to this unofficial arrangement. Such an action adds to the confusion

regarding the exact relationship these two bodies had. This unsatisfactory situation was exacerbated by both colleges competing for students and each used different methods to entice students to transfer from one college to the other. In this respect King's was the more successful. During the 1660's the average annual number of students entering the Arts Faculty was 65 and at Marischal the figure was 30. This indiscriminate admission of students did not help to foster good relations between the colleges. To their credit they both achieved considerable academic success and both were affected by the changing political scene.

In the eighteenth century the Jacobite sympathies held in the north of Scotland was reflected in the colleges' student bodies. This resulted in teaching being suspended at Marischal between 1715 -1717 and at King's six out of ten academics were dismissed along with the prudent resignation of the Chancellor. Typical of King's, George Chalmers, the new Principal, was prevented from entering the college or his lodgings by the disaffected staff. (20) Intercine fighting was a common feature of college life at King's where disputes ranged over staff appointments, bursaries and the like. Marischal was the more likely body to be influenced by political events, more so than the conservative King's which tended to be inward looking, placing greater emphasis on collegiate life. In 1716 the Earl Marischal, because of his Jacobite links, surrendered his right of patronage to the crown which now controlled six of the twelve academic appointments, with the Town Council having three. During the remainder of the eighteenth century both colleges taught broadly the same curriculum with Marischal developing the sciences. By the middle of the century Marischal had abandoned the regenting system replacing it with professorial classes. In this respect, as in most other things, King's lagged behind and did not follow suit until 1799 as they were still trying to re-emphasise the collegiate character of university life despite the trend towards allowing students to live outside their colleges.

The ongoing animosity between King's and Marischal heightened each time proposals for unification were put forward in 1747- 49, 1754, 1770 -72 and 1786 - 87. None were successful. The continued rivalry between the burghs of Old and New Aberdeen over the siting of the new university presented another major problem even although the Colleges had been in favour of union. Another problem was the

condition of the college buildings. Both had ageing properties and the lack of suitable accommodation would have presented major financial difficulties unless there was a large influx of public money provided by the government. As early as 1638 supporters of both Foundation parties at King's agreed that the fabric of the university would continue to deteriorate through the lack of a building fund. In 1641 part of a government grant to the university had to be used for essential repairs. By the beginning of the eighteenth century the buildings of King's were described as ruinous but for the benefaction of a former student, James Fraser, King's could not have rebuilt their library or replaced the dilapidated south wing. In its place a cloistered three storey accommodation block was built and in 1772 the library was transferred to the west end of the chapel where it remained for the next hundred years. The west front was also rebuilt in the 1770's and again in the 1820's with the aid of a substantial government grant. Further rebuilding at King's would not take place until the second half of the nineteenth century. This work was funded by the government and designed and built by Robert Matheson, the Commissioner of Works, Clerk of the Works in Scotland.

Very little is known about the early buildings occupied by Marischal College. A fire in 1639 had destroyed most of the eastern section of the building. General neglect and dampness had wreaked havoc on the fabric and at various times Marischal College was described as damp, ugly and incommodious. Repairs were carried out thanks to the generosity of Principal Dun, staff and former graduates in the 1680's. Money had been subscribed from as far afield as Denmark and Poland and in the 1730's money was again raised by subscription. This allowed the authorities to preserve the four storey building externally but internally conditions left a lot to be desired. Like King's it was not until the nineteenth century between 1837-1844 that a New College was built on the same site with the aid of a large government grant and public subscription. The building was designed by Archibald Simpson (1790 -1847) a local architect, and it is the rehabilitation of both colleges which will now be examined.

King's College Buildings prior to 1822

At the beginning of the eighteenth century no new development had taken place at King's College since the erection of the Square Tower in 1658. No records have been found which might throw some light on the condition of the existing mediaeval buildings. They were reported to be in a ruinous condition - a not uncommon state for Scottish university buildings to be in at this period in time. It was to be another sixty plus years before Dr. Fraser's new south range was built and the library remodelled. There is a shortage of documentary evidence dealing with much of what was achieved during the eighteenth century. It has to be assumed that only rudimentary maintenance had been carried out on the fabric, if at all, considering it had been described as ruinous. The first recorded information relating to the buildings is found in the College Minutes dated 19th April, 1723. This rather sparse minute records that the meeting considered the condition of the steeple (Tower) and agreed to have it pointed with lime this season to prevent it from becoming dangerous, which is perhaps an understatement. The meeting also considered the need to repair the Common Hall for which materials were to hand to repair the floor and windows. The sub principal was placed in charge to engage workmen and oversee the work. The costs were to be met out of: "the four hundred and fifty pounds Scots being the first moiety of what is due to this college out of King William's mortification". (21) In the month of August Principal Chalmers is reported as having visited Edinburgh during June and July of 1723 where he diligently carried out the affairs of the College which were committed to his care. Unfortunately the minutes do not divulge the nature of his business. The implication is that he was successful, as any failure on his part would have almost certainly been recorded.

In the month of December, 1724 the financial fortunes of the College received a boost when the Principal informed the College that he: "had received a very kind letter from Mr. James Fraser late of Chelsea Hospital together with a bill for £300 sterling to defray the reparations to the library which money the principal is to charge himself with and to account for to the College". (22) This generous donation was in addition to the £50 Fraser had gifted for the use of the library which is

registered in the library accounts for September, 1723. (23) Three hundred pounds sterling was a considerable amount of money as the usual rate of exchange between sterling and the Scots pound was in the ratio of 12 -1. Further donations followed from Fraser when a gift of £200 sterling was recorded on a marginal note in the College Minute Book dated 20th October, 1725, to be used specifically on the tower and college buildings. (24) In April 1726 a further £100 sterling was forthcoming and in recognition of his benefaction to the college an honorary Doctorate was conferred on him in March, 1725. The College also offered to have his portrait painted which he refused. He then went ahead and had it done at his own expense. The generosity of Dr. Fraser did much to help King's College to carry out much needed work on the fabric of their buildings in the early eighteenth century, especially at a time when money for building purposes was particularly tight.

The existing records of King's College are of little help in ascertaining if discussions were held regarding the replacement of Bishop Dunbar's two storey south block. The records do not record what accommodation was required or the choice of architect. There is the possibility the architect was commissioned by Dr. Fraser without reference to the university. It is strange the college minutes do not refer to the architect or contractor employed to build the new wing. Professor David Walker's article 'The Rebuilding of King's and Marischal Colleges 1723 -1889' published in the Aberdeen University Review, lists three possible candidates for the post of architect - James Gibbs (1682 -1754); Hugh Warren (? - 1728) and Alexander Jaffray (1677 - ?). (25) Hugh Warren would almost certainly have been known to Dr. Fraser, having served as Surveyor to the Royal Hospital and Horse Guards Building in Whitehall from 1710 until his death in 1728. Warren was also involved in the Burlington School for Girls in Westminster in 1719 and was not without experience in handling large institutional buildings. James Gibbs may also have known Dr. Fraser during his years as secretary to the Royal Chelsea Hospital or as an expatriate Scot living in London. In 1724 Gibbs had designed Balvenie House in Banffshire for William Duff and he may well have visited his native Aberdeen at that time. Gibbs, as a former student of Marischal College, would have been familiar with the buildings of King's College. Alexander Jaffray, the only local candidate, had, along with Gibbs in 1721, submitted designs to remodel Culter House for Sir

Alexander Cumming. Jaffray also acted as contractor and remodelled Gibbs' design during construction. These were all able men but unless further evidence comes to light, the architect of Dr. Fraser's building will remain unknown.

It is believed that Dr. Fraser's building may have been modelled on work ongoing at Oxford University during the early decades of the eighteenth century. (26) One of the major projects at Oxford at this time was the rebuilding of the south quadrangle at Queen's College (1709-34). This included a new hall and chapel in the main wing plus two residential wings built at right angles. These wings were joined by a screen and gateway. The residential wings had arcaded ground floors with living accommodation on the two upper floors. This design was attributed to Nicholas Hawksmoor, who also designed the Codrington Library in 1714 and the adjoining classical cloister in 1720.

It is not known if Dr. Fraser and Principal Chalmers colluded in the choice of architect or architectural style for the new south wing. If Dr. Fraser had any influence over the architectural style he might have favoured the Royal Chelsea Hospital (Wren 1682-92) as the model. This was an austere classical design built on a courtyard plan again with the hall and chapel in a central block with side wings. These wings were built on three floors with a fourth lit by dormer windows. The building was essentially a barracks and it does have a distinct institutional feel about it. What is of some significance is the heavy cornice which runs round the building at eaves level. The south wing at Aberdeen also had a very large heavy cornice at eaves level which is fortunately shown added to John Smith's 1822 floor plan as a pencil sketch before it was removed as part of the alterations carried out by Smith. Fig.[79] An earlier drawing produced by John Adam in 1773 shows the ground floor of the Fraser building converted to provide bedroom accommodation. The plan shows three rectangular stair wells one at either end of the floor and one placed centrally. For an indication of the accommodation provided in the Fraser building we have to rely on Smith's 1822 drawings and Matheson's 1855 survey drawings of King's College. The ground floor survey drawing not only shows the alterations carried out by Smith at King's in the 1820's, it also includes the central stair well which is missing from Smith's plan. This confirms that the 1822 proposals to alter the south wing were not in fact carried out. The survey of the quadrangle

elevation by Matheson is the only drawing in existence which shows what the Fraser building looked like. It shows a seventeen bay building of classical proportions on three floors with an arcaded ground floor and regular window fenestration in the upper floors. This building, apart from St. Paul's Chapel designed by Alexander Jaffray (1720 -21), was the foremost classical building in the north east at that particular period. Fig.[80] It also attracted a great deal of attention and was reproduced by John Douglas in a slightly larger form at St. Salvators College, St. Andrews in 1754 -57, where he retained the relationship between the mediaeval hall and student accommodation. The only mention of the rebuilding of the library, the costs of which were covered by Dr. Fraser's generosity, is to be found in a minute dated 18th October, 1785. Nothing is known of the architectural attributes of the revamped library but what is made perfectly clear from the minute is that it was not a success:

The old library and the schools below it were rebuilt by Dr. Fraser about the year 1725, but these being found unfit for their purposes on account of the toofall roof, want of a proper breadth, want of proper chimneys and innumerable other defects and the books in danger of perishing it was resolve (27)

The monetary donations made by Dr. Fraser were handled by the Principal and there is no indication that he presented an account of how the money was spent. What is certain is that King's College benefited through quite a lot of new building. In his last will and testament Dr. Fraser refers to £200 paid by him to the Principal in 1729 as the last money he had donated to that particular building. He also left £220 of South Sea stock to the college for the maintenance of two bursars. Evidently he had decided he had given enough money to the college for building purposes. (28)

The next mention of building work at King's College appears in a minute dated the 28th February, 1751. It was recorded that a plan was laid before the meeting of an additional building:

to be made upon the west end of the south work (Dr. Fraser's building) for a new library, Principal's room, charter room and cellar. The meeting recommended to the Principal and Civilist to employ proper persons and cause an estimate or nearly as may be the expense of such a building, and make a report thereof and also of the funds belonging to the College that can be applied for that purpose. (29)

According to the minute of 18th October, 1785 this new work was estimated to cost £400. The names of the architects commissioned to draw up plans for this project

were again omitted. One set of drawings survives which show a neo classical palazzo scheme for a new western library range extending out almost to the heel of the footpath at the college bounds. Figs.[81,82,83,84] This scheme completely engulfed the existing college buildings. The college tower is shown reduced to two storeys with the western elevations of the chapel and Dr. Fraser's building refaced, with two storeys of loggias as shown on drawing D. The southern face of the chapel is also shown remodelled as a matching northern range of the quadrangle. It is noted on plan that the church could also serve as the common hall. The Fraser building is also annotated as new work with portico. This very ambitious scheme would have cost well in excess of the £400 which the college had at their disposal and it is highly unlikely such proposals were taken seriously. No matter how architecturally pleasing this scheme was it would have been sacrilege for the mediaeval chapel and tower to have been treated in this way. They were the original mediaeval buildings, well worth retaining as examples of early Scottish mediaeval architecture. Professor David Walker credits James Byres (1734 -1817) as the architect and cites Byres' King's design with its Peruzzi type recessed portico as reflecting his winning palace design, won while studying at the Academy of St.Luke's in Rome. (30) It is worth noting, despite being in Italy, the scale used by Byres is clearly marked English feet.

By 1772 the whole idea of building a new west wing was being reconsidered as the result of "the kind suggestion of a visiting professor from a neighbouring university". He had suggested they lay aside the idea of a new west wing and instead "fit up the west end of the chapel with schools on the ground floor with library above". (31) A fire in 1772 in Dr. Fraser's rebuilt library forced the college to take action. It was minuted on 7th April, 1773 that the chapel would be fitted up as the library, with the cost charged to the Edilis Fund. (32) The main concern at this meeting appeared to be with the provision of manses for the professors. This was regarded as a matter of some urgency and it was agreed two manses would be built. The Edilis Fund was to be augmented with additional income derived from the sale of vacant stipends held in the University's patronage. Income from these vacant stipends was already appropriated by Act of Parliament for the support of the college buildings. An additional £120 (Scots) was to be added to the £180 (Scots) already paid annually to the Edilis Fund. These payments were to continue to be

made for as long as necessary until the manses had been provided. The domestic comfort of the masters appeared to have been given priority over other building concerns. (33) Plans and estimates were to be asked for from recognised tradesmen in order to obtain the cheapest price.

A scheme incorporating the new approach to the provision of a new library was prepared by John Adam in 1773. His drawings are still extant and his proposals show a preference for and appreciation of the Gothic style. Adam's scheme was far removed from the classical antiquity of James Byre's rather splendid scheme. The elevations produced by Adam show a symmetrical frontage with the west front of the chapel being reproduced adjacent to the right side of the tower. Similarly the western gable of the proposed manses was replicated on the western gable of Dr. Fraser's building. Fig.[85] Adam's plan shows the west end of the chapel partitioned off to provide three schools of equal size each 19ft. x 27ft. Fig.[86] These schools are shown as being lit from the north which meant slapping three new window openings in the north wall of the chapel as well as forming a series of doors on the south side. The library was to be formed in the upper part of the chapel and this required holes to be formed in the walls to support the heavy first floor joists needed to carry the library floor. A new door was also required at high level to give access to the library from a new stair formed immediately behind the tower. Because of the heavy live and dead weight loading of students and books, the greater depth of floor joists required restricted the ceiling height of the schools to 9ft. The depth of floor also reduced the height of the library and because of the large breaks in the wall surface created by the windows, only one row of book presses 17ft. 6ins high was provided. This excessive height made it inconvenient for easy access and the storage provided was totally inadequate because of the large number of books which needed to be stored. The height provided in the library was too low to allow for the insertion of a gallery. Fig.[87] The plan shows an L-shaped block consisting of six manses sited to the north of the chapel as a counterbalance to Dr. Fraser's building. The manse floor plans were altered on the recommendation of the committee appointed to vet the plans. Several points were raised concerning the manses. The lantern stairs caused some concern as did the excessively large public rooms plus the lack of cellarage and fuel storage. A general all round reduction in

the size of the manses was asked for. It was agreed, after considering the report, the alternative suggestion "for turning the whole west end of the College Chapel into a library without schools below is preferable". (34) It was also agreed the three ground floor rooms in the new building were too small for schools and it was decided to divide the existing Public School into three private schools. (35) Two manses were built at Nos. 50 and 52 College Bounds which are still in use today as ancillary university buildings. They were the only manses to have been built at this time.

For almost fifty years the question of a new west front for King's College was left in abeyance and was not resurrected until Archibald Simpson (1790 -1847) produced a design and estimated cost in April 1819. This was followed by an alternative design by John Smith (1781 -1852) in the summer of 1822. Simpson had returned to Aberdeen in 1813 to begin developing an architectural practice in his native city. He was the ninth son of William Simpson, a clothier in Aberdeen and was educated at the Grammar School. For a short period 1803 -1804 he attended Marischal College where later he was to play a major role as the architect responsible for the design and erection of the new Marischal College between 1837-1844. Like his great rival John Smith, Simpson travelled to London in 1810 to broaden his architectural experience but without having the right connections he found it difficult to gain employment. He was advised by C. R. Cockerell "not to think of the profession, for that nothing would come of it in any shape without a connection of consequence". (36) He eventually found employment working on the Custom House in Lower Thames Street with David Laing, a former pupil of Sir John Soane. Soane's Bank of England was the major architectural work under construction in London at that time, as Smirke's Covent Garden had just finished (1809). A series of lectures given by Soane were running at the Academy and it is possible Simpson may have attended them. Simpson is said to have visited Italy in 1813 before returning home, but there is no documentary evidence to support that this journey had taken place. It would have been extremely hazardous for a private individual to have travelled to Europe during the closing stages of the Napoleonic Wars.

John Smith was the son of an Aberdeen builder/architect who, after learning his father's trade, trained briefly in London under James Playfair. Playfair died in

1794 when Smith was thirteen and from that point, until his return to Aberdeen around 1804 at the age of twentythree, his career is unaccounted for. Smith began practising in Aberdeen as one of the few professional architects in the area and his practice steadily expanded. The passing of the New Streets Act in 1824 saw his appointment as Master of Works or City Architect, a post he was to hold for the next thirty years. During this period Aberdeen rapidly expanded and from about 1820 his domination of the architectural scene was challenged by Simpson whose superior ability as a designer overshadowed Smith. Simpson had a well stocked library of architectural works and engravings which were destroyed by fire at his house and office in 1825. For the next thirty years almost all the important architectural commissions in the area went to one or the other. Simpson did not appear to have entered competitions for public buildings in other cities, apparently being content to work in the environs of the north east. Both Simpson and Smith "knew how to make the most of granite". (37) One of Simpson's most notable buildings, the North of Scotland Bank in Union Street, Aberdeen (1838), was won in competition against John Smith, David Rhind and David Hamilton. His winning entry combined both Greek and Roman sources with the dominant feature being the four unfluted Corinthian columns. These effectively turned the corner of the street, reminiscent of Soane's Bank of England at the now famous Tivoli Corner.

The College minutes dated 10th June, 1822 records the Principal laid before the meeting a letter from Mr. Longmore of the Executive Chamber in Edinburgh. He stated the Barons of Exchequer were instructed by the Treasury to submit a report on the University's application for funding. This grant would allow the rebuilding and repairs necessary at King's College to be carried out. The application was based on a scheme for a new building prepared by Simpson in 1819. This building included classrooms, museum and public school estimated to cost £4,105. A badly needed library extension would cost an additional £600 making a total of £4,705. Not included were much needed renovations to the College Hall, classrooms and Square Tower. Simpson had given a blanket figure of £6,000 as the amount needed to meet all the university's requirements. Mr. Longmore's letter dated 7th June 1822 challenged the overall estimated cost made out by Simpson and he asked will the :

alterations and additional buildings made out by Mr. Archibald Simpson ... will still be necessary, it will be proper if you are possessed of plans or estimates and reports on the subject other than Mr. Simpson's before alluded to, you will transmit them to me as early as may be. You will also state whether the college is in possession of any funds applicable to the repair and support of the buildings, and specify the amount and from what support they arise. (38)

It is difficult to understand why such basic information regarding the availability or the lack of money to fund rebuilding and repairs was not included in the original application. There are no drawings or copies of the estimated costs, prepared by Simpson, in existence to show the architectural style he had adopted. His estimated cost of £6,000 was a huge sum for the time and in all likelihood was abandoned by the University on grounds of cost. Perhaps it was Longmore's request for alternative plans and estimates to be sent to him as quickly as possible which prompted the University to commission John Smith to prepare another scheme. (39)

Smith's brief was similar to Simpson's and he was directed to design a new west range which was to contain schools and a museum. The Cromwell Tower was to be redesigned for student accommodation and the partial reconstruction of the Fraser building as a new library. This entailed the removal of the central stairwell and the second floor. The old hall and public school was to be repaired. At King's College Smith produced a Gothic collegiate west front very much in the guise of the Tudor Colleges of Oxford and Cambridge. In the process he removed the existing much earlier Principal's apartments and replaced them with a museum and senatus meeting room. The only extant ground floor plan does not show the full extent of the new west front. All it shows are Smith's proposals for the new east and south wings - not all proposals shown were executed. Fig.[79] It shows the addition of a new apsidal wing attached to the south west corner of the Fraser building with an additional classroom extension at the north east corner which repeated the polygonal shape of the east end of the chapel. Matheson's survey (1855) of King's College shows exactly what was built by Smith. Fig.[70] No plan survives for the reconstruction of the Cromwell Tower, remodelled by Smith, to provide student accommodation. This was achieved by reducing the number of floors from six to four as shown on the east elevation. Fig.[88] The original windows were built up and can still be clearly seen on each of the former floors. Fig.[89] The south elevation

shows Smith's reconstruction proposals for Dr Fraser's building. Fig.[90] His estimated cost is given as £1,995 which was considerably below Simpson's figure of £6,000. This was to have provided library and classroom accommodation and in all likelihood would have cost much more than £2,000. The following evidence will show that Smith's figure of £1,995 only covered the cost of the work that actually went ahead. Sir Henry Jardine, the King's Remembrancer, wrote to the Duke of Gordon, the Chancellor of the University, on 2nd June, 1824 informing him that: "the Lords Commissioners of His Majesty's Treasury are to recommend to the King to grant the sum of £2000 in aid of the sum to be raised by voluntary subscriptions towards the repair of King's College". (40) This information was passed on by the Chancellor to the Principal and on 28th June, 1824 a committee was formed "to prepare a report on the plans and estimates to be submitted to the Treasury, previous to obtaining the grant of £2,000 for repairs to the College". (41)

The committee was authorised to call for assistance if required, from architects or workmen to enable them to produce their report. The college in 1824 published a statement which outlined why the college buildings were in need of extension and repair:

The ruinous state of this venerable pile of buildings has been for some time past the subject of regret to admirers of ancient architecture, as well as of all those interested in the cause of literature ... The funds appropriated by the Founder for the support of the fabric consisting principally of a money annuity, were originally adequate for the purpose for which they were destined; but in process of time have sunk into a state of complete exhaustion. They were in part dilapidated at the time of the Reformation and while their value was further diminished by that extreme depreciation to which money has in Scotland been subjected in the course of the last three centuries, the natural decay demanded an increasing expenditure for their support. Under these circumstances the funds became unavoidably involved in debt to such an extent as to absorb the entire revenue. (42)

This statement shows the University had suffered over the centuries from the effects of inflation but it also makes it clear the University authorities had allowed this situation to develop without taking any appropriate action. They were faced with an expanding educational system which demanded and required suitable accommodation. A set of Smith's drawings were circulated along with this statement and what better way could they present their case to the public. Before asking for voluntary subscriptions to augment their promised government grant of

£2,000, "the Chancellor, Rector and office bearers contributed £1,100 and a further £2,000 was obtained from Alumni and others". (43) Enough money was raised which would have covered the cost of the complete works. However the college, as prudent as ever, decided to pay off long standing debts - debts incurred by the professors for necessary repairs especially to their own manses. The College was prepared in this instance, to go ahead with the new west front and the reconstruction of Cromwell's Tower.

In December 1824 Smith was asked by the [Building] committee to prepare working drawings for the east [Cromwell] Tower and to advertise for tenders. In the following February he was again instructed to invite tenders for the new west front. (44) Despite tenders being asked for Dr. Daune, with support from Mr. Bentley and Mr. Tulloch, raised objections to Mr. Smith's proposal to accommodate students in the Cromwell Tower. Daune had produced a plan which no longer exists in which an observatory was to be installed, "in the upper floors of the east tower and the appropriation of the middle part of the building in its present state to the accommodation of servants". (45) How much significance can be attached to the objections of Dr. Daune, who happened to be the uncle of Archibald Simpson, Smith's younger rival, would be to impugn his motives. The College minutes record that there were not sufficient grounds on which to sustain the protest and the motion fell. The College supported their architect but made it clear that if the proposed works on the tower exceeded the funds allocated for this purpose, Smith would have to submit alternative plans in competition with other architects:

The committee further resolve that in order to prevent any misunderstanding on the part of Mr. Smith, The Convener be appointed to write to him stating that supposing such estimates shall be given in by workmen as shall enable the university to contract for the restoration of the east tower [Cromwell Tower] and if it shall be found that circumstances are such as shall render expedient alterations of the proposed front building as planned by him he shall be consulted on the subject of such altering, and if any such changes shall be resolved on as require new plans. The Committee cannot entertain a doubt that whatever other architects may be applied to, Mr. Smith will be requested to prepare new plans according to the views and objects which may be contemplated by the University. (46)

This did not deter the objectors and even after the tenders had been returned and contractors chosen, the matter was raised again. The College Minutes of 8th July,

1825 record that the Principal moved that architects be appointed to submit alternative designs. These would be vetted by the Chancellor and Rector who would select the design best suited to the University's needs. Mr. Bentley seconded the motion which was defeated when a vote was taken.

The abstract of returned tenders dated 25th April, 1825 show a wide range of prices for the erection of the building in granite or freestone which is understandable given the contractors' unfamiliarity with Gothic detailing. Granite prices ranged from £990 to £1,390 and freestone, which was cheaper, was equally diverse and ranged from £653 to £1,133. The tenders of James Small, Mason, and Thomas Robb, Wright, were accepted. (47) Two contractors had also returned tenders to the building committee for the Cromwell Tower quoting a price of £1,513. The committee wrote to the Duke of Gordon on 26th April reminding him he and the Lord Rector had agreed the £2,000 government grant would be spent on repairs to the Tower. Both the Chancellor and Rector were responsible for the expenditure of the grant and the money raised by subscription. Their authorisation to allow a contract to be entered into with the contractors was being questioned. Despite the unforeseen delays, work did eventually begin on site. Smith, regardless of his nickname 'Tudor Johnny', given as a result of his favouring the English vernacular styles of the sixteenth and seventeenth centuries, produced a very pleasing Gothic collegiate west front at King's. He was said to have been relatively inexperienced in Gothic design. His only previous examples were the castellated front to the Tolbooth in Aberdeen (1820) and the parish church (Christ's Church) at Udney (1821). The church had a sturdy pinnacled and crenellated tower with diagonally set buttresses, features which he replicated at King's. It is possible that he had obtained copies of John Britton's five volume work *'The Architectural Antiquities of Great Britain'* published between 1807 -1826. These volumes give a well illustrated commentary on Gothic architecture from which the design could have been worked up. Pevsner sees Britton as "a populariser rather than a scholar" in his architectural writings but the later engravings provided good source material. (48)

The public hall was also refurbished in which new timber mullioned windows with lattice glazing were fitted. The remodelling of the square tower completed the contract and brought the buildings at King's to an acceptable standard and more in

line with other institutions. Fig.[91] This was echoed in the Report (1831) of the Royal Commissioners appointed to visit the Universities of Scotland who recognised:"these sums [allocated to King's College] have been most properly expended on the college buildings for the use of the university, and the various classes are most comfortable and even elegantly furnished". (49) No further building work was to take place at King's College until the second half of the nineteenth century when government funding again became available.

Marischal College's Existing Buildings

The Royal Commissioners, in their 1831 Report commended King's on their efforts to bring their college buildings up to an acceptable standard. They were equally emphatic in their condemnation of the state of the building still occupied by Marischal College and reported "the whole building is at present in the most ruinous condition and it is even dangerous to make use of it" (50) Very little is known about the early building which housed the college. No drawings of the original building can be found or of the addition of the south wing by William and John Adam built between 1731 and 1741 at a cost of £700. (51) The only drawing to survive is an undated survey of the first floor. [Fig.92] In September 1639 the college caught fire and it was recorded: "the night the east quarter of Marifchall College suddently took fyre, non knowing the manner how. The people gathered but could not gett it quenched while it burnt to nought". (52) Most of the eastern wing was destroyed and the damage might have been worse had a group of sailors not appeared from the harbour and helped to extinguish the fire. Apart from damage caused by the fire, general neglect and dampness had already wreaked havoc on the fabric and had caused just as much damage. According to Dr.Knight a member of the College Senate only a few books were saved. The magistrates had ordered the onlookers to rescue books from the library to no avail as they had somehow finished up in the deep well in the college yard. The work of rebuilding began in 1642 thanks to the generosity of the Town Council, Principal Dun and William Moir.

By 1682 the building had again deteriorated and Principal Paterson began a rebuilding programme which proceeded slowly due to the lack of funds. It was thanks to donations raised at home and abroad which allowed this work to be completed. There are no records which detail the work undertaken at this time. Between 1737 and 1741, despite a lack of money, the Principal and Professors took the bold step of going ahead with the addition of a new south wing. The college building fund had very little capital, and the annual income derived from it was supplemented by small annual payments of 3/6d from each undergraduate and 1/-d from each Divinity student under the title of a Locarium. (53) The funds needed to build the south wing were again raised by public subscription as attempts

to secure government assistance had failed. Dr. Knight in his records of events, refers to the removal of several areas used as classrooms and student lodgings during the alteration carried out by William and John Adam. Robert Reid surveyed the building in 1834 and his ground and first floor plans are identical to the earlier drawings and shows the building as it was in 1834. The accommodation provided on the ground floor of the main building included a public school and classrooms, with entrance hall and classrooms in the south wing. The first and second floors housed classrooms, college hall and library, with professorial accommodation in the south wing. Figs.[93,94] Reid also produced a perspective sketch which shows the gable of Adam's south wing. Fig.[95] Since 1741 the building had remained unaltered "with the exception of the erection of the new observatory in 1796 -97". (54) A series of pencil sketches by Alexander Stuart of Laithers, a professor of Greek at the college, provides a record of the college in the mid eighteenth century. Some of the internal sketches show the corridor and stair walls unplastered and a general lack of finishings; a good indication that savings had been made during construction. The classroom sketch c.1830 which may have been his own classroom, shows a better standard of finish. Fig.[96] The external sketch emphasises the close proximity of the adjoining properties and highlights the rather mean entrance to the college from Broad Street. Fig.[97] Plans for two additional large classrooms were prepared by John Smith in 1818 to be built on the slope next to the north or observatory wing but nothing further happened.

A chain of events began in 1824 which was to lead to the building of a new Marischal College on the existing Broad Street site between 1837-1844. This was made possible as a result of government funding augmented by public donations.

Rehabilitation of Marischal College

In 1820 the Principal and Professors, armed with John Smith's plan and report compiled in 1818, submitted a Memorial to their Chancellor, the Marquis of Huntly. They requested that he recommend their case to the government, urging the Treasury to grant enough aid to allow the complete repair of Marischal College. No evidence has been found of a reply from the Chancellor. In July, 1824 Drs. Davidson, Skene, Knight and Mr. Cruickshank were appointed as a standing committee which would deal with all matters concerning the college buildings. The committee appointed John Smith and Archibald Simpson to carry out a detailed survey and submit a report on the condition of the college buildings. The Report when presented to the Senate in July, 1824, confirmed what they already knew or feared, a condemnation of the building:

The walls are sufficiently strong, but are in a bad state of repair ... in need of cleaning, fresh sneck pinning, pointing and harling. The roof is in a very decayed state, couples and sarking are quite rotten ... the slates are kept on the roof mainly by means of lime, nails having lost all hold of the sarking ... the joists and floors are perfectly rotten and ruinous ... the woodwork of the windows is completely wasted, doors and other wood finishings are generally in a decayed state ... plasterwork much wasted and broken ... none of the walls are lathed ... The present classrooms in our opinion could not be seated to contain more than forty to fifty students with any convenience. If the building were to be repaired it would require to be unroofed, completely gutted and fitted up and finished afresh. (55)

The architects pointed out that they considered the present classrooms to be too small and incapable of coping with the increased number of students. There was a lack of suitable storage space to accommodate the apparatus required in teaching some classes. Their recommendation was to build a new purpose built college on a new site rather than attempt an expensive rebuild of the existing college. The committee accepted the report's recommendations and agreed to proceed accordingly. A draft memorial was drawn up outlining the need for a new building. It included the architect's report and copies were sent to the Chancellor, Rector and Provost Brown. The Chancellor pledged his support and wrote to Lord Melville asking his advice enclosing correspondence from the University: "You will see that something must be done, therefore have the goodness to inform me how I should act".

(56) Melville's advice was to send a Memorial to the Treasury presenting their case as forcibly as they could. He also pointed out the demands made for general expenditure and repairs to Holyroodhouse would exhaust the funds provided out of the King's Hereditary Revenue in Scotland for the foreseeable future. The amount required to build a new Marischal College far exceeded the means at the disposal of the Barons of Exchequer. The only alternative was to try and persuade the Treasury to recommend a grant which would then be voted on in the House of Commons. (57)

The fabric committee arranged for new plans and estimates to be drawn up. Both Smith and Simpson were invited to prepare competitive plans for the new building. Smith, without competition, was already engaged on the reconstruction of King's College and he generously declined the invitation. In 1825 the government announced the closure of the Castlehill Army Barracks and the Marquis of Huntly immediately requested the government to transfer the site and buildings to Marischal College. It is not known if it was intended to adapt the Barrack buildings to suit the needs of the college or if the site was to be used for a new college. These questions remain unanswered as the Town Council, the original owners of the site, successfully opposed the Chancellor's request. Between 1824 -25 Simpson produced schemes for several sites, including the splendid Belmont Street site which overlooked the Den Burn. Here he designed a classical building with lofty dome and Corinthian portico which was echoed in his later design for Stracathro House (1827-28) near Brechin which was a simple rectangular building built in smooth ashlar. The second site was on the south side of Union Street between Bridge Street and Crown Street. Finally he produced a design for the existing site at Broad Street. The building committee were of the opinion they did not have the authority to decide on an alternative site and Simpson was instructed to concentrate on the original site and the following guidelines were issued for his information:

The new building should be in insulated portions; the classrooms separated from the central building containing the Great Hall and Library; the Medical classes to be still more insulated. The architecture Grecian preserving one story externally throughout to accompany an Ionic portico; but in the interior divisible, where necessary, into two stories the upper one to be lighted from above. (58)

By April, 1825, Simpson had produced drawings and an estimated cost and these were approved by Lord Aberdeen. The estimated cost was calculated at 6d a cubic

foot and the main building which measured 150ft. x 50ft. x 60ft. produced a figure of £11,250. The two smaller side wings each 80ft. x 40ft. x 40ft. totalled a further £6,400. To this was added £1,500 for the medical building situated at the bottom of the site plus a £2,000 allowance for contingencies brought the total to £21,150. During 1824 and 1825 the College authorities made strenuous efforts to persuade the Treasury to release funds for the rebuilding of the college.

A draft petition was laid before the Senate on the 10th September, 1824 and after amendment was submitted to the Treasury in November. Almost one year later in October, 1825, Mr. Herries, Secretary of the Treasury, informed Lord Huntly, the Treasury had followed their standard procedure by asking the Barons of Exchequer to report on the college's application. Their Lordships were agreed rebuilding was the correct option and in such circumstances they might recommend a grant of public money. A grant would require to be augmented by public subscription. In June, 1825, Captain Gordon M.P. had written to Lord Huntly informing him that a grant of around £15,000 was a distinct possibility. Lord Liverpool, the Prime Minister, had agreed to the plans and had instructed the Chancellor of the Exchequer (Mr. Robinson) to consult with Lord Aberdeen who, as Rector was a solid supporter of the college's claim. With such support the college authorities could be forgiven for assuming their application had every chance of success.

In 1826 Sir James McGrigor the new Rector, made several attempts to get a definite answer from the Treasury. Mr. Herries finally informed him that "The Lords of the Treasury do not feel any steps can be taken by them until it shall have been previously ascertained how far the Union of the Universities at Aberdeen in one establishment may be practicable". (59) Both Lord Liverpool and the Chancellor of the Exchequer were of the opinion union of the colleges was in the best interests of education. A Royal Commission for Visiting the Universities of Scotland was appointed on 23rd July, 1826. The Commissioners did not meet in Aberdeen until September, 1827 and until the Commission had examined and reported on the question of union, to which they were favourably disposed, the Treasury would not release any money. Both Smith and Simpson were interviewed by the Commission on the content of their report on the condition of the existing Marischal College and the cost of its replacement. Simpson was questioned on his plan and estimated cost

prepared in 1824 -25 and he agreed that he had "bestowed considerable attention on it since; it was rather hastily drawn up at the time". (60) By his own admission Simpson was indicating to the Commissioners that his design and estimated cost were in need of revision. This would suggest the Commissioners were perhaps unhappy with the original design. After two years of activity to promote the rebuilding of Marischal College, the appointment of the Royal Commission in 1826 led to a lengthy postponement, otherwise there was every likelihood the Treasury would have authorised a grant and allowed the new building to have gone ahead before the end of the decade.

The appointment of the Royal Commission effectively placed a moratorium on the administrative affairs of Marischal College. Principal Brown had died in May, 1830 and Mr. Peel refused to appoint a successor until the Commission had published its Report which it did in 1831. The fact the Report recommended union with the United Colleges located in Old Aberdeen did not meet with any enthusiasm from the Marischal College hierarchy and in 1832 the subject of a new building was resumed. In January, 1834 the Treasury instructed the Commissioner of Woods and Forests to carry out a survey of the buildings of Aberdeen University and submit a report of what in their opinion was required. The report was to include plans, specification and estimated costs for the Treasury's information. This was required by the Treasury as they had before them a request for funding from St. Andrews University. This money was needed to complete their buildings and: "that before my Lords consider the case of the University buildings at St. Andrews some provision should be made with respect to the University buildings at Aberdeen, upon which no part of the appropriated sum has hitherto been expended". (61)

Robert Reid, the King's Architect, was instructed in February to visit Aberdeen to survey both King's and Marischal Colleges and submit his report. He was advised to contact Mr. Alexander Bannerman, M.P. for the city and examine the plans in his possession which had been submitted to the Treasury in 1827. He was to meet the Provost and Dean of Guild to sound them out and ascertain if the people of Aberdeen would contribute to a building fund should the cost of the new college exceed any amount given by the government. (62) Reid submitted his report on 15th May, 1834 accompanied by his survey drawings of Marischal College with

site layout showing the existing college and adjoining properties, plans of the first and second floors and a perspective sketch of the building. Figs.[78,93,94,95] Reid's report on the condition of the buildings at King's and Marischal Colleges is attached in Appendix J. A disastrous fire at Simpson's house in February, 1828 destroyed all his drawings but it is clear Reid had the use of Simpson's 1825 plan for the Broad Street site on which his 1834 sketch design for a new Marischal College was based. In accordance with his instructions, Reid consulted with Bannerman from whom he received a copy of Simpson's 1825 plan.

An undated ground floor plan and perspective drawing titled a 'Proposed College at Aberdeen' were discovered during this research, in a file in the Public Record Office at Kew, along with Reid's 1834 Marischal College design. Both the plan and perspective match the brief from which Simpson had produced his design for the Broad Street site. The separate pavilions and Ionic portico are very much in evidence. Figs.[98,99] A very faint pencil note on the plan reads that the court was raised to the level of Broad Street, provides additional evidence that these drawings are surviving copies of Simpson's 1825 Broad Street scheme. There is a close affinity between both sets of drawings and the thought process which led to Reid's scheme is easily discernible. Figs. [100,101,102]. He was made aware by the professors at Marischal College that the accommodation provided by Simpson in 1825 did not meet the needs of the extended educational system now in operation. A brief of the minimum requirements needed to satisfy the new regulations, was provided. The plan produced by Reid in 1834 was based on Simpson's original scheme and he stated:

it will be found that altogether the proposed building is of very considerable extent, yet it embraces nothing but what is contained in that list [brief] ... I am satisfied that there are no accommodations exhibited in the plans of the proposed building either in number or extent, but such as are indispensably necessary for the increased wants of the University. (63)

Reid made it clear he had not prepared elaborate drawings but the standard of the draughtsmanship of the surviving drawings is of a very high calibre and would suggest otherwise. He continued by describing the elevational style to be adopted:

"It is proposed to be plain and simple in the Grecian style of architecture as best suited to the massive nature of the materials of which it would necessarily be

constructed". (64) The fact Reid issued a description of the elevational treatment of his design would suggest he had not produced elevations. If he had, there would have been no need to issue a description of the architectural style as the elevations would have been self explanatory.

Reid planned the main H block of the college on three floors to make full use of the awkward site at Broad Street. The site was not only long and narrow there was a considerable drop in level between Broad Street and North Street. The absence of levels on Reid's surveyed site plan makes it difficult to assess the condition of the site - was it an evenly graded slope or did it drop sharply? Fig.[78] These site difficulties are not so apparent when Simpson's earlier drawings are examined. From the number of external steps shown on Reid's drawings, the difference in level between the upper and lower courts would be in excess of 16ft. (5.02m). The finished levels of the upper and lower courts would be achieved during site works by cutting and filling in order to create the desired effect. The two side wings which formed the sides of the upper court were restricted to two storeys and were linked to the portico of the main building by means of quadrant colonnades. The plans provided by Reid show the accommodation to be as follows:

- Lower Ground Floor: The east wing of the H block housed a large chemistry classroom capable of seating 150 students, plus two chemical laboratories and ancillary storage. The Public School 80 ft x 35 ft with columnar screens at either end occupied the central wing with two classrooms on either side of the lobby with access to the ground floor. [Fig. 100]
- Medical Wing: A separate building is shown at the North Street end of the Lower College Court isolated from the main building as directed in the brief. Surgical and Anatomy classrooms, theatre and preparation rooms on the ground floor. The upper floor was fitted out for use as an anatomical museum.
- Ground Floor: The plan arrangement is similar to the lower ground floor; the Public Hall 80 ft x 35 ft is immediately above the Public School, again with columnar screens at either end which gives access to the Library with reading rooms and librarian's room. Classrooms are on either side of the main entrance hall 34 ft x 30 ft with access to the stairs [Fig.101].

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Simp's drawings

- First Floor:** The museum 80 ft x 35 ft completes the central wing and gives access to the galleried upper floor of the library. A divinity classroom and Principal's room are placed on each side of the galleried upper entrance hall. [Fig. 102]
- Classroom Wings:** Each block has two classrooms on both ground and first floors; access stairs are at either end of the block, plus closets and storage space. These classroom wings are linked to the portico of the main building by means of quadrant colonnades.

In presenting his estimated cost of £36,000, Reid, acknowledged the cost could be reduced considerably by "omitting the columns and porticos". (65) Reid only spent two days in Aberdeen and he must have had assistance to be able to report on the condition of both colleges plus carrying out a measured survey of the existing site and building at Marischal College. In his report on King's College, Reid stated that the present buildings required very little work to keep them in good repair. He estimated £5,850 was required to alter the south building to accommodate the library. On 15th April, 1834 Reid's plans were examined and unanimously approved by the Senate of Marischal College. The plans were "well adapted to the site" and did not exceed the accommodation required. (66) The following month Reid submitted his Report with plans and specifications to the Lords of the Treasury.

Reid's estimated figure was far in excess of the amount of money at the disposal of the Lords of the Treasury. They decided that Marischal College "had the most urgent" claim to a share in the unspent portion of the £30,000 allocated to the Scottish Universities in 1826. (67) This decision was taken after they had studied Reid's report along with the Memorial submitted to them by the Senate and the urgent representations of Alexander Bannerman M.P., Lord Rector of the University. As we have seen Bannerman experienced difficulties in his negotiations with the Treasury, meeting stiff opposition from Andrew Johnstone M.P. for St. Andrews and Dr. Cook. St. Andrews University were pressing for additional funding to complete their buildings which were in an equally bad structural condition. The Treasury accepted Bannerman's submission that St. Andrews had already received their fair share of grant aid, albeit not for a new college but for repairs, free of any obligation to raise public subscriptions. They also considered the 1831 Report of the Royal

Commissioners who considered the buildings of Marischal College to be dangerous and unfit for use. On 24th June, 1834 the Treasury allocated to the College £15,000 plus accrued interest which amounted to £17,400. The money would be issued to the Chancellor and Rector of Marischal College, the member of Parliament for the city and the Provost and Dean of Guild. The money was granted on condition that:

the additions [money] which you can confidently expect to raise by subscription to erect new buildings containing the requisite accommodation not inferior in extent to those in the sketches of Mr. Reid ... and subject to the approbation of their Lordships as to the plan and site ... give such guarantees satisfactory to their Lordships for executing the undertaking within five years. (68)

What was not conditional was the continued employment of Reid as architect, who it would appear, had not made a good impression while in Aberdeen. Reid was fully aware that his Department did not have an automatic right to public commissions and he must have been disappointed despite the groundwork undertaken by his staff at Aberdeen that the commission was again being withheld. No documentary evidence has been found as to why or by whom this decision was taken to dispense with the services of the Scottish Office of Works. According to G. M. Fraser "the way was now clear for Archibald Simpson to proceed with his designs and on receiving definite instructions he seems to have entered on the work with enthusiasm". (69)

The Senate sent a Memorial to the Lord Provost on 12th July, 1834 outlining the conditions under which the Treasury were prepared to give financial assistance to the College. The Town Council as patrons of professorships and bursaries at the University, were being asked to indicate their continued support. By donating to the subscription fund their action would hopefully influence other subscribers. (70) Simpson had revised and reduced Reid's estimated figure to £28,800 and by producing his own scheme he further reduced the cost to £25,200. These amended figures did not include an improved access to the Broad Street site. By using Simpson's design the figure required to be raised by public subscription would be under £8,000. The Town Council, at their meeting on 11th August, 1834, unanimously agreed to subscribe 1,000 guineas to be paid in yearly instalments of 200 guineas. (71) The Chancellor, the Duke of Gordon, gave £500 with the Principal and Professors contributing between them just over £520 and by the end of

September £4,000, half the required amount, had been pledged.

Bannerman, the Liberal M.P. for the city, along with Mr. Oswald M.P. for Glasgow, introduced a Bill into the House of Commons in June, 1835 to implement the recommendation of the Royal Commissioners' 1831 Report to unite both King's and Marischal Colleges within one University. What was even more inflammatory was the proposal to locate the new University in the new town, with the site and buildings of King's College being sold off to provide additional revenue for further building behind Broad Street. The Bill was also seen as an attack "on the corrupt Tory corporation of the Senatus of King's College" and their age old church connection with higher education. (72) The repercussions were immediate and bitter. The Senate, the established church - the northern ministers in particular - landowners and schoolmasters showered the government with petitions. Such was the furore, subscriptions almost entirely ceased and those who had already pledged support, refused to honour their obligation if the Bill became law. In face of this opposition Bannerman withdrew his Bill in favour of a less contentious one, however, the damage had been done. The fund raising so necessary for the rebuilding programme never regained its momentum.

Lord Melbourne, the Prime Minister, introduced into the House of Lords, his Bill which dealt with the reform of all the Scottish Universities, leaving much of the detail to be decided after it became law. This included whatever form a union between the Aberdeen Colleges might take. Any University Reform Bill proposed by a government believed to be anti-church, promoted a similar reaction to Bannerman's Bill and it likewise was prudently withdrawn. A Commission was set up in 1836 - 37 to secure a union between the two Aberdeen Universities with Bannerman as one of the Commissioners. Because of the opposition to his own Bill he accepted that a less radical approach was required. A more temperate solution was attempted by the Commissioners who recommended the four faculties of Arts, Law, Divinity and Medicine be combined. Divinity was retained at King's, with Law and Medicine at Marischal and Arts classes held at both, thereby retaining both teaching establishments. King's adopted a policy of non co-operation and were again supported by the local landlords and presbyteries. Confrontation was avoided by a change of government in 1839. Robert Peel's new Tory administration adopted an

equally confrontational position with the Established Church of Scotland which led to the Disruption of 1843. Any further attempt at University reform would have aggravated an already tense situation. The only result of the 1836 -37 Commission was the withdrawal of King's from the joint Medical school which had been set up with Marischal College in the 1820s. Both Colleges were to struggle on single handed to maintain their buildings as best they could with their limited resources. Lord Cockburn made a telling observation on the question of the Union of the Colleges when he wrote: "It is vain to speak of anything so reasonable to either of these two parties, each of whom would rather see its favourite establishment and science besides extinguished than yield to each other". (73)

According to Dr. Knight, by January, 1836 Simpson's plans and sketches for Marischal College's replacement on the present site drawn in 1834, were resuscitated. The drawings were re-examined and shown to the medical professors and approved by the College. (74) Simpson had produced two sets of plans economically designed with the same identical Gothic frontages. The internal arrangements varied slightly in regard to two classrooms and the length of the side wings. Dr. Knight and Dr. Cruickshank were appointed to liaise with the architect on small amendments the Senate wished to be made. The design Simpson produced abandoned Reid's centrally placed H-block substituting it with a T-shaped wing. One important change had taken place in the planning of the building, the Medical School was no longer housed in an ancillary building and had become an integral part of the main College. In total, sixteen classrooms were provided plus professors' rooms, apparatus rooms and administrative offices. The working drawings prepared by Simpson in June 1836 provided the following accommodation:

Lower Ground Floor:

The leg of the T contained a dissecting room, scullery, stair to upper floor and two Professors' rooms, linked to the anatomical and chemistry lecture rooms. The surgery, chemistry laboratory and medical lecture rooms were housed in the main wing. Coal storage vaults and furnace rooms completed this floor.
Fig.[103]

- Ground Floor:** The upper part of the dissecting room, anatomical museums and Public school completed the leg of the T. Latin, Greek and materia medica rooms, with storage and Professors' rooms situated in the main wing. The main entrance tower with vestibule and main stair gave access to the first floor. Immediately on either side of the entrance tower an arcaded cloister gave entry to the classrooms; stairs at either end gave access to the side wings. Fig.[104]
- Principal Floor:** Public hall immediately above the public school. The library and museum are at right angles to the public hall and dominate this floor. Ancillary rooms are off both the library and museum. Fig.[105]
- Classroom Wings:** The side wings provide classroom accommodation on two floors. Access stairs are placed centrally and adjacent to the main building.

The finally executed ground floor plan shows the west wing amended to include the medical school. Fig.[106] The main public areas had ceiling heights in excess of 32 ft. as shown on the sectional drawings. Figs.[107,108] Simpson had broken with the closed quadrangle design favoured by Robert Adam and William Playfair at Edinburgh University (1819-27) and John Smith at King's (1825-32). Reid had submitted similar open-ended designs for Edinburgh and St. Andrews Universities and Marischal College. The open-ended court was a continental innovation which became increasingly fashionable. Two later Scottish examples were David Rhind's Daniel Stewarts Hospital (1848-53) and David Bryce's Fettes College (1846-70), both in Edinburgh.

The planning of Marischal College could have been loosely based on William Wilkin's University College, London, the plans of which had been published in 1826. Poles apart in style, Wilkins favoured the classical Greek Revival style of architecture while Simpson's Marischal College was unquestionably English Collegiate. A feature of these large scale educational institutions was a trend towards the picturesque architectural styles used in country house design producing a symmetrical arrangement albeit on a much larger scale. Key examples of this movement were William Burns, Madras College at St. Andrews (1832 - 34) and William Playfair's Donaldson's Hospital in Edinburgh (1841 - 51) and of course Simpson's Marischal College. An undated plan and sketch produced by Simpson shows that he intended to have closed his quadrangle with an open arcaded screen.

The screen and central gateway surmounted by a smaller version of the dome topped bellcote towers of the side wings replicated the arcade on either side of the entrance tower. Fig.[109] The idea of such a screen was probably a non starter from its inception as the chances of removing the old mediaeval church of the Greyfriars was unlikely. Again he probably got the idea from Thomas Rickman's screen at King's College, Cambridge (1827 - 31) or Playfair's earlier Donaldson's Hospital design (1835) where the screen was such an integral part of the scheme

On 30th January, 1836 Provost Blaikie sent copies of each set of plans to the Treasury and indicated his willingness to enter into an indenture or Bond or other agreement which would satisfy their Lordships on the payment of the grant. Bannerman wrote in February offering to supply additional information to the Treasury if required. The Treasury Minute of 19th February, 1836 refers to their minute of 28th June, 1834 when the Senate of Marischal College indicated their preference for the accommodation provided in Simpson's plans to that submitted by Reid. Their Lordships at that time were prepared to have approved either set.

Two years later the Treasury were again presented with two sets of drawings and their Lordships indicated they would grant approval after the Senate had made their choice and submitted an estimated cost. They also requested information on how the building would be funded if the allocated monies did not meet construction costs. (75) A plan was selected and Simpson produced a final estimated cost of £26,565 which met with Treasury approval. However they would only release the £15,000 promised after they were satisfied that the £6,000 pledged by the subscribers had been paid. No money would be released by the Treasury until a Bond was agreed with the City Treasurer who would pay any shortfall between the contract figure and the Treasury grant, plus interest and the £6,000 raised by public subscription. It was also stipulated, that when construction costs reached £21,000 a satisfactory progress report was to be submitted by a competent architect. A certificate was required which showed that the amount of the outstanding balance of the contract figure would be covered by the accrued interest. Only then would this money be released. (76)

The strict control imposed by the Treasury was an attempt to ensure building operations would not be delayed due to lack of funds and that the building

programme was completed within the allotted five years. It took several months of negotiations before the Bond between the Treasury and Aberdeen Town Council was finalised. It was agreed if the contract figure was exceeded any surplus costs would be met by the City Treasurer. Music indeed to the ears of the Treasury! On the 23rd July, 1836 the King's Remembrancer was instructed by the Treasury to release the £15,000 held by him. (77) The money was to be lodged with the Aberdeen Bank as would the £6,000 subscribed by the public: "In the name of the Chancellor, the Rector and the member for the City, of the Provost and of the Dean of Guild all for the time being and also of yourself on whom any three to Act". (78) These same gentlemen were appointed Commissioners by the Treasury to supervise the rebuilding of Marischal College and to function as the Building Committee. A special meeting of the Town Council was convened on the 2nd August, 1836 and the Provost confirmed that £21,000 had been lodged in the Aberdeen Bank.

In June Simpson was authorised by Provost Blaikie to prepare working drawings and specifications from the drawings already approved by the Senate and agreed by the Treasury. (79) Trial pits had been dug in early May to ascertain the load bearing capacity of the ground and on the Long Acre side of the site a considerable area of boggy ground was discovered in which traces of timber were found. In the same month plans and specifications were issued by Simpson to those who asked for contract particulars in response to advertisements placed in the Edinburgh and local newspapers. In the absence of detailed working drawings, contractors were informed that the foundations for the part of the building affected by this doubtful area, would be paid at agreed rates for any additional work entailed. Eighteen tenders were returned to the Provost by 30th June but not all contractors had quoted for an all trades contract. The Provost proposed the tenders be opened and the successful Aberdeen contractor was Alexander Rainnie who quoted £21,420 some £5,145 less than Simpson's estimate. (80) At that time this was the largest sum ever contracted for in Aberdeen. It is a somewhat misleading figure as it did not include furniture and fittings for the library, museum, apparatus rooms, heating and lighting, cupolas and observatory, architects' and clerk of work's fees - essential items which had to be included and somehow paid for.

Construction of the new Marischal College 1836 - 1844

A contract was signed by Provost Blaikie on behalf of the Town Council and Alexander Rainnie on the 9th September, 1836. Simpson had been put under a lot of pressure to produce working drawings - approximately sixty - in time to be signed as part of the contract. He was justified in registering his displeasure at not being allowed enough time to produce his drawings. (81) To have achieved this in a little over three months was a significant achievement by Simpson and his staff. In c.1836 Thomas Mackenzie (1815 - 54) the father of A. Marshall Mackenzie (1848 - 1933), joined Simpson as his assistant. Mackenzie had trained under both his brothers, William, City Architect of Perth (1826 -1856) and David, a Dundee architect. Thomas returned to Aberdeen and worked briefly with John Smith before moving to work with Simpson. He moved to Elgin in 1839 and in 1844 became a partner with James Matthews, who had started as an apprentice with Simpson in 1834. Matthews worked under Mackenzie's supervision and it is highly likely both men were involved in producing the drawings for the new Marischal College. (82)

Special instructions were issued to the architect and superintendent of the works by the Building Commissioners. No deviation from the approved plans and specification would be allowed without the consent of all their members. The contract laid down certain conditions which the contractor had to abide by. Primarily the contractor was required to have enough men and materials on site at all times to ensure the completion of the contract within the contract period. (83) This clause was to lead to problems between the contractor and architect over the lack of progress - a not uncommon situation in the building industry then and now. From the outset this contract had several built-in problems which, if they were to be resolved as they must, required a great deal of goodwill from all the parties involved. Of necessity this was a phased development and the restricted access to the site was made more acute by the need to provide a fenced access to the existing college for professors and students. This added restriction to a naturally congested site, created problems for the contractor in finding suitable storage areas for materials. This soon became a source of trouble between them and the contractor. The existing college was to be retained in use until the first phase of the new development was

completed which was to be within "a period of three years from and after the first day of September current". (84) The contract allowed the contractor to retain for his own use, materials salvaged from the demolition of the existing college. Certain items were reserved by the college for future use, which included glass cases and movable presses and furniture, including shelving. Listed items such as the inscription stones and the chimney piece in the Hall were to be carefully taken down and stored by the contractor. Immediate site entry was granted and the contractor was allowed the full use of the ground to the rear of the existing college. Access to this area was via the entrance to the Public School and the south side of the existing building. A passage giving access to the site from North Street, which belonged to the College, was made available to the contractor. Rainnie also had the responsibility of fencing off the site from the street to the satisfaction of the Police Commissioners. (85)

Early work on site was confined to the demolition of outhouses and the formation of a road along the south side of the college garden. Simpson had designed the new college building to make the best use of a difficult site. To achieve the end result, extensive site works were required, made more difficult by the restricted nature of the site and the conditions imposed on the contractor. The contract document stated it would be necessary: "to excavate to embank and cut down the Ground in and about the same where necessary so long as to bring it to the stipulated heights and levels as shown by the said sections and hereafter to metal and gravel the Courts". (86) The sectional drawings Figs.[107,108] give an indication of the amount of site works involved. The absence of a datum line and an existing ground line on the sections makes it difficult to assess how much work was involved but it must have been considerable. Sizes taken at the rear of the building show a difference of 19ft. 6ins between the finished level of the back court and ground floor level. Difficulties were also experienced when the foundations were being excavated and Simpson, in presenting a progress report to the Building Commissioners, stated that: "in consequence of the very unequal nature of the ground which in many places consisted of moss required for security to be excavated to a considerable depth, and extra expense has thereby been unavoidably incurred'.(87) The additional depth and width of foundation added £362.10.6d to the contractor's costs for which he

received payment in January, 1838. (88)

Provost Blaikie, in recognition of his efforts in bringing about the rebuilding of Marischal College, was to have laid the foundation stone on 18th October, 1836. His sudden death delayed the ceremony for another year when a public holiday was declared. The Duke of Richmond, the Chancellor, performed the ceremony and it is said 30,000 spectators thronged the streets. According to Dr. Knight the formalities lasted for one hour with three hundred guests invited to a celebratory dinner. With the exception of Principal Jack, the professors of King's College, regarded as the bitter envious opponents of Marischal College, boycotted the event. Their actions were roundly condemned publicly by their own Chancellor the Earl of Aberdeen. (89) The Aberdeen Herald, in their report on the proceedings, found it difficult to excuse the conduct "of men whose station should make them acquainted with the amenities of society and above this kind of behaviour". (90)

For the remainder of 1836 and through to 1838 steady progress had been maintained in the building of the new college. By 1839 there was growing concern about the contractor's ability to meet his contractual obligations. Simpson asked for a meeting of the Building Commissioners to be called and he gave a progress report to them on 20th September, 1839. The north west portion of the new building due to be handed over on 1st September was not ready, and in his opinion it was unlikely to be ready for the start of the new academic year in November. The situation had been made worse by the professors allowing the contractor to demolish the east wing of the old college thus depriving them of six classrooms. The professors had acted in good faith in allowing this favour as they had been assured they would have access on the contracted date. The Commissioners reacted in the only way they could by issuing a warning to Rainnie pointing out he was in breach of contract and that unless he was prepared to remedy the situation immediately they would not hesitate to invoke the penalty for non-fulfilment of the contract. The situation was aggravated by the fact that the south east side of the college was in an advanced state of construction, at the expense of the rooms required under the contract. Had the rooms in question been ready for occupation they could not have been used because the arcade in front of the classrooms and the back stairs to the court, the only means of access, were not ready either. (91) Rainnie replied by the 3rd

October, refuting he was to blame for the delay in handing over the new classrooms. Claiming that he had had to build flues for the new heating system which were in the vicinity of the back stairs, he gave the following reasons. (a) Because the flues were completed only a few weeks previous and were still green, he could not proceed with the construction of the stair. (b) With regard to the fitting out of the classrooms he claimed he was held up by the indecision of the professors and architect in deciding their requirements, adding he had received instructions for fitting up the surgical classroom as late as 12th September. (c) The demolition of the east wing was necessary to give continuity of work to the masons. Had he stopped them, further delays in completing the building generally, would have resulted. He assured the Building Commissioners that the classrooms would be finished and the arcade roofed before the students resumed their studies. (92)

On 6th October Simpson wrote to John Angus, Secretary to the Building Commissioners in which he registered his surprise at the claims made by Rainnie. To begin with Rainnie had claimed the construction of the heating flues was the main cause of delay which he claimed was nothing more than a spurious excuse. Instructions had been issued regarding the installation of heating flues eighteen months previously. Simpson also pointed out that unprepared stones for one stair only had been on site for a few weeks. All the classrooms were fitted up, the only exception being the surgical classroom which was fitted up to suit Professor Laing who had since been replaced and the new layout had been requested by his successor. (93) From the limited amount of correspondence available, it would appear the contractor was at fault and it is difficult to say otherwise. Simpson and his Inspector must take some of the blame, as his Inspector was constantly on site and must have been aware of the developing situation. It is hard to accept that the architect allowed such a situation to develop without taking appropriate action.

Simpson attended a meeting of the Commissioners on 12th November, 1839 where he presented a progress report on the work carried out at the college. He was satisfied with the overall progress despite the fact the contractor had failed to complete the classrooms and access on time. Progress was as good as could be expected due to the confined working area and long periods of inclement weather. The additional work required in deepening and extending the foundations had taken

up valuable time. The Commissioners were reminded the following essential services had been omitted from the original contract because of the limited time in which it was drawn up. It was imperative a heating and ventilation system was installed in the classrooms prior to them being handed over. A contract was agreed with Mr. Ritchie of Edinburgh to install such a system under Simpson's direction. Flues had to be erected in the walls to correspond with Ritchie's drawings, incurring extra expense in the process. The same system would be used to warm the four main rooms and the side buildings of the court. The total cost of providing this heating and ventilation system was not expected to exceed £1,000. A similar agreement had been made with John Blackie & Sons to provide a gas service and gas fittings to the college at a cost of about £200. Rainnie's contract did not include for furnishings and fittings for the library, museum and lecture rooms. The exact requirements of the professors were as yet unknown and Simpson requested a further meeting with the Commissioners in the following spring. The Commissioners approved the steps taken by Simpson in organising the additional contracts required. (94) It seems surprising that Simpson was able to enter into these agreements to spend additional money without first having had approval from the Commissioners.

Rainnie, in a letter to the Senate dated 13th March, 1840 requested they allow him access to the old college to demolish the north wing. (95) The Senate, while wishing to accommodate him, were unwilling to do so as he had failed to complete the first phase of the new building on time. These classrooms were still unfinished and did not look like being completed for some time. (96) The Senate were not against the removal of the north wing and the central section which was all that remained of the old building. Before giving their permission they required the contractor to agree to certain conditions. (97) Should the north wing only be demolished, the contractor would build at his own expense, a temporary brick gable to protect the central area of the building. They also asked for an assurance that on or before 15th September the rooms lying to the north of the line B-B as shown on the ground plan, would be ready for occupation. This included both floors and the stair of one half of the new south east wing of the college. The contractor would also remove and store the fixtures and fittings from the old building as described on page 76 of the specification document. (98) Mr. Rainnie replied that he was not bound

by the terms of his contract to build the wall requested but was prepared "to afford the requisite old materials" to form a temporary barrier only if the Commissioners paid for the labour and nails. He was not prepared to give further security "for the performance of any portion of the works" and he claimed progress would be impeded if he were denied access to the old building. (99) This would leave him no alternative but to remove his workmen from the site, a favourite strategy used by contractors, then as now, as it immediately transfers blame for future lack of progress from themselves to whoever has caused the delay.

A Memorandum of Agreement was finally agreed between the Senate and Rainnie incorporating the conditions asked for by the Senate on 30th April, 1840. (100) Despite the agreement, progress on site remained slow and John Angus, Secretary to the Building Commissioners, wrote to Rainnie on 10th July, 1840 reminding him of the Agreement he had entered into and his failure to comply with it. He urged the contractor to expedite progress by increasing the number of workmen he had on site. (101) Failure to keep a large enough workforce on site at any one time would appear to be one of the major causes for the lack of progress. Rainnie was seriously over-committed as he was "carrying on so many extensive works undertaken subsequently to his contract for the college". (102) Slow progress on site was not entirely due to lack of labour, there was also a problem over the delivery of windows. Farquhar and Gill, the window manufacturers, in their letter of 10th July, 1840, promised delivery of the hall windows within three weeks with the library and museum windows to follow three weeks later. They could not begin to manufacture the windows for the arcade as they still did not have the finished sizes. (103) The mullions were unfinished because they had been condemned by the architect as being too dark. The contractor had installed the mullions and Simpson was refusing to accept them. No evidence has been found to show how this dispute was resolved other than a note from Simpson to John Angus in which he stated: "I think it will be proper to remind him [Rainnie] officially that he is not attending to the objections given by me at the last meeting of the Commissioners in respect of the windows, no supply of other stone having yet come forward". (104)

Rainnie was summoned to attend a meeting of the Building Commissioners on 15th August, at which meeting Simpson gave a report on the progress made by the

contractor towards the completion of "certain parts" of the college building by 15th September as agreed with the Senate. (105) Simpson reported progress to date and indicated that the conditions agreed by the contractor and Senate had not been met. The stone stairs for the south wing had not been delivered from the quarry despite repeated requests over the past year by himself to the contractor to expedite delivery. The mullions and glazing of the arcade were no nearer completion but if the contractor made a concentrated effort, access could be given to the main stair in the time agreed. He believed this work was to start the next day but the outstanding plasterwork to the stair and lobby could not be finished within the stipulated period. The same applied to the library and museum where the plasterwork would not be dry enough in time to store the articles removed from the old building. Simpson's repeated requests to the contractor to meet his obligations were ignored. (106)

Under the terms of the original grant made by the Lords Commissioners of the Treasury for the rebuilding of Marischal College, Simpson submitted a Report to the Building Commissioners on 24th December, 1840. In his Report he certified that expenditure on the building to date had reached £21,779.9.0d. Work had officially started on site in November, 1836 and had been carried out satisfactorily under his supervision. By December ten classrooms had been built, with the chapel, public hall, library and museum at a fairly advanced stage. The remainder of the building was roofed and only partially finished as was the heating system. Eight lecture rooms were completed, furnished and occupied. The outstanding amount required to complete the building was £8,252.0.0d. A breakdown of these figures is given in Appendix K. Simpson reported that since the contract was signed the cost of materials and wages had risen considerably in Aberdeen. Consequently the cost of work, additional to the main contract, had been calculated using the higher rate. The Report was approved by the Commissioners and Bannerman submitted it to the Treasury asking for the release of "the balance of the money appertaining to the grant". (107)

It would appear that their Lordships did not accept Simpson's Report at face value as they instructed an independent survey to be carried out by the Commissioners of Woods and Forests. William Nixon was delegated in January,

1841 to carry out such a survey and to satisfy himself on the present state of the building. He was to ensure that the work had been well executed, finishing at the stated time and that construction costs had not exceeded £30,000, the figure stated by Simpson. Bannerman, Chairman of the Building Commissioners, would supply additional information as required. (108)

After an initial survey of the buildings Nixon appeared satisfied with the quality of the workmanship. Before making a second site visit he asked for and was given copies of the plans, specification, the original Treasury Grant, the tenders submitted and the contract document. He also required a statement showing the amount spent on the contract to date plus the contracts for additional work. Armed with these documents and any additional information he might receive from the architect, he confidently predicted his Report would be satisfactory. Nixon was told that a further £2,000 had been raised by public subscription. He advised a certificate should be sent to the Treasury indicating this additional money was available. The necessary certificate was issued by Bannerman as Chairman of the Building Commissioners. The Report submitted by Nixon to his superiors in London unfortunately has not been traced but it appears to have been favourably received by the Treasury. Bannerman wrote to the Provost on 14th April expressing his surprise that the balance due had still not been paid, as he had visited the Treasury and had seen an instruction to the auditor of the Exchequer to release the money to the Commissioners. The balance reported by the Queen's Remembrancer held in the Commercial Bank of Scotland amounted to £5,796.18.6d. Bannerman was greatly concerned that they had lost half a month's interest and suggested the Provost write to the Queen's Remembrancer asking for the immediate release of the money. (109) By 22nd April the money had been transferred to the Aberdeen bank and credited to the College Building Fund. The Provost, at the June meeting of the Commissioners, recorded the indebtedness of the meeting to Bannerman for his efforts in pursuing this important matter.

A copy of the Senate Minute held in early June 1841 was read to the Building Commissioners which raised again the continued lack of progress in finishing the building. The architect and contractor were present and both reported on the current situation on site as they saw it. The contractor again promised by the end of

September "the stair and balustrade of the Great Staircase and the window mullions (with the exception of the two oriel windows) should be finished". (110) The Senate complained to Simpson in the strongest possible terms about the contractor's continued failure to complete the work as promised. Simpson was aware of this situation as he had repeatedly remonstrated with the contractor on the need to increase his workforce in an effort to meet his deadline but had met with no response. Simpson wrote to John Angus to ask if he was authorised to employ another contractor to complete the outstanding work. He was referred by Angus to page 89 of the contract document in which it stated that it was the architect's responsibility in such cases to take appropriate action. The ball was neatly back in the architect's court and it is difficult to understand why this course of action had not been considered earlier by Simpson. The architect's reluctance to take such drastic action may have arisen through a conflict of interests as Simpson's Aberdeen Infirmary (1838 - 40) was also being built by Rainnie. In such situations the architect as so often happens, is placed in an awkward position in deciding which contract to prioritise. The only contractor Simpson engaged under the failure to complete work on time clause, was Alexander Fraser. He was asked to complete the outstanding work required at the back court of Marischal College in levelling and spreading gravel for which he was paid the princely sum of £20.10.0d. The effort involved in organising such a contract seems to be out of all proportion to the benefit derived from it. The vexed question of the lack of progress was still ongoing in June, 1842. Angus had again written to Rainnie to warn him of the consequences of not fulfilling his contract. It was pointed out that despite his letter to Angus of 20th May promising early completion, work on site was at a standstill. Rainnie had been repeatedly warned and notified that unless matters improved within fourteen days, work would be given to other contractors to complete the buildings and be charged to him. These warnings had gone unheeded and here again he was being issued with yet another warning. It is unbelievable the amount of latitude this contractor was given as the time for warnings had long since expired.

In January 1843 at a meeting of the Building Commissioners, the clerk reported that he had insured the college against fire to the value of £16,000, the buildings at £12,000 and £4,000 for furniture and fittings for one year, cover to run

between Christmas, 1842 and 1843. The architect was instructed to prepare a specification for "book presses required for the library" and to produce sealed tenders for this work at the next meeting. (111) It was to be another year before the buildings were finally completed and in March, 1844 Mr. Simpson was asked by the Commissioners to make a final inspection of the complete works before certifying the building had been completed according to the contract. He was instructed to finalise all outstanding accounts as the Commissioners were anxious that all matters pertaining to the contract be finally wound up. (112) Simpson carried out his inspection and he reported and certified that the new Marischal College was structurally completed on 3rd June, 1844. (113) Fig.[110] By 15th July the accounts connected with the rebuilding of the college had been audited and certified by John Smith, an Aberdeen accountant. An abridged copy of the accounts is provided in Appendix L.

On 24th September, 1845 fire broke out in the surgical museum which at one point threatened to engulf the library. Fortunately the police, with help from the 87th Regiment, managed to curtail and extinguish the blaze. From the minutes of Marischal College the damage appears to have been relatively superficial: "the mullions and arch of one window and two stones above it also the seating and joisting in the surgery and the humanity classrooms so far as destroyed, and one of the main beams under the humanity classroom". (114) The plasterwork of the ceiling and part of the walls, painterwork in the library and a cistern in the surgical museum completed the list of damage. The Fire Insurance claim amounted to £400 and was thought to be a fair assessment of the replacement cost. In the aftermath of the fire Simpson was unavailable and the Senate engaged John Smith to vet the specification produced by the insurers, to make sure it covered all the damage. Smith was satisfied all was in order and he advised the Senate to employ tradesmen in whom they had confidence, to carry out the remedial work. (115) It was decided to lay a 3" or 4" water main from Broad Street to the front College Court which it is fair to assume, was to service a fire hydrant. In association with the fire damage reinstatement, Simpson was instructed to fit up the Natural History Museum which had been standing empty. He estimated the cost to be in the region of £1,000 which was more than the college could afford. The Senate applied to the

Treasury in March, 1846 for assistance which was understandably turned down. The Town Council agreed to contribute £100 on condition that the museum would be opened to the public free of charge on certain days. (116)

The final meeting of the Commissioners appointed by the Treasury to oversee the rebuilding of the college was held in the Senate Room on 1st November, 1845. The purpose of the meeting was to wind up the role, given to the Commissioners and Magistrates of Aberdeen Town Council, of overseeing the building of the new Marischal College. The finalised accounts registered a surplus of £819.10.9d which remained at the disposal of the Building Commissioners. The Provost proposed that this money be transferred to the College Locarium Fund for the future maintenance of the college buildings. This was approved by the meeting and a formal Deed of Discharge was agreed which released the Commissioners formally from their obligations to the rebuilt Marischal College.

The Development of King's College 1834 - 1870

Mr. Alexander Bannerman M.P. for the city of Aberdeen, had successfully led strong representations on behalf of Marischal College to the Treasury, for a share of the Royal Grant allocated to the Scottish Universities in 1826. Treasury officials had consulted the information presented to them and on 24th June, 1834 allocated £15,000 plus accrued interest from the fund to Marischal College. This action had used up all the remaining funds the Treasury had at their disposal, a decision which was met with dismay by the University of St. Andrews and King's College. The Senate of King's was surprised that their claim to a share of the Royal Grant had been disregarded. At their meeting on 5th September the Senate decided to submit a memorial to the government. They also invited Bannerman to this meeting to explain his involvement in having such a large allocation of government funding made to Marischal College. According to Bannerman the application was made to the Treasury as a result of being informed that the University of St. Andrews was about to make an application to secure the remainder of the grant. The claims of King's College had been ignored because they had not made a formal application for consideration. Bannerman also presented the Senate with copies of the original Royal Grant of 1826 and Reid's Report concerning the state of the buildings of both colleges. He also included an extract from the records of Marischal College containing the Senate's approval of Reid's plans. (117)

After perusing these documents the Senate of King's would have realised they now had no chance of sharing in the Royal Grant of 1826. They had missed out by their own inaction. Funds were no longer available and the Treasury were unlikely to rescind their earlier decision. In an attempt to rectify the situation they submitted a Memorial - more in hope than in expectation - to the Lords of Her Majesty's Treasury on 13th October, 1834: "that your Lordships will also be pleased to consider the claims of this ancient University, which have been brought before your Lordships by your own architect for aid in completing the buildings - and do therein as justice requires". (118) The Memorial acknowledged the University had received a grant of £2,000 in 1824 on condition it was augmented by public subscriptions. This raised a further £4,000 which allowed the buildings to be put

into a tolerable state of repair but this did not allow for the additional classroom accommodation urgently required. The university architect, when interviewed by the Royal Commissioners, stated a further £15,000 would be required to complete the requirements of this university. This figure included the enclosure of the university grounds and the demolition and rebuilding of four of the professors' manses. It was pointed out that the university was burdened with a debt of £3,500 taken out to finance essential repairs to the buildings. The university had no means by which they could discharge this debt. The 5% annual interest on the capital was paid out of the salaries of the staff. They pointed out they had not pressed their claim when St. Andrews University was given an allocation of money in 1828, as they understood that no monies would be allocated to either college in Aberdeen until the question of union was resolved. This course had been recommended by the Royal Commissioners and was to remain in force until the Report of the Royal Commission had been published, the inference being they had been penalised unfairly by waiting for this Report. To enable such a decision to be reached by the Treasury, Reid the government architect, was instructed by the Treasury in 1834 to survey and report on the condition of the buildings of both colleges. Reid's Report with plans of a new college building for Marischal College was submitted to and approved by the Senate of Marischal College. The Senate stated they had had no communication from Reid nor a copy of his Report and had remained in ignorance of what his proposals were for King's College. One of the major objections to the grant given to Marischal College, was the development plan for the new college which included the medical classrooms as an integral part of the building. This was seen as a direct threat to the control King's College had over the joint Medical Faculty giving an unfair advantage to Marischal College thus diminishing the respectability of King's. The removal of the Medical School from New Aberdeen would have caused inconvenience to both the professors and students. It would have meant the construction of new buildings on a new site, bringing further demands on the Exchequer to provide the necessary funding. The Treasury did not officially reply to the Memorial submitted by the University. Instead they informed the University Chancellor that there was no money available for a grant to be made to King's College. The Senate were made aware of the situation at their meeting on 20th April, 1835 when they resolved to send a

second Memorial to the Treasury. (119)

Their second Memorial reiterated the arguments put forward in their earlier submission. This time however, they referred to the Report of the Royal Commission of Inquiry into the state of the Universities of Scotland. This Report recommended that with regard to King's College: "it would not require a great sum ... for putting the public buildings in the state they ought to be ... such a sum should not be withheld". (120) With such a recommendation the Senate at King's never anticipated the Treasury would have ignored the claims of this University. They still claimed their buildings were inadequate for the day to day running of the university. It was made clear that they were unhappy with the Report submitted by Reid:

Your memorialists have reason to believe that in the Report of Mr. Reid the Government Architect it was stated that the Buildings of King's College would require repairs which are estimated at £5,850. Though your memorialists do not consider the Architect bestowed the same attention to the Buildings of King's College, as was exercised in reference to the interests of the other College. (121)

It would appear the Senate of King's were looking for a scapegoat on which to lay the blame for their own lack of motivation and leadership. By inferring Reid's Report was biased towards Marischal College and as such was acted on by the Lords of the Treasury, this gave the Senate of King's grounds for claiming unfair treatment. This, the Senate believed absolved them from some of the blame in losing a share of the original grant. In his Report Reid expressed his professional opinion on the condition of both college properties which would appear to be a fair assessment. The Treasury, in making their decision to provide funding for the new college, had taken on board the Royal Commissioners' recommendation that Law and Medicine should be taught at Marischal College. A proposal the Senate of King's College had chosen to ignore. By attaching the Medical School to the new college it also prevented further dissatisfaction already created within the city, by the proposed union of the colleges.

Treasury officials who dealt with applications from the Scottish Universities for financial aid for their building projects, found themselves increasingly involved in protracted negotiations with the Universities of St. Andrews and Glasgow. In September, 1844 St. Andrews University had successfully negotiated additional funding to complete their buildings at United College. Glasgow University was less

fortunate as the Treasury failed to approve in time, the plans for their proposed move to Woodlands. These negotiations are fully covered in Parts II and IV of this Thesis. During this period of intense Treasury activity the staff and students at King's had to continue using accommodation which, in essence had been in use since 1725. The administrators of King's College had been reluctant to accept change and had steadfastly opposed all attempts to unite both colleges.

By 1850 the Senate of King's College was becoming increasingly worried that the government would force their hand and impose union of not only the universities but the colleges. By this time it was generally accepted that the colleges should be united, although local opposition to such a course of action had not totally disappeared. What really was important was the intention of the government towards union, irrespective of what party was in power, should they decide to push through university reform. In 1854 at the instigation of King's College, negotiations were reopened for a union of the colleges along the lines suggested in the abandoned Act of 1835. Lord Aberdeen had become Prime Minister (1852 - 55) leading a coalition government of both Conservative and Whig ministers. The Prime Minister had supported the unification of the universities since he had served on the Royal Commission of 1826 - 30 and during his period as Chancellor of the University. (122) This support was confirmed when he wrote from Downing Street in October, 1853: "I believe it is generally known that I have for many years been favourable to a well considered project of Union between the two colleges, as likely to increase their own efficiency and respectability as well as to prove advantageous to the progress of education in the north of Scotland". (123) With the support of the Prime Minister, the Senate of King's could be forgiven for assuming that they had a good chance of exerting some influence on the ongoing negotiations. Lord Elcho was appointed the Prime Minister's agent in regard to the union and he wrote to the Senate in December, 1854 when he stated: "I am directed by Lord Aberdeen to state the view which they [Government] take of this question, and the mode in which they would be prepared to deal with it". (124)

The Prime Minister's influence is again in evidence when Lord Elcho wrote to Sir W. Molesworth of the Treasury requesting that Matheson of the Board of Works in Edinburgh be sent to Aberdeen to inquire into the present state and condition of

the college buildings and to report on the alterations and additions he thought necessary to provide suitable accommodation. This report was to be accompanied by "a probable cost of the same in the event of its being at any future time deemed expedient to effect a union at King's College and Marischal College". (125) A report on the basis of a proposed union had recently been prepared by a joint committee of the two colleges. A Memorial by the Chancellor, Rector and Master of King's College was delivered to the Treasury in April 1855, by a deputation sent to London to discuss the state of the college buildings with the government. This Memorial referred to Matheson's visit to Aberdeen in October, 1854 which was authorised by the Treasury in May, when he examined the buildings at King's. Matheson submitted his report to the Commissioner of Works on the 9th January 1855. Included with his report were two drawings marked A7 and A8 which showed the alterations and additions thought necessary in the event of a union of the colleges, irrespective of a new library. The cost of the refurbishment was estimated at £8,200. (126) The drawings marked A7 and A8 do not appear to have survived and as a result there is no way of knowing what Matheson's original proposals were. He also referred to a letter dated 8th February from William Burn, the government's consultant architect in Scotland, who had reported on his design. Burn submitted two drawings with his letter, one of which still survives. There is very little information covering this period and it is not known why Burn was consulted or by whom. Matheson later refers to the improvements suggested by Burn and it is assumed his surviving plan incorporated these suggestions. (127) Fig.[111] This plan, with some amendments, appears to have formed the basis of the finally executed plan.

The Queen's Lord Treasurer Remembrancer was asked by the Treasury to report on the latest Memorial presented to them by King's College in April, 1855. Three areas concerned the memorialists, the state of the present buildings, the need for a special fund for purchasing classroom equipment and the inadequacy of the professors' salaries. The memorialists dealt at some length charting the development of the college from its foundation in 1494 through to Matheson's survey of October, 1854 and his report of January, 1855. They also argued strongly that the buildings of King's should, as in the case of St. Andrews, be taken over and

maintained by the Commissioner of Works. In his report the Queen's Remembrancer did acknowledge that in his opinion King's College had been unfairly treated by the Treasury. The money spent on the maintenance of the buildings was under £70 per year. He doubted if there was any reason why King's College could not be placed under the charge of the Commissioner of Works as in the case of St. Mary's and St. Salvator's at St. Andrews. (128) Nothing had been done to prevent further deterioration of the buildings and he wrote that:

It does seem unaccountable that the whole of the £30,000 also granted out of the Hereditary Revenues in 1826 for repairing each of the universities whose buildings are in a dilapidated state, should with accumulated interest have been afterwards expended on Marischal College, Aberdeen and on the Colleges of St. Andrews to the exclusion of King's College, Aberdeen. (129)

He was of the opinion it was inappropriate to refer to the other matters raised as the question of professors' salaries had been referred to the government some time ago.

On 18th August, 1855 the minutes of King's College recorded that Matheson had submitted plans to the meeting for their consideration. From the available drawings which are still extant, several sets of elevations show the diversity of architectural styles adopted by Matheson in preparing his proposals for King's College. It is said Matheson was not particularly interested in the increasingly fashionable Gothic revival of the Victorian era but his buildings were always well planned and meticulously detailed resulting from his neo-classical training. The plans would have included all the alterations and additions required to provide the accommodation requirements of King's College. For the first time a new library was included in the design, and it is possible the Senate would have been presented with a choice of alternative schemes. The Senate, after careful examination, approved plans and the meeting agreed that no undue delay should be allowed in carrying these plans to fruition. From the available evidence it is possible the rejected scheme was the neo-Jacobean design. No recognisable plan survives for this scheme, only two undated elevations which show a symmetrically designed building. The quadrangle elevation shows a remarkable affinity with Nixon's United College building at St. Andrews. This design would have been familiar to Matheson as he was involved in the completion of Nixon's contracts at St. Andrews from April, 1848. The southern elevation repeated the window pattern and detailing of the

the quadrangle elevation with the addition of two ogee capped octagonal towers, giving it a much more flamboyant appearance than the St. Andrews building. Figs. [112,113]

The Senate requested Matheson to report on the condition of the professors' manses, some of which were in a very poor condition. It was agreed the college agent would draw up an official request which allowed him to include the manses in his remit. (130) On 17th October a further report by Matheson was submitted to the Treasury by the Commissioner of Works with a request for further instructions. This report dealt exclusively with King's College buildings and the cost of "putting them into a thorough state of repair irrespective of any possible future union between the colleges". (131) Matheson reported he had re-examined the buildings paying particular attention to the requirements of the professors and as a result he produced a set of drawings numbered 1-10. The probable cost of the proposed alterations and additions was given as £11,550. Drawings 1-6 showed the existing college buildings and numbers 7-10 showed the proposed changes, unfortunately not all of these drawings have survived. In Matheson's opinion the western front of the college (excluding the chapel), eastern tower and wing were in a reasonable condition, capable of being renovated and brought up to standard. The south wing, Dr. Fraser's building, was considered to be ill-adapted to academic use and in a dilapidated state unworthy of repair with ceiling heights of only 10ft. 6in, 8ft. 6in and 9ft. and he recommended its demolition. King's College had been disadvantaged for some time through the lack of proper accommodation and the poor state generally of their buildings as had been already pointed out in his earlier report of 9th January, 1855.

The design now submitted with Matheson's report was the scheme approved on 18th August. The plan shows the classroom accommodation and library in a new south wing. Additional classrooms were provided in the area of the public hall. Fig.[114] It was suggested the nave of the chapel could now be fitted up and used as a public examination hall. The new south wing was shown sited further to the south of Dr Fraser's original building. Matheson wrote in his report that this was to increase the area of the quadrangle and now placed the principal quadrangle entrance in the centre, an improvement suggested by Mr. Burn. (132) Fig.[115] The

chosen design was an altogether more ambitious project shown in the style of a Gothic Oxford College. The gabled south facade had a crenellated and buttressed entrance tower with corbelled projecting oriel window over the main south entrance to the college. The ground floor gable bay windows with stone mullions were extended to two storeys where the building was increased in length to include the library at the south east corner. Figs.[116,117] This design blended in well with John Smith's earlier west gable elevation. Moving the new south wing further south was seen as the easiest and cheapest way of providing additional accommodation, as several acres of ground already belonged to the college. The new south entrance to the college was shown on the plan as it was thought this would give a more direct access to the college buildings when approached from New Aberdeen. However, some time was to pass before a final scheme for the restoration and extension of the buildings at King's was agreed to and for work to commence on site.

Matheson made it clear the plans submitted with his report were those seen and approved by the professors at their meeting held on 18th August. It was pointed out that no matter what happened regarding the question of union, the same amount of new accommodation would be required at King's College. With regard to the professors' manses, Matheson had looked at each manse individually and reported as follows: one manse was situated in the existing south wing and if approvals to go ahead were given, one new manse at least would have to be built, or an annual sum in lieu of rent would need to be given to the dispossessed professor. Three of the manses were situated within the College Bounds with the others in the near vicinity. The Principal's House which was on the north side of the chapel, had originally been of three storeys to which a recent two storey extension had been added which contained a drawing room and dining room. The original structure required considerable renovation and the expense involved was estimated at £200. The two houses occupied by the Professors of Greek and Mathematics were relatively new buildings sited very close to the college buildings. These houses were considered to be too small and should be removed from their present situation, otherwise the expense of extending these properties would cost £230. The manse of the sub-principal was at present under construction at a cost of £1,000. The Divinity Professor's manse is an old and interesting building but lacked

accommodation. A new kitchen, study and bedroom with water closet was required to bring it up to standard. These additional works would cost a further £230. Should the Commissioner of Works be instructed to take the buildings of King's College under their jurisdiction as recommended by the Queen's Lords Treasurer's Remembrancer, it would be necessary, prior to incurring any expense in the repair of the manses, that provision should be made for discharging all the debts and liabilities owed by King's College. The total liability of King's College at Martinmas 1854 amounted to £5,441.15.9d made up of £5,145.00.10d being the outstanding loan for repairs on both the college buildings and £296.14.11d on a house in New Aberdeen used as a Medical School. (133)

The following abstract of costs was included in Matheson's report:

New Classrooms

Erecting new Range of classrooms and other accommodation on the south side of the College Court	£6,200.00.00
Converting the present Public and Examination Hall into classrooms, including necessary repairs and additions	£ 800.00.00
Apparatus, Fittings and Furnishings	£ 700.00.00
Repairing the Chapel and eastern portion of old building, painting and new heating apparatus	£ 500.00.00
Forming ground, constructing common sewer, drains, boundary walls.	<u>£ 380.00.00</u>
Expense of new classrooms	£8,580.00.00

New Library

Erecting Library including new cases and relative works	<u>£2,420.00.00</u>
	£11,000.00.00
Add 5 per cent for incidental charges	<u>£ 550.00.00</u>
	£11,550.00.00

Signed Robert Matheson

Office of Works, Edinburgh 17th September, 1855. (134)

With the passing of the University (Scotland) Act, 1858 the government finally abandoned the controversial grant aided system for providing financial aid for public buildings. The care of university buildings now became a public charge under the control of the Commissioner of Works. The provision of financial backing for new projects still remained the concern of local enterprise and initiative, two good examples at this time being the new medical schools in Edinburgh and the removal of Glasgow University to Gilmorehill. Despite the drawings produced by

Matheson for the refurbishment of King's College, no approval to proceed would be forthcoming until 1859.

The Office of Works wrote to the Treasury on 30th March, 1859 and stated that since it had become necessary that the works at King's College should be proceeded with, a difficulty had arisen "from the want of funds". (135) This shortfall was as a result of the decision taken in committee when the estimates for Royal Palaces and Public Buildings for the year 1856 - 57 were presented to the House of Commons in their standard form. The committee decided the system originated by the Treasury should now be withdrawn and remodelled. The immediate result of this change brought about an end to the Office of Works old running account from the 31st March, 1857. This change was implemented by parliament without first ascertaining if the funds in hand were capable of discharging the outstanding liabilities due against this account. The government made no provision to cover any deficiencies which may have arisen. The accounting system in operation before March, 1857 was in much need of an overhaul. Prior to this date money for the repair of Royal Palaces and Public buildings was voted in a block by parliament and credited to the Office of Works. The money was held in a cash account which led to outstanding liabilities appearing which varied considerably accounting for more than a quarter of the aggregate annual outlay. This running account did not allow the Board to present accurate figures of the current balance held at any given time, due to money still owing for current works for which no accounts had been received. The lack of a methodical system of book-keeping which recorded the authorised spending of the Board had further complicated matters. All they could ever give was a very rough approximation of their immediate liabilities. Since the introduction of the new accounting system, accurate figures showing the credit and debit balances held by the Board were now readily available. In 1856 - 57 a sum of £6,000 was allocated in the estimates of that year for the repair and additions required at King's College. The intention was to allocate a similar sum in the estimates for the following year. This had not happened as no building work had been carried out. This money was part of the balance held in the old running account in March, 1857 and due to the liabilities of the Board this balance was reduced to £1,000. This left a deficiency of £5,000

against the money originally earmarked for King's College. The Board admitted there was no easy explanation as to how long this shortfall had existed and it was thought it had arisen:

from the want of a proper adjustment to the Parliamentary Grants to the actual outlay for the services in question during the long continuance of the Account, which was not brought to an actual balance including liabilities for more than a quarter of a century. (136)

It was suggested by the Office of Works that the Board could apply for a fresh vote by Parliament for £6,000 and surrender the balance of the old vote to the Exchequer, provided it was not subject to any further liabilities. Alternatively the £1,000 balance in the old account could have been used and supplemented by £5,000 being inserted in the current year's estimates to make up the deficiency. The second option was not considered as it might cause embarrassment should it be found the original account had still undischarged liabilities. The Commissioner of Works, subject to Treasury approval, proposed inserting in the estimates for 1859 -60, £6,000 to cover the cost of the work proposed at King's College. (137) The Treasury replied in April, 1859 pointing out the correct course to take under the circumstances was to have the money voted by parliament in the present year. A new estimate and explanatory statement of the total cost of the proposed work should also be submitted as the plans prepared in 1856 were now before the Commissioner under the Act 21 and 22 Vic. cap83. (138)

No further action was taken with regard to King's College until Matheson received a notification in February 1859, from the chairman of the Scottish University Commission that the Treasury were prepared to release money for the refurbishment of King's. Matheson was instructed to give every assistance to the Commission as his 1856 designs had been returned by the Treasury to the University Commission in March. The Lord Justice Clerk as chairman of the Commission, had stated that the classrooms shown in Matheson's plans of 1856 were "no more than sufficient for the accommodation of the limited university". (139) Matheson attended meetings of the Commission on the 5th and 12th March at which he reported on his recent inspection of both colleges and presumably it was at these meetings it was decided to increase the classroom sizes. This was confirmed in his letter to the Treasury in June in which he states: "that the new classrooms are of

larger dimensions than formerly contemplated as desired by the Scottish University Commission" (140) He was unable to give any indication of how this would increase costs until he had prepared new drawings. It was also known that no funds were available for building work at Aberdeen. The revised drawings were to be submitted to the University Commission in sketch form and approved by them before working drawings were prepared or tenders invited. By May, 1859 new drawings of the amended south wing had been produced, the only drawing to survive being the Tudor Gothic south elevation. It is shown as having an elegant and simply detailed facade, the thirteen bay buttressed elevation had two large bay windows which rose through both floors, forming part of the continuous quatrefoil parapet. Fig.[118] This scheme was presumably abandoned on grounds of cost. The elevations as executed were rather heavier and were something of a compromise having been based on the elevations of the old Public Hall. Figs.[119,120] The two salient square tower end bays each with two large bay windows with piend roofs and crenellated parapets, tend to dominate this elevation, detracting from the finally detailed Tudor style windows. Fig.[121]

In the Autumn of 1859 urgent repairs were needed to be carried out to the buildings of King's College. Henry Fitzroy, the first Commissioner of Works, inspected the buildings of King's with Matheson in the summer of 1859 and the Commissioner personally authorised the repairs. By informing the Treasury of his actions he was at pains to point out these necessary repairs would not interfere with the proposals to enlarge the fabric or prejudice the question of union now before the Privy Council. (141) A general specification of the repairs required was prepared and tenders invited by Matheson with Mr. McAndrew a builder in Aberdeen being awarded the contract. In September Matheson reported to the Treasury that the contractor had found the timbers of the chapel roof badly decayed but were considered repairable. The timber ceiling of the chapel was badly affected by damp and required to be completely renewed. This work was carried out, keeping disruption to the classroom areas to a minimum, at the same time providing the increased and improved library accommodation as described in the specification. (142) Without a copy of this specification there is no way of knowing what these improvements were.

There do not appear to be any records still in existence of the major renovation work which took place at King's College between 1859-63. The contractors engaged to carry out this work are unknown and the new library which had been included in Matheson's earlier 1855 drawings, was not included in this contract. The existing library remained in use until 1870. The amount of the contract can at least be deduced from the letter sent by the Commissioner of Works to the Treasury in December, 1863. This communication brought to the attention of their Lordship's an administrative error in providing financial cover for the King's College renovations. The sum voted by parliament between 1859 and 31st March, 1863 for the repairs and new work at King's College, totalled £13,773.00.00d. The expenditure over the same period totalled £10,071.7.7d leaving a balance of £3,701.12.5d. Out of this balance £3,000 had not been released by the Treasury and the remaining £701.12.5d according to the new arrangement of returning all unspent monies at the 31st March in each year to the Exchequer, was no longer available. It had been understood from the outset that money voted for this project would be required to allow the completion of the works. It was the intention of the Board of Works to apply last session for a revote of the outstanding £3,071.12.5d. Owing to a misunderstanding by an assistant in the Office of Works in Edinburgh who apparently did not understand the new system, only £867 was applied for, leaving a deficiency of £2,834.12.5d. The outstanding claims against the contract amounted to £2,774.14.9d and this sum now required Treasury approval. The Commissioner of Works requested the Treasury to give his Board advanced credit for this sum through the Paymaster General, the money coming out of the Civil Contingencies Fund. This advance could be repaid for by allowing this amount to be included in the Board's estimates for the year 1864 - 65 or alternatively this money could be paid for out of the current year's ordinary vote for public buildings. (143)

The Universities (Scotland) Act of 1858 which united the universities, empowered the Commissioners to arrange the details of the union by their Ordinance of 12th March, 1859. The Commissioners not only decided that the Arts and Divinity classes were to be retained at King's but also the general library of the university. This Ordinance was duly signed by the Queen in Council and became law. The Commissioners reported in May, 1863 that the restoration and extension

of King's College was under way and that the major portion under construction had been agreed by the government in 1858 before the unification of the colleges. The new accommodation agreed to at this time consisted of the new classrooms and the new library. The union of the colleges made it necessary to modify the plans to suit the united colleges and the Commissioners regretted having to be informed by the Senate in November, 1862 "that a delay was then apprehended in the execution of part of these plans". (144) This appears to refer to the omission of the new library and their report continued that it was essential a new library should be provided as soon as possible. The amount of books now held by the university outstripped the available space provided in the ante chapel. When the Treasury authorised the expenditure for the renovation of King's they had stipulated an additional £3,250 be raised from other sources. This money was to be used in part liquidation of the outstanding debt on the university buildings and was raised by public subscription. Many donations were made on the understanding that new library accommodation would be provided. This finally put an end to the unseemly use of that part of the chapel and would "allow one of the few ecclesiastical monuments of Scotland to be returned to its original purpose". (145)

The following year in November, 1864 Earl Russell, the Rector of the University received a Memorial from a representation of Graduates, Members of Council and Alumni of the University. The memorialists believed an application for a public grant was about to be made to parliament for the building of a new library at King's College. They requested a full enquiry be held to ascertain if this was necessary as they were of the opinion there was sufficient room at Marischal College for a library. Access to a library here would be more convenient for both members of the General Council and students as the majority were residents of the city. The General Council were in favour of the library being located in Marischal College but the University Court were equally divided on this question, which was resolved by the casting vote of the Rector. They respectfully made their representations to Lord Russell as a member of Her Majesty's government to request a full enquiry. This would allow the views of the graduates, members of the university and students to be considered before any application for a public grant was laid before parliament. (146) Lord Russell had no intention of delaying the public grant application as he

wrote to Mr. Gladstone on 16th November, 1864: "Notwithstanding the enclosed memorial ... I wish you would put in the estimates an item of £6000 for a new library at King's College. There is ample space at King's College which I can say having gone over the ground on Saturday". (147) He added a postscript: The Commissioners under the Universities (Scotland) Act p.xxi recommended King's College.

The question of the siting of the new library was discussed at a Senate meeting held on 10th December, 1864. The motion before the meeting to site the new library at King's College defeated the amendment to transfer the library to Marischal College by eleven votes to eight. The secretary was instructed to send extracts of the minute to the Treasury, Chancellor and Rector of the University and the University Court. In his accompanying letter to the Duke of Richmond it was noted:

that it would not be too late to have a vote for the completion of the buildings in this years estimates. It is of great importance that no time should be lost in endeavouring to obtain the favourable attention of the Treasury to the Representation, as there is a great danger of its being thrown aside and neglected. Unfortunately we can do little if anything in the meantime but if your Grace as Chancellor were to ask Lord Russell to cooperate with you in influencing the Treasury, I have reason to hope you could be successful ... It is desirable that the influence of your Grace and his Lordship ... be brought to bear at once before the estimates are finally settled ... I have the best grounds for attesting that the number of persons who have any hope or wish to impede the completion of the buildings is by now no means great, although I am sorry to say that number still includes a few members of Senate ... Their is some danger that the amendment has been rejected it may be indirectly influential in conjunction with the unwillingness of the Treasury to give money for anything, in subjecting us to further delay and suffering. (148)

Both the Duke of Richmond and Lord Russell wrote to the Treasury in support of having the library built as soon as possible. Their efforts to have the new library building approved by the Treasury were in vain, the reasons behind the Treasury's refusal to sanction the new library are not known.

The question of the new library was again raised in early 1868 when Mr. Carment and Professor Macpherson, two graduates of Aberdeen University, submitted a Memorial to the Treasury. The Memorial questioned the decision taken to build the new library at King's College, and they also requested a copy of the estimated cost. This was an odd request for two private individuals to make as there is no evidence to suggest they held any official appointment. It is possible they

may have belonged to the group who were opposed to the library being built in Old Aberdeen. The matter was referred to the Commissioner of Works who in turn asked Matheson to produce a report and estimated cost. In his reply dated 13th February, 1868 he reported:

that the plans of the proposed library had been prepared by me at the same time as I prepared those for the new classroom accommodation the designs for which were submitted to the First Commissioner of Her Majesty's Works and to the University Commissioners - the probable estimated cost thereof being £5000 but the erection of which has hitherto been postponed from time to time. (149)

Matheson highlighted the continued deterioration of the present library accommodation which no longer coped with the increasing volume of books. The need for a new library was becoming urgent and if their Lordships approved of the new library as he had proposed earlier, he suggested £3000 should be provided in the estimates for the ensuing year.

This report was passed to the Treasury and there is no record of their immediate response. From this point the records dealing with the new library have not been found but approvals must have been given shortly after Matheson's report as the new library was built during 1868 - 70. The new library was constructed at right angles to the east wing of the quadrangle which had formerly housed the Public Hall, and across what had been the old kitchen courtyard. Matheson's floor plans of the new library appear to be missing. Fortunately W. W. Robertson (1845 - 1907), Matheson's successor, further extended the library in 1881 - 84 and his ground floor plan included the original building. This shows the library designed in the form of a 'T'. Fig. [122] The original sectional drawing by Matheson marked No.10 provides contractual information and it was one of the drawings referred to in the original contract between Her Majesty's Commissioner of Works and the contractor. This drawing was signed by John Manners for the Commissioner of Works and David Macandrew, builder, Aberdeen and George Brown, auctioneer, who stood as surety for Macandrew. Unfortunately the drawing is undated. Fig.[123] The galleried interior of the library measures 144ft. x 30ft. and provided the much needed storage space to house the books. In his design Matheson retained the best features of the former library by recreating the original barrel-vaulted ceiling. In so doing he produced an environment suggestive of the old chapel. Fig.[124] The south

elevation of the library with its full height projecting square bay windows are no longer visible, having been swallowed up by subsequent extensions. The same fate befell the large late Gothic four light window which was a feature of the eastern gable.

Between the completion of the restoration of King's college in 1862 and the building of the new library in 1868 - 70 Matheson was involved with the repairing of professors' manses. The professors, who occupied the manses at 50 and 52 College Bounds, had to be satisfied with relatively modest alterations, despite the recommendation made by Matheson in 1855 that their manses were inconveniently small and should be enlarged. (150) In July 1866 the Principal wrote to the Treasury complaining about the dilapidated state of the Professor of Theology's manse, and asked if the plans prepared by Matheson in 1855 included residences for the professors. This was not the case but the Treasury agreed in this instance to a new manse being built. The Principal was informed that £85 a year would be allowed to provide temporary accommodation for the Professor of Theology during the period his house was under construction. A sum of £1885 was allowed in the estimates of the Department of the Commissioner of Works for the year 1867 - 68, to cover construction costs and the rent of alternative housing.

A plan and specification was prepared by Matheson and tenders invited. Five contractors returned completed tenders with prices which varied from £2095 to £2380, the lowest returned being that of Adam Mitchell, Builder of Mount Pleasant, Aberdeen. His quotation was above the original sum allowed and this was explained by a recent increase in the wage rates of labour in Aberdeen since the original estimated figure was produced. (151) The Treasury instructed the acceptance of Mitchell's tender in December, 1867 and agreed to insert in the estimates of the Department of Works for 1868 - 69 the difference between the tender figure and the original sum. An additional sum of £120 was included to cover the cost of superintending the work and contingencies. (152)

The Commissioner of Works asked the Treasury in February, 1869 to sanction the sale of the house formerly occupied by the Professor of Theology. It was always the intention of the Office of Works to dispose of this property, after the Lord Advocate and other Counsel had confirmed the validity of the title.

Treasury approval was given to hold the sale and the house was sold by public auction in early March, with proceeds paid direct to the Exchequer. (153) The surviving elevational drawing of the new manse marked No.2 was one of the undated signed contract drawings. It shows a substantial villa designed in the French Gothic revival style, characterised by its robust detailing. The steeply pitched roofs with elaborate cast iron cresting, dormer windows and wavy edged barge boards, suggest it was designed by Hippolyte Jean Blanc (1844 - 1917) a young assistant in Matheson's Department. Fig.[125] Blanc was known to have worked at King's College in the 1860's. It was a rather heavy foreboding building dominated by a square tower over a small pedestrian type porte-cochere with adjacent circular tower corbelled out from the face of the building. The corner bartizan type oriel window at first floor level on the west side of the house was supported by a squat engaged shaft. The size and scale of this manse must have rivalled the mediaeval university chapel as it was built relatively close to it on adjacent ground to the north. A photograph taken c.1913 published in *Crown and Gown* by Jennifer Carter and Colin McLaren shows the New King's teaching building opened in 1913 dwarfed by this manse. (154)

Notes: Renovation and Rebuilding at King's and Marischal Colleges

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Part Four : Removal of the University of Glasgow to Woodlands Hill

Proposed move to Woodlands 1845 -49

In 1845 the University of Glasgow occupied a 17 acre site on the east side of the High Street. The grounds extended eastwards towards Hunter Street and on the south it was bounded by the New Vennel and Blackfriars Church as shown on the plan engraved expressly for the Post Office Directory of 1848-49. Fig.[126] The University Buildings had been built in phases between 1630 and 1660 and were built round two courtyards in an arrangement similar to one of the Cambridge colleges. Like Heriots Hospital in Edinburgh (1620-1659) it was constructed in the Court style of the Royal Master of Works, Sir Anthony Alexander. The stylistic resemblance to his father's Argyll Lodging (1632) in Stirling is quite marked. At Glasgow the larger inner courtyard measured 103ft.0in x 83ft.0in and was built between 1630-1639 on open ground to the east of the original building, John Boyd was the master mason in charge. He had built Glasgow Tolbooth in 1626 and it can be argued that he was the man who introduced the Court School to Glasgow. Between 1654 and 1660 the north and south sides of the outer quadrangle 83ft.0in x 42ft.0in were added. The particularly fine frontage some 285ft.0in in length facing the High Street was built in 1659 by John Clark. Fig.[127] Writing in 1662, John Ray considered: "Its pretty stone buildings not inferior to Wadham and All Souls College at Oxford" (1). The conical and prismatic roofs, polygonal oriel windows similar to Heriots, the carved pediments and clock tower all highlight the influences common in north European architecture rather than resembling those of an Oxford College.

By the nineteenth century accommodation had become so acute that forty students were housed in the 140ft.0in high tower which rose above the range of buildings which separated the two courtyards. Only a relatively small amount of accommodation was used for teaching. The bulk of the building consisted of student accommodation and professors' houses. Similar problems regarding the state of the buildings and student accommodation were evident at St.Andrews University prior to Robert Reid's rebuilding and alterations carried out between 1829-31. The

accommodation problems at Glasgow contrasted sharply with those of the tower house lodgings provided at King's and Marischal Colleges in Aberdeen. The student population in Glasgow by 1845 was in excess of a thousand students. The fabric of the buildings had suffered from the ravages of time and lack of adequate maintenance, a situation common to the Universities of St. Andrews and Aberdeen. The political philosophy of the time believed that all enterprises should be self-supporting and able to pay their own way. The thought of handing over public buildings to a central authority and becoming a fixed charge on the government subsidised by the taxpayer, was akin to heresy. In the decade between 1825-1835 comparatively little had been spent from the available fabric funds (2). Another problem facing the College administrators was the location of the University. In its early days it was situated on the edge of the city surrounded by gardens and open fields. The rapid expansion in the nineteenth century of industrial and commercial enterprises had resulted in the merchant houses of the High Street becoming lower class housing, being overcrowded and insanitary. They surrounded the University and it was thought unfitting that students should be taught in such an environment. Such were the problems facing the Principal and members of Faculty in 1845.

The Removal Act

It is noted in the Faculty Minutes dated 29th August, 1845 that earlier in the month Knox and Finlay, agents for the Glasgow, Airdrie and Monklands Junction Railway Company, had approached the Faculty with a view to purchasing a strip of ground some one hundred yards wide on either the northern or southern boundaries of the University grounds. This would run to the High Street on the west and would allow the Railway Company to construct a railway line with a terminus in the High Street. However, if the College agreed to sell at a reasonable price, the Railway Company would recommend to their directors that they would make an offer for the whole site. The Faculty did not reject the offer out of hand and appointed the Principal, Dr. Macfarlan and Mr. Maconachie to consider the offer and meet the Railway Company (3).

The year 1845 was a period of intense speculation in Railway Company investment and the *Glasgow Herald* had warned of the dangers of such widespread speculations in an article which appeared on 14th April of that year. The writer forecasted that a crash was imminent, citing as examples the panics of 1825 and 1836, he continued: "the same would follow the rail speculations of 1845, share speculation in the share markets of London and the provinces had become so intensive that they were far beyond the bona fida means of the speculators". (4) This warning was prophetic as events turned out, in the case of Glasgow University's proposed move to a new site at Woodlands.

By November negotiations between the University and the Railway Company had progressed and the original proposal was changed to one of exchanging the existing lands and buildings of the College for new lands and buildings on a site to be provided elsewhere. A letter from Mr. Knox, the Railway Company's agent, was laid before the Faculty of the University at their meeting on the 7th November, 1845, which referred to the ongoing negotiations between themselves and the University. This letter specifically referred to a discussion by the Railway Company's committee on the need for the University to apply to Parliament for the passing of a Private Bill which would allow the exchange to take place. It was minuted that: "In case it may be deemed necessary to give notices for an application to Parliament on the part of

the College for power to sell the College to this company the meeting agree to be at the expense of such notices". (5) The Principal and Mr. Maconachie were appointed to consult with the College agents regarding the type of notices that required to be issued. The issue of notices would only take place if they had an assurance in writing from the Railway Company that the issue of such notices would not bind or irretrievably commit the University to pursue the proposed exchange unless they were satisfied with the terms offered. (6)

Throughout their dealings with the Railway Company the Faculty were extremely careful in making sure that there were no legal loopholes which would incur the College in any liability. Instructions were issued to Mr. Richardson of Richardson, Connell and Loch, the University's London solicitors, regarding the issue of the necessary notices. They in turn, wrote to their Scottish counterparts Messrs. Mitchell, Henderson & Mitchell on the 13th November, 1845 confirming that the notices had been dealt with and the Parliamentary Bill to allow the exchange to take place was to be introduced in the next session of Parliament. Mr. Richardson indicated he was confident nothing would prevent the Bill becoming law, and he further added: "From what I saw even walking up the High Street to call upon the Principal, indicative of vice and destitution and misery in its most abject form. I have concluded an opinion of the impropriety of the present situation of that great institution which I have no words to express". (7) The Act met with fierce opposition in both Houses of Parliament and at committee stage and the opposition was:

offered in the name of one member of the Faculty of the College and of several members of the Senate of the University not members of the Faculty and nominally supported by them, but managed by the Agents and Counsel and at the expense of the Caledonian Railway Company who had vigorously opposed the Act of the Railway Company to whose scheme they had an unsuccessful rival before parliament. (8)

At a late stage in its passage through Parliament the Prime Minister, Lord John Russell, in an attempt to prevent further opposition in the House of Commons, had the following proviso inserted in the Bill under the second section of the statute.

Provided always and be it enacted that nothing herein contained shall ratify confirm or establish or be deemed or taken to ratify confirm or establish the said recited contract and agreement, or any part thereof, until the same and the matters therein contained shall have been enquired into and examined and approved of by

the Lords Commissioners of His Majesty's Treasury nor until approbation shall have been signified in writing to the Commissioners appointed by this Act and published in the Edinburgh Gazette. (9)

This clause was instrumental in causing protracted delays in having John Baird's plans approved. Not all the blame can be attributed to the Lords of the Treasury who most of the time were following their remit and it was because the submissions presented to them for approval were in most instances inaccurate and incomplete.

The almost indecent haste with which the University authorities reacted to the Railway Company's offer makes one wonder if they were blinded by the prospect of moving to a new site with purpose built accommodation at no cost to themselves. They did not appear to have instigated any investigation into the financial viability of the Glasgow Airdrie and Monklands Junction Railway Company. Information on the Woodlands scheme is sparse and a great deal of reliance has to be placed on the Faculty Minutes and a few letters, but there is no evidence that a financial check was contemplated.

Until the Removal Act became law there could be no real progress yet throughout the project there is an underlying feeling of urgency. The only person to suffer from this was the architect. Neither the University authorities nor the Railway Company appreciated that he had to be given sufficient time to produce a design which would satisfy all parties. There was one dissenting voice at the speed with which the Faculty conducted negotiations. Dr. William Fleming's protest is minuted in the Faculty Minutes dated 6th February 1846. The grounds for his protest were that the transfer to Woodlands was affecting not only the governing body but the students and public. He felt negotiations should be carried out with great care and that no steps should be taken until all concerned had been fully appraised. Each step should be deliberated on fully, due to the seriousness of the implied move, he made his protest to: "protect himself and others from the consequences of what he deemed undue precipitation of informal and irregular procedure". (10) He also made it known that he did not agree with the Faculty's decision to bring a Bill before Parliament and dissented from the Faculty's resolution to present a petition to the House of Lords for that purpose, insisting that "he would be free from any consequences following thereon". (11)

By the end of June 1846 the College and the Railway Company had resolved

their outstanding differences and a draft agreement was drawn up. All that remained was for the College Removal Act to become law. Principal Macfarlan received a copy of a letter dated the 6th August 1846 from the Secretary of the Home Department of Her Majesty's Government addressed to the Right Hon. the Lord Advocate of Scotland. This letter allayed the College's fears about the successful passage of their Removal Bill through Parliament, which up to that point, was by no means certain to succeed.

My Lord

I am directed by Secretary Sir George Gray to acknowledge receipt of your lordship's letter of the 30th ult. enclosing a memorial by the Commissioners appointed by the Principal and Professors constituting the Faculty of the College of Glasgow and a petition by the same Commissioners to Her Majesty, praying her Majesty's sanction to a proposal to change the situation of the present buildings of the Glasgow College and to inform your Lordship that the ground will impose no difficulty in the way of the proposed arrangements. (12)

The College Removal Act Vict (9 & 10) cap 43 received the Royal Assent on the 24th August, 1846 less than one month after the Act incorporating the Glasgow, Airdrie and Monklands Junction Railway Company had received the Royal Assent on the 27th July, 1846. The Act authorised the removal of the University to Woodlands and ratified the draft agreement reached in July between the University and the Railway Company. Certain sections of the Act were to have a direct bearing on the events which led to the failure of the proposed excambion between the College and Railway Company being successfully accomplished. The Commissioners appointed under the Act were:

His Grace James Duke of Montrose, Chancellor of the University
Robert Saunders Dundas, Viscount Melville
John Campbell, Marquis of Breadalbane
Very Rev. Dr. Duncan Macfarlan, Principal of the College of Glasgow
Andrew Maconachie Esq. of Meadowbank
Andrew Rutherford, Advocate.

The Commissioners were given wide ranging powers over the final approval of plans and specifications with powers to reject them either in part or in total. They could also instruct amendments to the design as long as they did not exceed the budget figure. After finally approving the plans the Commissioners also had supervisory authority during construction. On completion of the buildings they, with an architect of their choice, were to carry out a final inspection and if satisfied they

shall issue a completion report which would then be published in the Edinburgh Gazette. (13) Only then would the lands of Woodlands, in accordance with the agreement, be purchased by the Railway Company and be transferred legally in favour of the Faculty of the University. The site extended to some 23 imperial acres on which the Railway Company undertook to build new university buildings. The design was to be of a high standard and suitable for such an important building and only the best materials and workmanship were to be used. Accommodation to be provided were lecture rooms, classrooms, laboratories, library and museum plus the usual offices which were to be free of local and parochial burdens. (14)

Out of the Woodlands site a piece of ground of not less than three quarters of an acre was to be set aside for the erection of a church or chapel and housing for the Professors and Principal. This site was to be approved by the Commissioners of Her Majesty's Woods and Forests and an authenticated copy of the designated area was to be deposited in the London Office of Her Majesty's Commissioners of Woods and Forests. (15) This office was to be responsible for appointing an architect to act as arbiter should any dispute arise between the parties as specified under the second article of their agreement. Such disputes would relate to "the costs and expense of executing Building and Works delineated on the said Plans and Drawings and described in the said Description and Specification or Alterations thereof". (16) The role allocated to the Office of Woods and Forests in the Woodlands project was a nominal one but at least they were recognised as being an official body. Who knows how their role might have developed had the Woodlands project gone ahead.

The Removal Act enacted that within two years of the Act becoming law, the Faculty of the College would acquire one acre of ground for the erection of a hospital of 120 beds. The Railway Company would pay for the ground and allocate an additional ten thousand pounds for the erection and fitting out of the hospital plus a further £500 per annum for maintenance costs. (17) This clause was the direct result of objections raised by the medical professors during an early stage of the negotiations with the Railway Company. The medical fraternity demanded that a hospital be built adjacent to the university complex. The distance between Woodlands and the Royal Infirmary to which they insisted students had a right of

resort for instruction, was now too far away, making the teaching of students difficult. Mr. McClelland, Secretary of the Railway Company, wrote to the Faculty on the 5th February, 1846 objecting to the idea that the Railway Company should fund the building of the Hospital. He pointed out that the present University site did not have a hospital attached to it and the feeling of the Railway Company was that the question of a new Hospital was a matter for the citizens of Glasgow. The Company, as a gesture of goodwill, recommended making a payment of £1,000 towards the Hospital. (18) This did not satisfy the Faculty who insisted the Railway Company provide £10,000 towards the cost of its erection. The Railway Company had little room for manoeuvre as they desperately wanted the College grounds and so were forced to concede.

Appointment of the Architect

John Baird (1798-1859), an established Glasgow architect, was commissioned by the Railway Company to prepare drawings for the New University Buildings at Woodlands sometime after August, 1845. "Mr. Baird was you know employed to prepare a set of actual plans in consequence of his acquaintance with the subject and because it was considered that he could in all probability produce such plans within the limited expense and a short period". (19) Little is known about Baird's early life and education other than he was born at Dalmuir, Dumbartonshire. In 1813 Mr. Shepherd, a Glasgow architect, took his fifteen year old nephew on as an apprentice. Shepherd's sudden death in 1818 left the twenty year old Baird in charge. It says much for his ability that as early as 1822 he succeeded in designing and completing Greyfriars United Presbyterian Church with a very correct well balanced portico - his first public building. Throughout his career Baird consistently refused to enter architectural competitions, concentrating instead on building up a thriving practice and achieving a leading position amongst the Glasgow architects of his day. He designed, in a severe Greek classical revival manner, occasionally adapting Tudor styles for church and country house work but by the late 1830's he was also working in a neo-Jacobean manner on some of his domestic commissions.

The evolution of Baird's design for Woodlands may have been influenced by the old College buildings, and by what Playfair had achieved at Donaldson's Hospital in Edinburgh. There were certain design parallels as both architects abandoned their original schemes for twin enclosed courtyards in favour of a two storeyed quadrangular palace block. At this period a kind of neo Jacobean house style of architecture was being used for Scottish University buildings, a style used by Nixon at St Andrews. It is not known whether this had any influence on Baird's choice, the exception being Alexander Simpson's Marischal College in Aberdeen. Baird's approach was straightforward and he produced designs characterised by restraint and a fine sense of scale, coupled with a controlled use of decoration. Within his practice he kept firm control over all aspects of design. With the New University Buildings at Woodlands he allowed himself to indulge in some quite elaborate neo-Jacobean detail producing an imposing and monumental composition.

This was a highly prestigious commission which would be looked on as one of Glasgow's most prominent developments and he probably felt the additional expense was justified.

Baird had experience in all building types from self contained housing to planning and developing green field sites to the west of the city, of which the lands of Clairmont is but one example. In the re-development of Buchanan Street he designed and built the first commercial warehouses and offices, the Prince of Wales Building and Princess Square using details common to his domestic work. These buildings were to the north of his Argyll Arcade (1827), which was one of the first shopping arcades in Glasgow and possibly Britain. His innovative design pioneered the use of cast-iron and glass, the exposed frame carried the hammerbeam roof trusses and the glazed roof over the central promenade. Baird had a good working relationship with the leading Ironfounders at Coatbridge and Gartsherrie which, in turn, led to commissions from the Railway Companies and other Ironfounders. In his latter years Baird, in conjunction with the Ironfounder Robert McConnell, became something of an innovator in warehouse construction. Baird pioneered the use of iron, but Sir Joseph Paxton's iron and glass design for the Great Exhibition of 1851 suggested new possibilities. Although this design had caused a furore of criticism and praise from architects and art critics, the most vociferous were Pugin and Ruskin. Baird applied the same principles as Paxton to his design for Gardner's Warehouse (1855-56) at 36 Jamaica Street Glasgow, which was a four storey building constructed entirely in cast iron which allowed almost uninterrupted glazing. The slim cast iron mullions and round headed semi elliptical arched windows and simple rectangular form gave the building an early Venetian Palazzo character. In this design Baird made a significant Glaswegian contribution to contemporary architectural development.

In the later stages of his career Baird was used extensively as a valuer and arbiter and much respected by all who knew him. Shortly before his death he took James Thomson (1835-1905) into partnership and in 1857 his associates presented him with a portrait painted by Sir Daniel Macnee. (20, 21) It says much for Baird's strength of character that as a much respected Glasgow architect and valuer, he appeared to have stoically accepted the continual scrutiny of his designs for

Woodlands by other architects. Unfortunately he left no papers which might have given some insight into the discussions he had with the architects Charles Barry and Edward Blore.

John Baird's Design Drawings 1845 -1849

On the 17th December, 1845 Mr. McClelland, wrote to the Faculty of Glasgow College enclosing two sets of drawings prepared by Baird. In his letter he stated the drawings incorporated suggestions made by members of the University staff, which indicates that some discussion had taken place on the subject of accommodation required. He was also at pains to stress that they were not a definitive set of drawings and he continued:

It is not intended by placing these plans before you to bind you to the detail of either the elevation or the interior I believe they embody most of the views in regard to the proposed buildings, but should you think that improvements not implying much additional cost can be made on the plans I shall be glad if you will communicate the same to me. (22)

The drawings were made available for inspection and comment by the Faculty and as events turned the Faculty did not regard them as the definitive set of plans. Final approval was not given until 30th March, 1849, three years and three different schemes later. Each scheme was accompanied by much discussion, disagreement and controversy between the University, Railway Company, Commissioners under the Act and the Lords of Her Majesty's Treasury. (23) Having examined the plans, the Faculty at their meeting, on the 13th January, 1846, agreed to the proposal by Mr. Maconachie that a set of drawings be submitted to W. H. Playfair, a leading Edinburgh architect and that he consult with Mr. Baird and the Principal as to any alterations he might think necessary. He was also asked to estimate the cost of the proposed building, however the Faculty's action indicates they were perhaps less than satisfied with Mr. Baird's plan. (24)

It is possible Playfair's life long friend and mentor the former Lord Advocate, Andrew Rutherford, may have had a hand in his nomination. Rutherford had been installed as Rector of Glasgow University in January 1845, and in 1846 he was about to begin a second term as Lord Advocate in Lord John Russell's administration. Rutherford, who was appointed one of the Commissioners under the Removal Act in August 1846, was a man of influence and was reputed to have liked getting his own way. In 1848 he again came to Playfair's rescue during the final phase of construction at Donaldson's Hospital in Edinburgh when it was proposed

to omit the terraces, an integral part of the design, on grounds of cost. Rutherford swept aside all opposition to such a move and the terraces survived. Playfair already held a semi-official position as architect to the Board of Trustees for Manufacturers and Fisheries, generally known as the Board of Manufacturers, a body controlled by the Lord Advocate. It was through this body that Playfair was commissioned to design the Royal Institute on the Mound (1822-26) and the National Gallery in Edinburgh. (1850 -58). In the normal course of events during the preliminary stages of a design it is common practice for the client to ask for amendments to be made. James Mitchell the University's legal representative writing to Robert Knox appeared to be alive to the situation commenting on the very hurried way in which the plans had been drawn up resulting in several objections regarding the accommodation provided. He advised that it would be prudent to remove these objections before submitting any drawings to either the Commissioners under the Act or to the Lords of the Treasury. Perhaps this is the underlying reason why the Faculty decided to approach W. H. Playfair. (25)

Prudent as always, the Principal wrote to the Railway Company asking if they would defray the cost of Playfair's services. This turned out to be unnecessary as Playfair, to his credit, very promptly replied saying that he would not work on another architect's plans. (26) It was also noted that the Professors' Houses were inadequate in the terms of accommodation. Dr. Hill, Professor of Divinity, objected to the house allocated to him on the grounds that he merited a larger house commensurate with his rank in the University. (27) No provision had been made for a chapel and it was agreed that a Divinity classroom if fitted up properly, would serve. Baird was also asked to prepare a comparative statement of the present accommodation provided by the existing Library and Museum in relation to the space allocated in his plans. The Faculty were unanimous that the floor space provided was insufficient and it was suggested to Baird the remedy would be to extend these rooms in the form of a transept. (28) Having considered the need for additional floor space, Baird submitted his report the following day as follows:

"Present library contains 7068 sq. ft. New library without wing projections contains 9168 sq. ft. Present museum contains 7618 sq. ft. New museum on first floor without wing projections contains 7000 sq. ft." (29) Baird agreed to rectify these

faults but his plans were still in an unfinished state at the end of January, 1846. It was at this point the question of the necessity of having a new hospital was first raised with the Railway Company.

In a letter from Mr. McClelland dated 5th February, 1846 in which he writes the Railway Company had no objection to either Mr. Decimus Burton or Mr. Edward Blore revising Mr. Baird's plans "in the manner proposed by you". (30) There is no indication in the records that this request was made by the Faculty nor that either of these gentlemen be employed in this way. In April, 1840 Edward Blore, the Consulting Architect to the government in Scotland, was instructed by the Commissioners of the Office of Woods and Forests to survey and report on the condition of Glasgow Cathedral and he advised on the removal of the western towers. This work was placed under Blore's direction with day to day supervision controlled by the newly appointed Clerk of the Works for Scotland William Nixon. Nixon, as the Office of Woods and Forests' representative in Scotland would have, perhaps, been the logical choice to advise Baird. By the late 1840's Nixon's health was failing and he probably nominated Blore, who with his knowledge of Glasgow, was the person best suited to look after the government's interests.

Anne Ross, writing in the *Glasgow College Courant*, is of the opinion Baird consulted privately with Blore when he was in Glasgow on official business, which was very unlikely. If that were the case why inform the Railway Company? (31) A fair assumption would be that the Faculty, having recently been turned down by William Playfair, was more than likely to have instigated the request and would have no doubt asked the Railway Company to cover Baird's expenses. The whole question as to why the Faculty felt the need for reassurance by inviting other architects to co-operate with Baird, suggests a lack of confidence in his ability. It is clear that Baird had met Blore at some point as he recommended that the floor between the library and museum be arched to make it more fire-resistant. If the Faculty were looking for an architect of some standing to revise Baird's drawings, Edward Blore would more than fit the bill. Although he was never an attached architect with the Office of Works, he was engaged in 1832 by the government to carry out the completion of Buckingham Palace and he had also worked on Windsor Castle and Hampton Court. There is reference to Baird visiting London but no

dates or reasons for his visit are given but it is possible it could have been in early 1846. Baird, in accordance with the Faculty's wishes, had quickly prepared amendments to his original drawings on: "Detached slips of paper which were pinned or wafered to the original plans so as to exhibit both library and museum in the form of letter T and it was understood by members of the Faculty that this was the scheme to have been carried into effect in executing the building". (32) These slips were removed by Baird in London and he was subsequently instructed to include these revisions in his revised plans.

Baird's first set of drawings lettered A-R respectively with specifications were prepared sometime between the autumn of 1845 and late spring of 1846. These drawings and the estimated cost of £75,000 formed the basis on which the College Removal Act and Agreement was drafted. (33) None of these drawings appear to be still in existence. However a ground floor plan clearly marked with the letter D was still available in 1985 when it appeared in a Dissertation prepared by Stella Matko, a student at the Glasgow School of Architecture, who did not list her source. This plan adopted the shape of the letter E with lecture halls and classrooms confined to the side wings. Fig.[128] The main entrance hall flanked by class libraries and entrances to the court behind, formed the main frontage of the building. The central spine housed the library on the ground floor with the museum on the first floor directly above.

From this layout Baird's two subsequent schemes developed. Unfortunately there are no elevations still extant for this design. Baird's elevational treatment of his second and third schemes shows the building to have been designed in the style of a Palace with some Scottish Renaissance features. The four square towers at each corner of the plan with shallow projecting oriel windows, pepper pot bartizan towers and main central tower would suggest Baird's design was strongly influenced by Heriots Hospital, built in Edinburgh between 1629-1659. There are sufficient common features in the plan to suggest the elevations of this first scheme would have been similar to his later designs.

The ground floor plan marked D, dated July, 1846 was signed by John Baird and countersigned by Dr. Macfarlan, Dr. W. Thomson and Alan Maconnachie for the University with John Sligo, Chairman of the Railway Company and Andrew

Rutherford among others, confirming this drawing formed part of the original set which is referred to in clause two of the Removal Act. Anne Ross, in her article states that the plans prepared by John Baird were "put forward at the passing of the Act as a guide to what was required, though they were made subject to alterations. They were not, however, viewed by the College until after the Act was passed". (34)

The evidence shows otherwise because barely three months after the initial meeting between the Railway Company and the College had taken place, further plans were prepared by the architect in consultation with the Faculty. These plans included explanatory notes and a copy of a letter from Baird to Mr. McClelland, again they are only referred to in the Faculty Minutes as having been delivered. (35) The Faculty instigated changes as already discussed and were kept informed of progress. The only persons who would not have seen the plans beforehand were the Commissioners appointed under the Act who had no direct connection with either the College or the Railway Company. Anne Ross also refers to the plans numbered from A-R and suggests that a new set of drawings were prepared when the plans were revised but is prepared to accept that "it was just as likely that there was only one set and that the letters were cut off when the plans were bound as they were when they came into our possession" (36) i.e. the Glasgow University Archives. It is however unlikely that this happened because we have the drawing marked with the letter D which contradicts this argument suggesting that the drawings for the first set were left intact. She continues "these plans show the building as a rectangle facing south east with a block through the centre containing the library and museum". The revised drawings to which she is referring were for Baird's second scheme of which only a few drawings remain.

On the 12th March, 1851 Messrs. Mitchell, Allardice & Mitchell, at the request of Dr. Thomson, Clerk to the Faculty, sent all the drawings in their possession along with the specification and lists of apartments provided. The list included eleven plans for the proposed New College marked A-L and a further six drawings marked M-R which were for the Professors' houses with the specification logged under the letter S. (37) (Appendix M) The elevational drawings prepared for Baird's second and third schemes are drawn to an exceptionally high standard of draughtsmanship and it is worth noting that by 1845 Alexander 'Greek' Thomson

held a senior position in Baird's practice. (38) Thomson was an extremely gifted draughtsman and it is just possible these drawings could be early examples of his skill.

Entry to the College grounds by the Railway Company was conditional on the plans for the New College receiving the necessary approvals. In a letter to the College agents dated 23rd October, 1846 Mr. Knox complained that two months after the College Removal Act became law, drawings to be approved by the Faculty and the Commissioners under the Act, were still not yet ready to send to the Lords of the Treasury. From the reply he received we find that Baird was working on his revised plans, his second scheme, and had only prepared a plan of the classrooms with a plan of the public rooms to follow. Only after they were approved by the Faculty would he begin his elevations, otherwise he could have been involved in abortive work. (39) This is a feature of architectural practice which the lay person then as now fail to understand, just as they fail to appreciate how long it takes to produce drawings. There was another significant factor in the architect's defence - Baird was working with a committee and the decisions which he had to have to allow drawing work to continue were often extremely difficult to get quickly. Something which is soon forgotten when blame is being apportioned for the cause of delays. Mr. Knox's anxiety for his client's welfare was understandable as lengthy delays would make it increasingly difficult for the Railway Company to fulfil their side of the bargain imposed by the Removal Act, by having the buildings completed within the stipulated four years.

There was another reason for Knox's increased agitation at the lack of not having approved plans despite his own refusal to apply pressure on Baird as the Railway Company's Architect. Knox wrote "as to my endeavours to expedite the preparation of them (plans) that is a matter with which I have no concern". (40) At the time there was considerable doubt that the College Removal Bill, as presented to Parliament, would get the necessary support to become law due to the strength of the opposition against it. In anticipation this might happen, the Railway Company had obtained: "an option to purchase within six months of the passing of their Act the Water Company's ground at Duke Street extending to about six acres for the purpose of making a Terminus there". (41) Time was running out for the Railway

Company and a decision would shortly be required on the purchase of the Water Company's ground, placing them in a real dilemma.

Parliament, under the Act and Agreement, had taken steps to ensure the accommodation needs of the College had to be satisfied, prior to any approval being issued by the Lords of the Treasury. In preparing his second scheme both Baird and the Faculty deviated as little as they could from the original plan by trying to keep within the first estimated figure. They also kept in mind the need to satisfy the Treasury and the accommodation requirements of the University. By the end of December 1846 things had moved forward and revised drawings had been lodged with the Faculty. The Professors had been informed that the plans were in the Fore-Hall of the University for their perusal and comments and Baird would be available at his office at 75 St. Vincent Street to give any additional explanations if thought necessary. (42)

During the holiday period a meeting with the Commissioners under the Act, was held in Edinburgh on Monday 4th January 1847, at the Chambers of Andrew Rutherford M.P., the Lord Advocate. The Commissioners present were the Duke of Montrose, Viscount Melville, Principal Mcfarlan, and Alexander Maconachie of Meadowbank. (43) It was agreed the drawings would be sent to the Lords of Her Majesty's Treasury in London for "their interim approbation". (44) Baird had prepared estimated costs which did not exceed the amount stipulated in the Agreement and he was prepared to explain his figures to the Railway Company's Board of Directors. Why these costs were not included with the plans when they were submitted to the Treasury is unexplained, but it transpired that even without the costings the submission was incomplete as the drawings for the Principal and Professors' houses had not been included because they were not ready. (45) The Commissioners under the Act concurred with the Faculty and the drawings were sent to London to the Lords of the Treasury for their informal approval.

The Lords of the Treasury were obviously dissatisfied with the submission. What their objections were has not been recorded but they in turn, remitted the plans to C. Barry and A. W. Pugin on the 17th February 1847 for their advice and comments. Despite the fact that at this time both Barry and Pugin were heavily committed on the building of the new Houses of Parliament. The Treasury needed

their opinion on Baird's design as they were unable to accept the proposals presented by the Railway Company's architect. The undated and untitled drawings held in the Glasgow University Archives were identified during this research, as Baird's second scheme by matching the plans and elevations. Baird's second scheme, as shown on plan, is clearly an adaptation of his first scheme which now consisted of a rectangular plan enclosing two quadrangles each 100 ft. square. Fig.[128] The transept addition to the library and museum is evident and is clearly expressed in the elevation. The remaining space between the central spine and end towers of the side wings was enclosed with additional single storey classrooms. An additional chemistry block was added to the medical wing outwith the main building, and the main entrance hall was rearranged internally and an entrance porch added. Fig.[129] Elevationally the large projecting oriel window at the north end of the library and museum was omitted and similarly the centrally placed windows on the end towers were redesigned to form a smaller projection. Figs [130, 131] The layout plan shows the building aligned facing the south east with the Professors' Houses forming a block at the rear of the building. Fig.[132] The resiting of these houses was recommended by Barry and Pugin in their report as they thought the houses would block the light from the rear of the building. (46)

Because of the length of the building, the elevations in Baird's second and third schemes and Blore's drawings have been drawn to a small scale without any notes. Without annotation or a copy of the relevant specification certain assumptions have had to be made regarding the decorative features and finishes. The principal elevation extends to 345 ft. in length with the dominant features being the 48 ft. square corner towers having the same detailing on both exposed faces. These towers rise a full storey above the eaves string course of the building which links them with the striking entrance tower topped by an octagonally supported dome with cupola, the height from ground level to the weather vane being 180 ft. The elevational treatment for Baird's third and final scheme followed the same pattern. Blore's revised elevations are, by comparison, dull and staid. Figs[134, 135, 136, 137] Some examples of the differences in the detailing of the elevations by Baird and Blore of the end towers are shown see sketches. Fig.[138] Pugin, unlike Barry, was struck with the beauty of Baird's elevations and refused to provide new

elevations or make suggestions for their improvement. (47) Despite reference made in the Faculty Minutes dated 4th August, 1847 to Barry's revision of the elevations, he did not undertake this work. (48) Pugin, on the other hand, disliked buildings which combined elements of both Italian and Saxon architecture. On the 26th March 1847 the report prepared by Barry and Pugin was sent to Principal Macfarlan by the Secretary of the Treasury. (49) (Appendix N)

The report was immediately passed to the Removal Committee and on the cover of the report there was the draft of a letter to Dr Macfarlan in an unknown hand. The letter ends "their Lordships request that the report now sent may not be printed or published" and the College appear to have acceded to this request. (50) Dr Fleming, in his memorial to the Lords Commissioners of the Treasury dated 2nd April 1847 in which he registered his disquiet at the Faculty's handling of the negotiations concerning the removal of the College to Woodlands, makes a valid point when he wrote: "This report was not produced nor read to the Faculty so that the Memorialist is in ignorance of its contents... knows not in what way the foresaid report may be submitted or whether it may be submitted at all". (51) The report dealt with specific questions raised by the Lords Commissioners of the Treasury and covered both Baird's original and revised schemes. The answers provided by Barry and Pugin were based on the plans and documents supplied by the Treasury, and the items raised, covered building costs, architectural taste, and the planning of the building. The one single factor which probably disturbed the Treasury Lords most was the massive increase in the estimated costs, which if the Railway Company had found out, would have given them grounds to rethink their position. According to the figures presented, the costs of Baird's original scheme, described as the building referred to in schedule A of the Removal Act, which included the £10,000 allowed for the hospital, amounted to £175,000. Similarly the costs for Baird's revised scheme which included the Hospital, had risen by 12% to £197,000. (52) Even making an allowance for price differentials in building costs between Scotland and Southern England, this factor alone could not have been solely responsible for such a large increase. Unfortunately at that time costs were not broken down into separate trades which would at least have given an indication of where and how the increases had arisen. Estimated costs were worked out on the cubic capacity of the building

at so much a cubic foot, a system that was still in use in the twentieth century. Proof that these estimated prices were highly inflated is borne out when Treasury approval was finally granted to Baird's third and final scheme. Baird, whose worth as a valuer was widely recognised, estimated the cost to be £82,500, 10% above his original estimate. His estimates were confirmed and backed up by prices produced by local Glasgow tradesmen. This shows Baird in an exceptionally good light but it has to be remembered Blore's elevations were very much simpler than Baird's and this would be reflected in the price.

In their opinion Barry and Pugin thought Baird's first scheme was lacking "in purity of style and was not of a high class of art or in any respect very meritorious". They were honest enough to say that the building's mass and height sited as it was in "a commanding position", could not fail to have a striking effect. (53) In highlighting planning deficiencies they were especially concerned about circulation within the building, one of the points raised by both the Regius Professors and Dr. Fleming when they submitted their private memorials independently to the Treasury in March and April, 1847. (54) (Appendix O) Baird's revised scheme was looked on more favourably because it had some artistic merit. It was pointed out that the floor plan did not agree with the perspective drawing, which showed the symmetrical grouping of the four cupolas around the great tower. This would not have been the case if the plan had been followed when a much less satisfactory appearance would have resulted. The Faculty Committee, in their observations on the Report conceded this point, giving as the reason for the discrepancy "there was not time in which to have the perspective redrawn in conformity with the ground plan". (55) This was an example of incorrect information being presented hurriedly for approval which achieved nothing and caused further delay. The last paragraph of the report succinctly sums up Barry and Pugin's views on Baird's proposals: "In other words the revised plans are very similar to the original set and are consequently open to the same objections; therefore apart from the consideration of the additional accommodation which they afford we consider the arrangement of them as a whole more objectionable than that of the original design". (56) Before issuing approval the Treasury officials had to be satisfied that the submission met all the criteria laid down in the Removal Act. In light of Barry and Pugin's report, which raised

significant questions as to the suitability of Baird's proposals as presented to them, the Treasury also had the private memorials from members of the Faculty to consider. These memorials may or may not have affected their final decision, but they could not altogether be ignored. At the very least they would have added to the Treasury's unease. Under the circumstances the Treasury had little option but to withhold approval.

The report is covered fully in John Richardson's letter to Robert Knox. (57) (Appendix P) It must have come as something of a shock to the Faculty, who had been confident of approval being granted and were now placed in an awkward position. They were of the opinion the report was based on insufficient knowledge of the site at Woodlands and of the needs of an institution like Glasgow University. They hoped these objections might be removed by reasons which they would be pleased to furnish and on 20th March, 1847 the Removal Committee of the Faculty submitted their "Observations on the Report" to the Treasury. (58) In their lengthy submission they began by asking the question - Was there anything in Barry and Pugin's report which prevented the Treasury issuing approval in principle? - approval which the second clause of the Removal Act saw as necessary to receiving the consent of the legislature. The Removal Act had become law but the obligations which it imposed could not be implemented through lack of Treasury consent. The College administrators were worried that as long as this state of uncertainty continued it would give opportunities to those opposed to the College Removal to defeat the measure by indirect means. It was recognised the Treasury's main concern was the inflated estimates with which the committee did not agree. The Treasury were informed that experienced Glasgow tradesmen had given evidence to committees of both Houses of Parliament, in which they stated they would be prepared to contract for the work within the original estimate and provide the necessary securities. The College held the view this should allay the fears of the Treasury's monetary concerns thereby allowing them to give outline approval. They agreed that conditional approval would be subject to further amendments being made to the plans and acknowledged that Baird's first scheme was produced in haste. The crux of the matter was that this design had formed the basis on which the Removal Act had become law. The original estimated cost had become set in

tablets of stone in the minds of the College who showed their naivety in expecting Baird to work wonders by further amending the design and yet staying within the budget figure plus a further 10%.

With regard to architectural taste the committee acknowledged the architectural style chosen was not of a pure character but it had "recommended itself to the Faculty by being in the style of the old College". (59) The committee's complaint that Barry and Pugin's report was flawed through lack of local knowledge was not wholly justified. While a site visit may have been advisable it was not absolutely necessary as any competent architect could and still can produce a report on a building and its site development, given enough correct information. In this case the two layout plans still in existence are devoid of spot levels and contours - essential information in understanding the configuration of any site. It is a fair assumption the information supplied by the Treasury did not have this data. There is no way of knowing if Barry and Pugin were made aware of the drop in level across the site to the Kelvin Burn. If they were, this knowledge may have been reflected in their estimated costs, as they would have made an allowance for additional underbuilding. Otherwise it is more than likely they would have assumed a figure for underbuilding, a common practice in cases without adequate site intelligence when there is a tendency to allow for more than is necessary.

The Prime Minister, Lord John Russell, agreed to meet Dr. William Thomson, Clerk to the Faculty, to discuss this matter but he was first to have a meeting with Barry and Pugin to try to resolve their opposition to Baird's plans. It was thought unnecessary at this point for Baird to travel to London and it is astonishing that the architect was not allowed to attend the discussions. He at least, should have been present to argue knowledgeably with his fellow professionals on the points at issue. The Dean of the Faculty and Mr. Maconnachie were meeting with the Lord Advocate, Andrew Rutherford, on the same subject. (60) Every effort was being made to have this unexpected impasse removed but they had to be careful as outright opposition would have resulted in the Treasury withholding their approval until matters had been resolved. The outcome was that the Faculty and the Commissioners under the Act, instructed Baird to draw up a further set of plans incorporating the points raised in Barry and Pugin's report. This was to be the third

and final revision of the plan. Fig.[133]

The main building now became a large rectangular block surrounding one large quadrangle, the two smaller quadrangles being omitted to allow more light and air into the building. According to Barry and Pugin's recommendations the library and museum were now housed on the north west side of the building and extended in length by 60 ft. The side wings were extended in length by 30ft. with the third storey removed, the Professors' Houses were resited in two rows of six houses facing each other at right angles to the main frontage. Fig.[139] Baird's final set of elevations were designed in the same Scots Renaissance style showing no real divergence from his previous set. The major changes were the disappearance of the entrance porch and the change of roof over the end towers, the pitched roof being replaced in Baird's second scheme by an ogival roof. The elevations underwent further change when Blore produced his revised scheme. Baird's revised plans were approved by the Faculty at their meeting on the 4th August 1847. The College Removal Committee resubmitted the amended plans to the Treasury on the 25th August 1847 hoping for early approval. The Treasury in their opinion thought the cost of the building as presented, would exceed the original estimated figure agreed in the Removal Act. This caused further frustration to all concerned as the Treasury then decided the elevations and structure should be examined by Blore, who was engaged at a cost of £300 to prepare alternative elevations. (61)

Nothing much appears to have happened for a few months until March 1848 when James Mitchell, acting for the University, wrote to Robert Knox complaining that despite Baird's efforts to amend his elevations, the Treasury insisted that "the new elevations projected by Mr. Blore must be procured". (62) In September 1848 John Richardson, the University's London solicitor, wrote to Blore intimating that the Treasury had approved the Glasgow College Agreement but were still awaiting the final drawings and asked if: "you will still agree to revise and correct the elevation which I would have no doubt ensure at once the Sanction of the Treasury". (63) He continued that he hoped Blore's retiral from general business would not prevent him fulfilling his obligations and asked if he could quickly resolve the matter of the elevations. Richardson followed this up with a letter to James Mitchell enclosing a copy of his letter to Blore informing him that he had seen Blore at the Duke of

Buckingham's sale and that he had not returned to London. He requested Mitchell write officially to Blore to try and get him to expedite the preparation of the elevations. He also made a significant point that Blore may have become dissatisfied at the continuing uncertainty and delay which, he quickly added, "are not attributable to us". (64).

Blore replied to Richardson in October 1848 and confirmed what Richardson had suspected, which was that whilst Blore had been in Glasgow all the talk was of the abandonment of the project. Blore had spent a short time in Glasgow and had not met with any of the College Authorities. He also stated that when he entered into an engagement he invariably fulfilled it, "If therefore I have a satisfactory assurance that my terms will be honourably coupled with you need not doubt my fulfilling my part with all practical rapidity". (65) It would appear that the Railway Company had been dragging their heels in agreeing to meet Blore's fees. In March 1849 Richardson met a disappointed Blore in London. His fees, as agreed, had not been remitted to him on receipt of his drawings. (66)

On 12th July 1848 the Treasury gave approval in principle to the Act (9 & 10) Vict cap 43 which allowed the excambion to take place but no steps could be taken to implement the Act until the plans and specifications be submitted to them for their approval as soon as they were ready. The Lord Advocate had given his opinion that the prayer of the memorial be safely granted as this was necessary to enable the College Authorities to make use of some important rights that they had under the Agreement and the Act. In allowing this approval the Lords of the Treasury would not lose overall control as the erection of buildings could not begin until the plans and specifications had been approved. (67) The Notice of Treasury approval was published in the *Edinburgh Gazette* dated 19th July 1848.

Selection of Hospital Site

Under the terms of the Removal Act the Faculty were to have purchased an acre of ground for the erection of a hospital paid for by the Railway Company within two years of the Act becoming law. (68) Treasury approval granted in July made this possible and the Removal Committee circulated all the medical professors on the selection of a suitable site listing five areas:

- A 'Ground bounded by Sandyford Road on the north, Dumbarton Road on the south and Kelvingrove Road on the west;
- B Rising ground at Cranstonhill on ground to the west of the Glasgow Water Company's Reservoir;
- C Ground bounded by West St.Vincent Street on the north, William Street on the south and Elderslie Street on the west;
- D Either of two portions of ground bounded by St.Vincent Street
- E on the north and lying on the west and east sides of the North Road.'. (69)

The hospital sites are shown on the street map taken from the 1848/49 Glasgow Post Office Directory. Fig.[126] Of the proposed sites, the medical professors' preferred site C at the corner of Elderslie Street and St.Vincent Street being considered the least objectionable. Dr. Couper, of the medical faculty, proposed an alternative site nearer the New College between North Street and Sandyford Street marked F on plan. (70) Fig.[126] This site, which measured 5300 sq.yds. was purchased by the Faculty at the price of £1.00 per sq.yd. with ground burdens of £10 per acre. Mr. Mitchell wrote to the Railway Company reminding them of their obligations under the Removal Act and Agreement. He asked them to remit £4840 to the College, the price of one acre of land, and to deposit in the College's Bank £10,000 to cover the cost and charges connected with the erection of the hospital. (71)

Mr. Knox replied to the College Law Agents expressing surprise at their request and intimated that the Railway Company were refusing to pay any of these costs having "thought all idea of building a New College and Hospital had been abandoned, for the time which had elapsed since the College Act was obtained". (72) This in turn led to the Faculty expressing "their unqualified astonishment at the Railway Company expressing their intention of resiling from their agreement with the

College". (73) This led to further protracted correspondence between the parties. The College Law Agents were of the opinion that as the Agreement was drawn up under and ratified by an Act of Parliament, the conditions of the Agreement still applied. This became a public deed in which the Crown, University and public, had acquired interests, as well as the Faculty who, as administrators of the College, were bound to require its fulfilment. The Faculty Minutes dated 20th March 1849 reported that the Removal Committee took Counsel's opinion on the situation existing between themselves and the Railway Company. They also submitted a Memorial to the Lord Advocate, John Marshall, Charles Neave and John Wood. In Counsel's opinion the Agreement was still binding and they advised the memorialists to do everything in their power to get Treasury approval of the plans and specification as soon as possible. On receipt of approval they were to immediately pass the drawings on to the Railway Company for execution. It would also be reasonable to offer the Railway Company a period of four years for the erection of the buildings from the approval date. Only if the company refused to execute the Agreement would they recommend that the College raise an action in the Court of Session. (74)

Meanwhile the saga of obtaining Treasury approval continued and the Faculty Minutes of 20th March 1849 recorded that Baird's plans had been forwarded to Blore. The revised elevations were now ready but Blore wished to meet Baird before finally handing them over. Baird travelled to London and met Blore but the outcome of the meeting is not known. John Richardson, the College's London agent submitted the revised elevations to the Lords of the Treasury and the following letter was sent by C. E. Trevelyan, Secretary of the Treasury to the Chancellor of the University, the Duke of Montrose, who was also a Commissioner under the Act. The letter stated: "that their Lordships have no objections to offer to Mr. Blore's elevation, but before they can give their final sanction ... it must be shown that the expense will not exceed ... the cost of executing Mr. Baird's plans and ten per cent more". (75)

Having received this information the Removal Committee immediately instructed Baird to provide them with an estimate of the work which he duly submitted to the Committee. In order to verify his own calculations, Baird submitted

the drawings to the builders who had helped him in estimating the cost of the first set of plans. The revised figure of £75,000, was the same as the original estimate, (see p. 192) because the costs of labour and materials in Glasgow in 1849 were substantially the same as in 1846: "the builders have adhered to this sum as the present cost of executing the original docquetted plans and have taken it, and ten per cent upon it or £82,500 in all as the cost within which the work delineated on the new plans can at this moment be executed". (76) Baird confidently stated that contracts could be arranged with capable builders for building the new University at such a cost. He also enclosed reports by local contractors, Messrs. Broom and Lindsay, Builders, Thomas Binnie, Mason and Builder and James Graham, Joiner and Builder, who in all cases estimated the cost of the latest set of plans to be less than the figure for the original scheme, in relative terms, by allowing for the addition of the ten per cent. (77)

These estimates were forwarded to London for the attention of Her Majesty's Lords Commissioners of the Treasury and were accepted as being satisfactory. Their Lordships immediately returned the plans to the Faculty and the Commissioners under the Act for their approval. The *Edinburgh Gazette* dated 27th March 1849 carried the Lords Commissioners of Her Majesty's Treasury's approval dated 24th March 1849. (78) This was followed by the Commissioners under the Act meeting in Edinburgh on 30th March to approve the amended drawings. By 30th April 1849 the approved drawings and specifications were deposited in the offices of Messrs. Mitchell, Allardice & Mitchell who then made the drawings available to the Railway Company: "for the use of your company in proceeding to build or contract for the work on production of your written authority". (79) After years of indecision a final compromise was reached when Baird's plan, albeit clothed in Blore's much less ornate elevations, was accepted and approved. The situation was not without a touch of irony as events had prevented a satisfactory conclusion to the College Removal Act through the non-completion of the arrangements for the transfer of the University to Woodlands.

Acting on advice of counsel, the College authorities raised an action against the Glasgow, Airdrie and Monklands Junction Railway Company. The Railway Company along with others, had fallen on hard times, due to bad investments, social

unrest and a depressed national economy. The Committee appointed by the Faculty to deal with the action reported on the 6th December 1850 that agreement had been reached with the Railway Company. The Company had agreed to pay the College £12,700 in compensation for all losses they had sustained in bringing their action against the Railway Company for failing to fulfil their obligations, in return for the College withdrawing their legal action. (80)

The College could consider itself fortunate to have reached such an agreement as the Railway Company had applied to Parliament for a winding up Act. The University used a large proportion of the money to pay off the loan taken out with the Bank of Scotland for the purchase of the Hospital site. When all other expenses were settled the outstanding balance amounted to £10,000 which was set aside in a Fabric Fund to be used on any renovation thought necessary on the Old College Buildings, bringing to an end the University Faculty's hopes of achieving a transfer to new buildings at Woodlands Hill.

What had begun as a project full of promise for both the College Authorities and the Glasgow, Airdrie and Monklands Junction Railway Company ended in disappointment for both. The University authorities were in the end very fortunate in the final outcome, receiving a lump sum in compensation. If the Railway Company had remained financially buoyant despite the protracted delays, there was every likelihood all would have been well. From the beginning the College Authorities had made it clear that if the College Bill did not become law the property of the College was not to be interfered with. The Railway Company had different ideas as they had no intention of abandoning the site and had intended to seek Parliamentary Powers to adopt a portion of the College grounds on which to build their terminus. This led to protracted negotiations between the parties and proved to be a major stumbling block in an early agreement being reached between them. Before the College Bill became law no agreement had been reached between the Faculty and the Architect on a suitable design. The Faculty's insistence that the Architect should consult with W. H. Playfair and then Edward Blore had been counter-productive. The whole question of having drawings approved was further aggravated by the Lords of Her Majesty's Treasury insisting on appointing consultant architects of their own, who in turn asked for further amendments.

The time scale set out in the College Removal Bill that all buildings had to be erected and fitted out within four years of the Act becoming law proved to have been unrealistic. On the face of it four years appears to be a long time in which to prepare the necessary drawings and erect on site a complex building; four years from the date of the final approvals would have been much more realistic. The Woodlands scheme may have foundered but the dissatisfaction of the majority of the Senate with their present surroundings did not. Baird, the Railway Company's architect, had had the unenviable task of trying to please more than one master in very wearing circumstances. As late as November, 1853 Baird's account for professional services was still unpaid and was the subject of correspondence between the College Law Agent and the Clerk of the Faculty. It was pointed out the question of fees was a charge on the Railway Company and not the College, and it is questionable if the unfortunate Baird ever received what was owing to him. (81) It might have given him some satisfaction, if he had still been alive in 1863 when it was finally decided that the University was to move to Gilmorehill, to know that his plan was used to indicate the accommodation required by the University.

Further attempts by the Senate to secure Government Funding

After the collapse of the Woodlands scheme, the University could do nothing other than continue to occupy its present site and buildings. The buildings deteriorated further and growing discontent with the condition of the existing accommodation continued to be a source of concern to the College administrators. In November, 1852 the Senate agreed to present a Memorial to the Queen and to the Lords of the Treasury asking for financial assistance to improve the condition of the College property. The Memorial did not expressly mention "the removal of the College buildings from their present situation", but the hope was that if the Petition was granted this would be the end result. (82) The Memorial argued that the appointment of nine new professorships to cope with the expanding curriculum, had placed an additional burden on the already inadequate class room accommodation. To keep the present buildings at least habitable and to prevent further deterioration, the University required a large influx of money to maintain the status quo. Within the past fifty years the population of Glasgow had quadrupled and this had resulted in the College being surrounded by a dense mass of the labouring population. The University now had close at hand a mixture of undesirable chemical and other dirty manufacturing concerns as neighbours. When combined with the unpleasant smells caused by the population, due to poor sanitation, this created a far from satisfactory environment. A situation which the Memorialists saw as being detrimental to the successful redevelopment of the present University site.

Reference was also made to the College Removal Act of 1846 which had set the precedent allowing the University to move to another location. The Senate were obviously hoping a similar situation to that of 1846 would develop and that some developer would buy their site. In the meantime they suggested the government pay them an annual grant, presumably to carry out repairs to the fabric, and take over the site until such time as a favourable sale could be made. It was hoped the sale would realise a fair proportion of the sum required to build a new university and repay the annual grants advanced by the government. The point was made that within the present century other academic institutions had been established in the

United Kingdom with financial assistance from the government, as had the renovation and rebuilding of Scotland's other three Universities. (83) The Senate no doubt felt they were justified in asking for government assistance. The Memorial, signed by Principal McFarlan for the College and by the Earl of Eglinton and Winton, was submitted in January, 1853. Eglinton was politically active in the House of Lords and in 1852 Lord Derby, the Prime Minister, appointed him a Privy Councillor and Lord Lt. of Ireland. His Lordship also held the current rectorship of Marischal College.

In June, 1853 a joint deputation of members of the Senate and Faculty travelled to London with full powers to lobby the government and influential back bench members of parliament to elicit support for and to press the government to consider their memorial. On their arrival in London they found that internal University politics had intervened in the shape of "a Memorial adverse to their mission". (84) This memorial was submitted by the Professors of the Medical Faculty to the Lords Commissioners of the Treasury in which they proceeded to refute the arguments presented in the official memorial. It was pointed out the official submission did not make it clear that the ultimate aim of the Senate was the removal of the University to a new location as negotiations were already under way for the purchase of a suitable site some miles from their present quarters. Those professors who supported the official memorial were housed within the University and would automatically be rehoused in new accommodation in a more fashionable part of the city should the University be resited. These houses, it was argued, were occupied only during the academic year. Fifty per cent of the professors lived outwith the University as did the staff at the other Scottish universities and the memorialists saw no reason to provide professorial housing. The professors argued that the sites under consideration were inconveniently placed and not as accessible from other parts of the city as was the location of the old university. In their opinion the present site of 15 acres was more than adequate to accommodate the erection of new class rooms and library without encroaching too much on the students' recreational area. They dismissed the argument that the surrounding environment was having an effect on the health of the staff and students as there was no hard evidence to support this claim. Great emphasis was placed on the

close proximity of the Infirmary to the University and its worth as a teaching hospital. It catered for: "large bodies of those classes of the community who resort to Hospital for treatment of the numerous diseases and injuries to which they are liable". (85) Any new hospital built adjacent to the new University would not, in their opinion, be large enough to give adequate clinical instruction. (86) What appears to have been the underlying cause of the dissension within the University was grounded in the anomalous constitution of the University. This was based on a judgement given in the Court of Session in 1809 which determined that, nine of the twenty-three teaching professorships were debarred from sitting or voting at Faculty meetings. The Faculty controlled the University finances and property, the exception being the library. The dissenting professors could not influence any of the University business and felt such a distinction invidious and they had had no hesitation in submitting their own memorial. This private memorial did not deter the official deputation from carrying out their remit and this was made clear by Dr. Jackson, convener of the deputation, who reported to the Senate in November, 1853.

A meeting had been held with Lord Aberdeen as First Lord of the Treasury and the Chancellor of the Exchequer on 18th June of that year. Also present were Mr. James Anderson M.P., late Provost of the City and Mr. Kennedy of the Board of Works. The Principal outlined the reasons why the deputation had sought this meeting and Lord Aberdeen acknowledged the deputation's concerns. Lord Aberdeen thought the House of Commons might be reluctant to vote public money for such a project and he referred to:

the adverse Memorial of the Minority of the Senate, and said that in the event of the House of Commons agreeing to give a grant of money it might possibly be accompanied by conditions which would not be approved of by the whole body of professors He further stated that at all events before the government could give their support to such a grant it would be proper that it should be satisfied by an inquiry as to the present state and value of buildings and ground occupied by the University. (87)

After the Deputation had consulted with the Lord Advocate and Deans of Faculties it was agreed Lord Aberdeen be requested to set up the enquiry he had thought necessary.

Nothing further happened until February, 1859 when, on the motion of Dr. Jackson, the Senate agreed to submit a further Memorial to Her Majesty in Council.

This Memorial reiterated the points raised in the 1853 Memorial adding that the memorialists at that time were given to understand that Lord Aberdeen would instigate an enquiry into the condition of the University of Glasgow. Nothing would appear to have been done in this connection and they referred specifically to the Universities (Scotland) Act, 21 and 22 Vict. cap 83, 1858, and requested Her Majesty to implement the following provision laid down in the Act: "It shall be the duty of the Commissioners herein appointed to take into their deliberate consideration any matter connected with the said Universities to which their attention may be at any time called by instructions issued to them by your Majesty's command". (88)

This Memorial was successful in that Her Majesty, through the Secretary of State, directed the Commissioners under the 1858 Act in May to prepare a Report on the buildings of the University of Glasgow. The Commissioners submitted their Report on the 11th June, 1860. They had satisfied themselves that the allegations made by the memorialists were strictly accurate. The description given on the condition of the College Buildings "hardly conveys an adequate idea of their utter unfitness in every respect for the purposes of the University". (89) They also agreed that the surrounding area had deteriorated to such an extent that it was no longer suitable as a site for an academic institution. To satisfy themselves of the condition and value of the College Buildings, the Commissioners requested Robert Matheson to report on the structural condition of the fabric and to prepare a feasibility study for the remodelling and extension of the buildings. The accommodation to be provided would be similar to that presented in Baird's 1846 approved plan. Matheson's Report declared the present building was so badly designed in regard to layout and condition that by renovating the building no satisfactory result would be achieved. This left the Commissioners in no doubt that the College should be relocated as soon as possible, especially as the 26 1/2 acres occupied by the College had a much higher commercial value than an equal area "in better localities". (90)

The Commissioners examined the financial implications of such a move and produced a set of speculative figures showing the probable expense of such a move, based on the understanding that the College would sell their existing property for the best possible price. The figures presented were based on current building and land

valuations with a minimum of 10 to 15 acres of land required for a new site. The 1846 figure of £84,000 for the cost of new university buildings at Woodlands was taken at face value, without taking account of inflationary factors. Also included in the assets of the University were the sale of the Hunterian Coins, artefacts which the University had no legal right to dispose of. Several sites in Glasgow thought suitable for a College, were visited by the Commissioners and most lay to the west of the City on the north side of the Clyde. Land values in this area were much higher, costing as much as £2,500 per acre due to the residential development of this area. To the south of the river, land could be purchased for as little as £500 per acre. A move to this area was not recommended by the Commissioners and the estimated cost of resiting the University was made up as follows:

1860	Valuation of College and Grounds	£48,000	
	Sale of house in High Street	2,200	
	Railway Co. Compensation plus interest	15,000	
	Sale of Hunterian Coins (estimated)	<u>20,000</u>	
			<u>£85,200</u>

New building on the north side of the River Clyde.

1846	Cost of erecting new College	£84,000	
	Cost of College site 12 acres @ £2,000 per acre	<u>24,000</u>	£108,000
	Value of College Property		<u>85,200</u>
	Deficit		£ 22,800

New building on the south side of the River Clyde.

1846	Cost of erecting new College	£84,000	
	Cost of College site 12 acres @ £500 per acre	<u>6,000</u>	£90,000
	Value of College property		<u>85,200</u>
	Deficit		£ 4,800

These figures produced by the Commissioners were seriously flawed and unreliable as they did not give a true picture of the actual costs likely to be incurred. (91)

The prime objective of the Senate was the removal of the University to a more salubrious site in the city. The continuing reluctance of the government to commit themselves on the question of financial backing for new buildings, prompted the University authorities to look at ways and means of improving their present buildings. To achieve this a committee on the extension of University

accommodation was formed under the convenership of Dr. Allen Thomson. Dr. Thomson was to play a leading role in the negotiations leading to the transfer of the University to Gilmorehill and the building operations which followed. This Committee reported to the Senate on the 29th March, 1861 and made the following recommendations with estimated costs. (92)

Reading Room formed in Upper Hall of the Library plus additional access from Museum Court.	£110.00.00
Additional presses and shelving	88.00.00
New Anatomy building in Principal's garden	282.10.00
New Retiring Room in Hunterian Museum	76.10.03
Conversion of store in Hunterian Museum to form class room	121.00.00
Conversion of back room in Hunterian Museum to form class room	<u>£ 90.00.00</u>
	£768.00.03

The Senate approved these recommendations but before making a final decision on their execution laid the matter before the University Commissioners and the University Court.

The University Commission reported to the government in June, 1860 and by April, 1861 the Senate had still not received a copy. The Principal was instructed to write to the Home Secretary expressing the Senate's concern; it was Lord Elgin the Lord Rector who resolved the problem after meeting with Sir G. Cornwall Lewis, a Home Office official. The Report had conveniently or otherwise been mislaid by the Government and a copy was now sent to the Principal. (93) The Senate discussed the Report in July and the Principal, Mr. Ramsay and Dr. Allen Thomson were deputed to travel to London to urge the government to implement these recommendations which were favourable to the University. The Deputation reported to the Senate in August that they had been favourably received and on the advice of Lord Elgin, had presented a Memorial to Lord Palmerston, the Prime Minister, which in essence was similar to the Memorial submitted to Lord Aberdeen in 1853. (94) (See pp. 209-210) After some delay the Deputation met Lord Palmerston at Cambridge House and as expected, his Lordship would not commit himself other than to agree that the University's submissions were worthy of consideration. Despite distributing further copies to the Chancellor of the Exchequer, Home Secretary and the Secretary of the Treasury, the Deputation recognised the government would not make a positive decision during that session of Parliament.

The College authorities must have been frustrated at the lack of government response to their repeated submissions for funding. In October the Principal and Andrew Bannatyne, Dean of the Faculty of Procurators and a member of the University Court, were again sent to London on a similar mission. The Principal was also instructed to draft an advertisement inviting offers from landowners in the city, who were prepared to sell, to determine on what terms the University could acquire a new site. This was to be done in readiness should the government decide to provide funding for the new University buildings. Before the Deputation travelled to London a meeting was held in Edinburgh on the 18th November with the Lord Advocate and Sir William Gibson Craig, who advised the Deputation on their best course of action when dealing with the government. Sir William was well suited as an advisor having represented the City of Edinburgh as their M.P. between 1842-52 and he had also served as a Lord of the Treasury from 1846-52. It was suggested by the Lord Advocate that the necessary funds might be had from the Exchequer Loan Commissioners, with the present University property acting as security. A meeting was also held with "Mr. Matheson, the Architect of the Board of Works" but no record of this meeting has been found. (95)

On their arrival in London, William Gladstone, Chancellor of the Exchequer, was sent copies of the Commissioners' Report and the Palmerston Memorials as were the Principal Secretaries of State. Mr. Arburthnot of the Treasury had already made it clear that the raising of a loan from the Exchequer Loan Commission was not a realistic option and was not pursued further. The Deputation met Mr. Gladstone on the 23rd November and he indicated he had read the papers supplied to him but they did not: "contain the details which were necessary to enable the government to come to any decision either on the important principle involved or on the practicability of the measure, and that these must be brought before him in writing". (96) The information required by the government was as follows - in whom by law was the existing site and buildings vested? The same question applied to the new site and buildings. The government would require the name of the supervisor in charge of building and contractual payments. They also required information on how it was proposed to raise the finances necessary for such a large project. Finally, who would be responsible for the building on completion and be

liable for maintenance costs. Mr. Gladstone pointed out that no decision would be taken on the question of funding by the government until a design for the new University buildings had been agreed and approved by the proper departments. Had previous administrations indicated these were the criteria by which funding applications were considered, negotiations which were doomed to failure from the beginning could have been avoided. This is perhaps the key to George Gilbert Scott's subsequent appointment as University architect. The Senate had no wish to repeat the failure of the Woodlands transfer and by appointing a well known architect, whose designs would not be questioned, as Baird's had been, would almost certainly ensure early approvals. Gladstone thought that "the large and wealthy city of Glasgow should do something towards so great a public object by subscription". (97) The Chancellor of the Exchequer had always favoured a policy of strict economy and probity when expending public money.

In December, 1861 in response to the points raised, the committee on New College Buildings prepared a statement with the following suggestions for submission to the government was given Senate approval. A new site was to be found on the north side of the River Clyde and to the west of the city centre. The approved plans of 1848 by Baird revised by Blore estimated to cost £85,000 were to be presented to Her Majesty's Treasury. The Senate had made it clear that they were not committed to accept this plan as accommodation requirements had changed. The present site and buildings were vested in the *Senatus Academicus* and the new site and buildings could be vested in either the Crown or the Senate. This question would be determined by the government. The superintendence and erection of the new buildings and expenditure during construction would be entrusted to Her Majesty's Board of Works in Scotland, subject to the Treasury. It is not clear if the University authorities intended commissioning Robert Matheson of the Board of Works as the architect of the new University buildings or if they only envisaged using his department in a supervisory role, probably the latter as it is doubtful if such a small office had the manpower to undertake such a large project. The charge and maintenance of the new buildings was also left to the discretion of the government. In this area the Senate were probably justified in anticipating that the buildings would be taken over by the Board of Works, bringing Glasgow in line with the

University of St Andrews and King's and Marischal Colleges at Aberdeen. The estimated cost of a new site and new buildings was shown as £115,000 less the estimated value of the existing property which was given as £85,200 in the University Commissioners' Report, leaving a shortfall of £30,000. The Senate made it clear that "any deficit whatever may be its amount can be provided for only by the government". (98) It was stated that a new hospital built close to the University was an integral part of any move to a new site. In 1846 £12,000 had been allowed for a new hospital and site but no provision had been made for a hospital in the current costings. The Committee were confident that more than enough money could be raised by public subscription to meet this additional outlay.

The Treasury replied in February, 1862 that they had before them the Memorial presented by the College to the Palmerston government. Their Lordships had on former occasions refused to commit public funds for the purpose of rebuilding their College buildings, and were still of the opinion that funding for such a project should be left to public enterprise or private generosity. The University Commissioners, whilst recommending the removal of the University to a new site, had expected the University to realise all its assets before any government help could be sanctioned. Perhaps the government's reluctance to commit themselves was also due to a mistrust of the figures presented by both the Commissioners and University to support their claim for assistance. Perhaps there was a deliberate policy to hide the true cost of removal from the government until negotiations had been opened with them. The Treasury having taken account of the Commissioners' recommendation "were willing to concede that for the immediate purpose in view, some aid may be contributed from public funds". (99) It was also made clear that the City of Glasgow would be expected to contribute to the cost of the College removal. Any funding provided by the Treasury would be limited "to an equal sum to that which may be raised by private subscription". (100) The £20,000 valuation of the Hunterian Coins was removed from the equation by the Treasury in determining the estimated deficiency which was recognised as being £42,800. The Treasury would recommend that parliament approved £21,400 as the government's contribution only when public subscriptions matched this figure. Further public money would be made available in the form of a loan with the valuation of the

College buildings as security. This valuation was to be carried out by the Scottish Office of the Board of Works. However, before the "assignment of that property to the public as security for the debt" an Act of Parliament would be required. (101) This may have appeared to the College authorities to have been a step forward in their quest for government aid. It would be some time before the conditions imposed by the Treasury were met.

Renewed Railway Companies' Interest in the Existing College Site

Following a period of inactivity on the removal front in December, 1863 circumstances changed dramatically when notices from two independent Railway Companies were produced at a Senate meeting. The City of Glasgow Union Railway Company and the Glasgow and North British Railway Company had applied to parliament to be allowed to take over part of or the whole site occupied by the College for the development of their railways. This was followed by a third notice from the Edinburgh and Glasgow Railway Company which wished to construct a branch line from Maryhill to the harbour. There is no indication how the College authorities reacted to this sudden change of fortune. They must have had reason to be cautiously optimistic realising that the problem of raising enough capital to effect the removal of the College to a new site was now a distinct possibility. They were free to negotiate with parties interested in acquiring their site as an Act had been passed earlier in that year which allowed the College site to be sold, the precedent having been set in August, 1846 when the College Removal Act became law. (See p. 183) The Senate served notices of dissent on the Railway Companies as neither had made any offer to the University with regard to the sale of their property. However, the University was prepared to withdraw the notices of dissent "if circumstances shall be altered". (102)

The Principal and Professors Allen Thomson, Blackburn, Skene and Kirk were appointed Commissioners by the Senate in April, 1864. They were given full powers to proceed to London to represent the interests and rights of the College in respect of the Railway Bills, before parliament. The Commissioners were also empowered to negotiate the purchase "of the grounds and buildings belonging to the College and University" by either Railway Company. (103) Very shortly after their appointment the Commissioners met in Glasgow with Mr. A. A. McGrigor, a partner in the firm of Writers, McGrigor, Donald & Co. who represented the City of Glasgow Union Railway Company. He made an initial offer of between £80,000 - £82,000 for the College lands and buildings and he personally thought £90,000 was a fair price. The offer was rejected as unsuitable. Before their Railway Bill reached the committee stage the Railway Company requested a further meeting with the

Commissioners in London on the 5th May. This meeting was inconclusive and another meeting was held later that day when the Railway Company increased their offer to £100,000. This was accepted by the Commissioners on condition that the Treasury would confirm "their agreement to recommend a Parliamentary Grant of £21,400". (104)

The Commissioners immediately set about securing this Grant enlisting the help of the Lord Advocate, the M.P. for the City and other members of parliament to achieve their objective. On the evening of 7th May the Principal wrote to Mr. F. Peel, Secretary of the Treasury in which he informed him that:

a very favourable opportunity has just occurred for accomplishing this most important and desirable object without putting the Treasury to the inconvenience and trouble of the loan which they had agreed to give provided we can expect the Parliamentary Grant of £21,400 which my Lords had agreed to recommend The opportunity referred to is an offer on the part of the Promoters of the City of Glasgow Union Railway to pay £100,000 for the present College and lands which they mean to occupy as their Terminus and Station - a sum which may not be offered again The subjoined figures will explain why the same Grant and Subscriptions are required now as when the subject was formerly before my Lords the necessity arises from the cost of the new site having been taken at too low a cost by the Universities Commissioners and from them not having made any provision for the increased rate of building prices since the Estimates of 1846-49 were made up and from the inadequacy of these Estimates. The members of the Deputation from the University have suspended their acceptance of the terms offered by the Railway Company until the pleasure of My Lords be known. (105)

Price of new site - minimum		£ 32,000
Price of New College according to the plans of 1846-49 at the increased Building Rates per Report of Mr. Burnet, Architect.		£103,000
Price of site and building of Hospital to be connected with New College		24,000
Expense of removing contents of Hunterian Museum, University Library and other moveables to New College.		<u>3,000</u>
		£162,000
In hand forfeit received from Glasgow and Airdrie Railway Company originally £10,000 now with interest	£ 16,500	
Offered by City of Glasgow Union Railway Company for present College and Lands	£100,000	<u>£116,500</u>
	Deficiency	<u>£ 45,000</u>

Even at this early stage the signs were already indicating that as the project

developed the total expenditure would continue to increase. In anticipation of the City of Glasgow Union Railway Bill becoming law, the Senate had the College Agent draw up a Draft Agreement with the Railway Company. The Agreement was submitted to the Lord Advocate for his professional opinion as this was thought expedient after what had happened in 1846 and he introduced a further clause in the Agreement. He made provision for: "his superintendence of the application of the price on the part of the Crown, and for the price being deposited in the Bank in the joint names of the Crown Agent and College Factor to be drawn out as may be directed by you, and approved of by his Lordship". (106) This was thought to be a better arrangement "than the supervision of the Treasury as superinduced upon the measure of 1846". (107) On the 24th May at a meeting in London the Agreement was finally adjusted and executed by both parties. There were still to be a few anxious moments as the College Agent informed the Commissioners on the 27th May that the City of Glasgow Union Bill had been thrown out at the committee stage in the House of Commons. This immediately suspended negotiations between the College and the Railway Company. However there was a Notice of Motion for recommitting the Bill, which turned out to be successful and this allowed the Agreement to stand. In the interim the Glasgow and North British Railway Bill was about to go to the committee stage and if successful, would have meant opening negotiations with that Company for the sale of the College land and buildings. (108)

In his reply to Principal Barclay on the 23rd May, 1864, Peel indicated the Treasury's irritation at having been presented in 1862 with misleading figures based on the original 1846 estimates. When their Lordships examined the 1862 proposals: "they had every reason to suppose they had before them all the information required for a judgement on the question, and nothing was then said of the necessity for a revision". (109) The Treasury were now, naturally cautious in accepting a new set of figures which included for the first time, £24,000 for a new hospital. In 1862 it had been stated public subscriptions would fund the hospital, estimated to cost £12,000. This latest proposal now required to be reconsidered but it was recognised that a hospital was a necessary adjunct to the College. If public subscriptions raised the money for the hospital plus any additional sums needed to meet any deficiency in the costs of the New College, their Lordships would propose a grant of £21,400

towards the building costs. This was on condition all College funds had been expended on the building costs of the New College. (110) This decision now allowed the College authorities to implement their agreement with the City of Glasgow Union Railway Company. No time was lost by the University leadership who immediately set up five main sub committees on the 14th April to deal with the various aspects involved in the relocation of the College. The Sites Committee was responsible for finding a suitable location for the New College, with the Finance Committee having power to deal with all matters connected with the sale of the present buildings, grounds, and the acquisition of the new site. The New Buildings and Hospital Committees were charged with providing lists of accommodation required and the Subscription Committee's function was to arrange for a public appeal and the subsequent collection of subscriptions. (111) Time was of the utmost importance as the University had to vacate their premises on the 30th June, 1869. The experiences of 1845-49 had shown that any undue delay could seriously jeopardise the whole project.

In October 1861 the Principal was instructed to advertise for proprietors of land who were willing to sell an area of ground suitable as a site for the relocation of the University. (112) It is not known if the offer received from the Gilmorehill Company in December, 1863 was as a result of this appeal or if negotiations had been opened with the company by the University. The Gilmorehill site which was extensive and commanded good views to the south, was bounded on the east and south by the river Kelvin. The property originally owned by the Bogle family was sold in 1845 to the Glasgow Cemetery Company. The intention was to lay the estate out as a burial ground, and in this respect the Company were no more successful than the Western Cemetery Company had been in laying out the old Botanic Gardens. The Gilmorehill Company was formed in 1848 and they sponsored a competition for a housing development on the site. Several layouts were produced by John Dick Peddie in 1848. There is no record of a winner but what is clear is nothing was ever built. A later signed plan by Charles Wilson dated 1851 shows a proposed comprehensive development which included the estates of Woodlands, Kelvinburn and Gilmorehill, this scheme was also abandoned. The integrated development that finally went ahead was the formation of the West End Park, and

the housing in the Park Circus and Woodside areas. The 1860 Ordnance Survey map of the west end of Glasgow clearly shows the planning changes that had taken place in the area prior to the University's acquisition of Gilmorehill. Fig.[140] The Company were offering to sell approximately 43 acres of land for £65,000 with a closing date for acceptance given as the 1st April, 1864. The Removal Committee reported to the Senate on the 14th April that they had had discussions with "the Lord Provost and other official gentlemen connected with the Corporation" on the joint purchase of ground at Gilmorehill and Donaldshill. (113) Further discussion on price had taken place as the Corporation officials had valued the land at £40,000. A plan showing the apportionment of land between the University and the Town Council, prepared by John Burnet, a Glasgow architect, was submitted for examination. The Provost had agreed to put the matter before the next meeting of the Town Council but as the closing date for offers was imminent and as the sub-committee wanted to be certain of acquiring the site, they were given powers to negotiate an extension of the closing date. A new date of 1st May was agreed and before the expiry of this date they were instructed to "conclude a purchase of both or either of these properties of Gilmorehill or Donaldshill" on the best terms possible. (114) An agreement was reached with the Town Council for the resale of the remaining portions of land not required for the New College or Hospital to the Corporation. Should the site be chosen for the hospital be unsuitable they were to acquire an alternative site on other adjacent land. They were also given powers to employ: "an authority to guide them in the laying out of these grounds in the interests of the University", (115) with responsibility for selecting the best site positions for the New College and Hospital. Provost Kirkwood reported to the Removal Committee on the 16th June that the bargain had been concluded for the purchase of Gilmorehill at the asking price of £65,000 payable in instalments. (116)

Some months later the adjacent lands of Donaldshill and Clayslaps were purchased for £16,000 and £17,400 respectively, totalling in all some 63 acres. The purchase price of £98,400 was far in excess of the original estimated cost of a new site. In May 1868 the Sites Committee reported that the sale of land, surplus to the University's requirements, had been sold to the Town Council for the sum of £48,490.18.7d plus 5% interest payable from the date the College made the original

purchase. This reduced the actual cost of the University site further to £41,970.

The Site Committee had shown considerable foresight and business acumen in purchasing ground in excess of their needs, which was a fairly safe investment, given the rapid development of the city in the mid nineteenth century. As well as being a sound financial investment they were able to impose conditions on the sale of the surplus land. It was stipulated that no buildings were to be built between the ground retained by the University and the River Kelvin except gatekeepers' lodges. Buildings fronting the College grounds to the south were not to be elevationally inferior to the houses in Park Quadrant and were to be restricted in size to 6 apartments. (117)

George Gilbert Scott appointed Architect for the New College Buildings

The Sub-committee on Sites, under the convenership of Dr. Allen Thomson, met on the 30th September, 1864 when they further discussed their instruction to secure the services of a leading architect to design the new College Buildings. The Baird/Blore approved design of 1849 was no longer relevant as it did not meet the increased accommodation requirements of the College. The Senate were aware of the impact the new College Buildings would make and they wanted a building which would be commensurate with the growing importance of the city and University. It was appreciated they had to act quickly in making an appointment, having only five years to commission and brief an architect and have satisfactory designs produced and built. The Committee was faced with a dilemma - they could go ahead and appoint a well known architect on the strength of his reputation or opt for an architectural competition inviting a limited number of local architects to submit designs. A national competition, on the other hand, would have attracted entries from many of the most talented architects in Britain. After further discussion it was decided not to hold competitions on the grounds "that architects of the highest class were not likely to enter into such a competition". (118) This may have been presumptuous on the part of the committee as this would have been one of the biggest competitions to have been held since that for the Houses of Parliament. This is borne out in the response shown by architects who entered two competitions of comparable size, the Manchester Exchange 1866 and the Manchester Town Hall 1867 which attracted 52 and 136 submissions respectively.

The Committee's view was not shared by Alexander 'Greek' Thomson, who made his feelings known when he addressed a meeting of the Glasgow Architectural Society in May, 1866. His paper entitled "An Enquiry as to whether the character and purpose of the University can be fully explained in Mediaeval Architecture - and whether the proposed plans have justified the University Authorities in going from home for an architect". (119) *The Builder* reported on this meeting and commented that the purpose of Thomson's paper was prompted by a feeling that the Glasgow architects were piqued at being overlooked in preference for a busy but fashionable London architect - which was probably true. The committee reasoned

that an open competition would be time consuming and would have necessitated the appointment of an assessor of some standing in the profession. It was felt that it would be in the University's best interests, considering the short time at their disposal, if they went ahead and commissioned a reputable architect immediately. It is not known who initially proposed George Gilbert Scott as the most suitable candidate for the post of University Architect. The minutes of the Removal Committee's Sub-committee on Sites revealed that they had discussed at length the need to obtain suitable designs and the urgency of making such an appointment: "From what they had heard of the eminent talent and taste of Mr. George Gilbert Scott of London architect, they were unanimously of opinion that Mr Scott was the authority who should be employed." (120)

The Committee also agreed that under the provisions of the Act for the Removal of the University from its present site, no time should be lost in appointing Mr Scott. In response to the inquiries made by the Sub-committee regarding Mr Scott, the correspondence on the matter was discussed at their meeting held on the 30th September 1864:

the information therein contained was of so satisfactory character on the points referred to at former meetings, as to induce the Sub-committee to lay these communications before the Senate at its meeting today, to recommend the appointment of Mr Scott as architect for the new buildings as well as adviser as to the selection of the site and laying out of the College grounds. (121)

The records do not reveal the source or the nature of the inquiries instigated by the Sub-committee, the minutes only refer to correspondence on this subject. Dr. Allen Thomson, as convener of the New College Buildings Committee at the Senate meeting held on the same day, asked for Senate approval, to offer the commission to Scott and to conclude an agreement with him should he accept.

No official reason has been found which explains why Scott was chosen in preference to any other well known architect of the day. Perhaps it was deliberate policy of the Removal Sub-committee to keep the nature of their inquiries and search for a suitable architect as vague as possible to protect their sources of information. Scott had influential friends within the architectural profession, the House of Commons and the government. This was demonstrated by their support for Scott following in the wake of the government sponsored competition of 1856 for designs

for the new Foreign and War Office buildings in Whitehall. Scott was no doubt disappointed when his Gothic scheme for the Foreign Office building was placed third. H. B. Garling's winning Classical design was disliked by Prime Minister Palmerston who proposed that James Pennethorne, the Office of Works architect, be given the commission. The prize winners objected and pressed their claims in the press. This resulted in Scott becoming embroiled in the vagaries of British politics and the architectural prejudices of the Prime Minister. Gladstone, the Chancellor, a life long friend of Scott, gave him no more than tacit support during the long running dispute which ensued over 'style'. The Chancellor never publicly wavered in his support for the Premier whatever he may have thought privately.

Palmerston's government fell in 1858 and Lord John Manners was appointed First Commissioner of Works in the Conservative government. A. J. B. Beresford Hope, a wealthy conservative M.P. and supporter of the Gothic style, was also the last layman who would become President of the Royal Institute of British Architects. Hope took the matter up with the Institute and the resultant deputation of architects met Manners. The outcome was the appointment of a select committee to look into the dispute with Hope as chairman. The evidence taken by the select committee allowed Hope in his draft report to argue the case for Scott's appointment, . He furthered Scott's cause by writing in the *Saturday Review* arguing that Scott be given the commission, otherwise a second competition should be held limited to the prize winners. The support engendered in the press for Hope's article made it possible for Manners, who was known to Scott and well disposed towards him, to appoint him as architect for the new combined Foreign and India Office building.

The Conservative administration was short lived and in 1859 Palmerston returned to power. The issue of architectural style was now one of party politics and Gladstone wrote: "that there was a material contest of opinion about the nature of the design of the building, and the government were not prepared at that moment to propose a solution". (122) The new coalition government was unwilling to make an issue of what in essence was a dispute engineered by those opposed to the Gothic Style. The government was also against the project on the grounds of cost. Palmerston was implacably opposed to Scott's design and he threatened to give the commission to another architect. Scott appealed to Gladstone for help in resolving

the impasse with the premier. He was able to assure Scott that whatever the outcome of the argument on style, he would not lose the commission. He was careful not to be seen taking sides in the dispute: no doubt he had an eye on his own political future. In a carefully worded answer he informed Scott that: "I am quite certain that you will undertake nothing except what you may feel and know your capacity to accomplish, and that the widespread reputation you have acquired is to you too great a treasure to be hazarded for the sake of any particular employment". (123) This suggests he was advising Scott to resign rather than abandon his principles on style. Scott did the opposite and produced a design for an Italian sixteenth century Renaissance building which was acceptable to Palmerston. The Removal Committee had made several inquiries regarding Scott's suitability to act as the University architect. It is possible the Chancellor of the Exchequer was one of those approached as he was already aware of the situation facing the Senate. His lack of official support for his friend during his dispute with Palmerston may well have prompted him to redress the balance by recommending Scott for the Glasgow commission. Without substantiated documented evidence this theory can be nothing more than speculative but there is no doubt Scott had influential friends who may or may not have been approached by the Removal Sub-committee.

A second theory as to why Scott was chosen was suggested by Stella Matko, in her Dissertation when she argued that the Sub-committee was influenced by Dr Allen Thomson. Her argument was based on the premise that "Thomson had a strong personal interest in Gothic architecture and in particular the Scottish baronial style. He was said to have been a member of the Cambridge Camden Society, a high church ecclesiological organisation which supported the correct forms of mediaeval church building and liturgy". (124) None of this information can be verified as no sources were listed. What is known is that Scott had had dealings with Benjamin Webb, Secretary of the Camden Society and that Thomson was frequently in London, as a member of the General Medical Council and a Fellow of the Royal Society of London. It is possible he had met Scott but the evidence which supports Thomson as Scott's mentor as the University Architect is unconfirmed.

The sub committee were more likely to have been influenced by examples of Scott's work and his growing reputation in Europe as well as in Britain. He had won

open competitions in 1844 and 1854 for the church of St. Nicholas and the Rathaus in Hamburg. Scott travelled extensively in Europe in the 1840's studying European architecture. The influence of the old mediaeval Cloth Hall at Ypres can be seen in his Rathaus design which was never built due to the lack of funding. Fig. [141] The Germanic Flemish design with its high pitched roof, dormer windows, prominent flat facades and 300ft. main tower and spire are echoed to a lesser extent in his designs for the University buildings and the Dundee Institute. The Hamburg tower, when looked at in silhouette, is similar to the University tower. At home Scott's Exeter College Chapel at Oxford 1858-59 based on Saint Chappelle in Paris was recognised as one of the finest churches to have been built at this time. This, coupled with Preston Town Hall 1862 and his controversial Foreign Office building had enhanced his reputation. Scott's name had become well known because of the opinion he held on the appropriateness of the Gothic style for large secular buildings which he had published in 1857. When he wrote: "that no style is equally capable of adapting itself to varied requirements or of enlisting in its service the inventions, materials and ideas which are introduced by the advance of social improvement". (125)

The Gothic Revival style had strong religious connections, being used extensively for ecclesiastical buildings, circumstances which would have probably appealed to the strong Church of Scotland representation on the Senate. Scott himself was deeply religious, being the son of the Rev. Thomas Scott, the "perpetual curate" of Gawcott in Buckinghamshire. (126) Perhaps it was the Albert Institute Company in Dundee who set the precedent by commissioning Scott to design their new Institute, which was intended primarily as a reference library for students. Figs[142, 143] Its design turned out to be a paradigm for Glasgow University, both buildings having very similar elevational treatment. The recurring buttresses and turreted angles of the original building at Dundee were similar to those at the University. Other similar features are the stepped gables, steep pitched roofs and dormers and narrow angle turrets which may have been inspired by Scott's earlier Rathaus design. The Institute and the University were designed in a style similar to the geometrical forms of the second pointed or decorated Gothic style. Scott claimed this style, which he suggested was authentically mediaeval and Scottish, was of his own invention, first pioneered by him at Dundee. Figs [144,145] This may be, but

Scott modelled his end pavilions at Glasgow on the Chapter House of Glasgow Cathedral and the chemical laboratory was based on the fourteenth century Abbot's kitchen at Glastonbury. An earlier example of a building of Rhenish Gothic design using similar details was Deane and Woodward's Oxford Museum 1855-60. Where again the prominent features were the high Netherland style slate roof, the central tower, and the stairtowers with conical roofs reflected the pinnacles on the Cloth Hall at Ypres. The laboratories planned at Oxford and Glasgow as an adjunct to the main buildings are remarkably similar having been modelled on the same source. The simple geometrical shape of the plate tracery used at the Dundee Institute is English in origin rather than Scottish. From the mid 1860's to 1870's neo Gothic high roofed buildings with spired towers had become popular elements in the design of public buildings. The splendid Fettes College 1864 -70 in Edinburgh by David Bryce reflected the revival of the Franco-Scottish Baronialism of the period. Billings had claimed that Scottish Renaissance castles had been influenced by the turrets and tracery of France. Glasgow University, Morgan Hospital Dundee 1866, and Aberdeen Town House 1866-74, have similar turreted towers whose antecedents are less easily discernible.

Dr. Allen Thomson reported to the Senate on 13th October, 1864 that Scott had accepted the commission and "would devote his best energies to give the University satisfaction". (127) From the moment Scott accepted the commission there was never any doubt that the chosen architectural style for the University buildings would be anything other than Gothic Revival adapted to incorporate Scottish and Flemish details. In a letter to Dr. Allen Thomson dated 25th December, 1865 Scott wrote that:

The design is in the style of the early part of the fourteenth century, and the treatment of that style is an attempt to harmonize it in some degree with the National characteristics of Scottish domestic and secular architecture - This harmonizing process is rendered necessary by the fact we have few remains of Secular architecture in Scotland ... learned from works of later date though easily susceptible of being translated back into the earlier style. The early French examples when revived relatively to those in England afford much help as they have many features differing from the English works, but bearing strong resemblance to those which are characteristic of Scottish architecture though of a later period. (128)

The revived Gothic style was now being accepted as suitable for the growing number

of important public buildings being built in Britain at this period. Scott visited Glasgow on 27th and 28th of October, 1864 when he inspected the site at Gilmorehill and the existing College buildings. He also met the Removal Committee who were to provide a brief to allow sketch plans to be prepared as soon as possible. The Building Sub-committee had a statement drawn up in August, 1864 comparing the existing College accommodation with that provided in Baird's proposed College at Woodlands in 1846. The professors were responsible for providing a detailed list of accommodation required by their departments. They were to indicate class room sizes, ceiling heights and seating arrangements and any suggestions they might wish to record. (129) For a full list of accommodation see Appendix Q. It was pointed out that the class rooms of each Faculty should be grouped together with separate access to the quadrangles. Provision was to be made for future expansion plus the erection of thirteen professors' houses. In December 1864 Scott wrote to Thomson thanking him for: "the papers sent to me, I have been through all the returns of the professors - and I shall now get about digesting them into practical form, I fear that all the suggestions cannot be met but I will do all I can to secure the nearest possible number being acted upon". (130) Scott presented sketch plans to the Senate in March, 1865 and Allen Thomson informed him in May that the Senate had discussed the plans but no great changes were envisaged. It was suggested that if Scott had no objections "an illustrated view and description" should be published in the *Illustrated London News*, a perspective sketch and short article appeared in the magazine on 6th April 1866. Fig. [146] It was hoped this might stimulate public interest and alumni of the University into making donations. (131) Suggestions were made at this time to close the open side of the west quadrangle with an arcade or cloister.

Copies of Baird's 1846 drawings were given to Scott. The exact date is not known but a letter dated 7th November, 1865 from Scott's office acknowledged receipt of these plans. (132) Baird's finally approved scheme had undergone several major revisions and Scott must have been influenced to a degree, by his layout. Scott's overall plan, in comparison with Baird's, required relatively minor changes. The 540ft. x 300ft. rectangular south facing block by Scott was much larger than Baird's earlier design which measured 352ft. x 242ft. This increase was due to

the more generous accommodation now being provided. Fig.[147] It can be argued Baird had produced a very workable plan and Scott would have recognised that fact and there was no reason why it could not be adapted and used as the basis for Scott's own layout. Scott in fact, adhered more or less to Baird's classroom groupings, as was specified in the brief. The Anatomy building was also sited outwith the main block on the eastern side. Baird's second scheme is recalled with Scott's use of two quadrangles where instead of housing the Hunterian Museum and Library in the central wing it was now shown to house the Great Hall. There is no evidence to suggest Scott was in any way influenced by Baird's two quadrangles as College buildings had a long history of being constructed round quadrangles. He may well have been trying to reflect the layout of the existing College Buildings.

Comparisons are odious at the best of times and it is unfair to suggest that Scott's open ended Western quadrangle was taken from Baird's first scheme. (133) The reason it was left open was to facilitate future expansion as expressly instructed by the Removal Committee. There are similarities in the layouts and elevations of both schemes with the massing of the buildings being very similar. It is not surprising that there is an affinity in the elevational treatment despite the difference in style. Both architects positioned the main entrance under a central tower with two secondary entrances giving direct access to the quadrangles. The corner towers with projecting bartizan corner turrets were taken above the main roof line and both designs, in many respects, were homogeneous. Figs.[148,149] The fundamental difference in the elevations was due to the architectural style adopted by the architects. After May, 1865 the professors were no longer solely responsible for vetting and approving drawings. An open meeting had been held, presided over by Dean of Guild Archibald Orr Ewing of Ballikinrain with the Subscription Committee in the Fore Hall of the University. The result of the meeting was the formation of a joint Subscription Committee which now included members of the public. This was followed in November, 1865 with the creation of a Joint Building Committee with non academics sharing the responsibility for approving drawings. (134) Finally, revised plans were approved at a meeting of the Building Committee on the 23rd March, 1866, eighteen months after Scott's appointment. (135)

The Construction of the New University Buildings 1866 -1870 Site Exploration,
Reduction in Level of the Hill at Gilmorehill and the Issuing of Contracts

In July, 1865 a plan showing the position of old mine workings at Gilmorehill and Clayslaps had come into the University's possession and the Sub-committee on Sites ordered an investigation. Trial bores were sunk under the supervision of Professors Rankine and Rogers, close to the line of the old workings and at the site of the new buildings. (136) Nothing was found at a depth of 84ft. other than stiff boulder clay and the site was pronounced safe. A pleasing discovery was made which revealed a quantity of stone on Gilmorehill. Mr. J. J. Stevenson, a former pupil of Scott now with the Glasgow firm of architects, Campbell and Douglas, reported the stone was laminated and not particularly good looking but suitable for underground walling and arrangements were made to open a quarry. (137) On Scott's advice a separate contract to reduce the level of the crest of Gilmorehill should be arranged and on the 4th June, 1866 a contract was agreed between Alexander and John Faill, contractors, for the sum of £1,198.13.6d. A work force of 200 men was engaged, during the contract period 10,000 cubic yards of vegetable matter and 25,000 cubic yards of subsoil would be removed. The contract period was for two months and this meant an average 4,300 cubic yards of material had to be moved each week. (138) Later in June, Allen Thomson initiated proceedings by symbolically cutting the first sod near to Gilmorehill House, originally built in 1800. It was given a temporary reprieve serving as site offices for the architect and contractors.

In March, 1866 Scott and Dr. Allen Thomson discussed the siting of the Professors' houses. Scott, though not entirely convinced, was of the opinion that the best position was to the north of the main building. He advised that the ground level of the houses should be kept 6ft. below the finished level of the quadrangles. Sufficient distance between the houses and the main building was necessary, and to achieve this the main building would require to be moved thirty or forty feet further south. The houses would be sited in two blocks facing each other "separated by a distance of 112ft. equal to the breadth of the central part of the main building". (139) This would allow a better view of the University buildings from Hillhead and the north.

Further talks were held later in the month on the resiting of the main building as Scott now felt that the building should be sited on the summit of the hill as far to the east as possible. This was with a view to accommodating any future extension of the University buildings. It was now considered impracticable to move the building further south and it was agreed that the professors' houses would now be sited to the west of the main building keeping in mind the possibility of future expansion. (140) In May 1867 the Building Committee approved the final sketch plans of the Professors' houses. The average price of building houses of a reasonable standard in Glasgow at that period was 6d per cubic foot. With a cubic capacity of 80,000 cubic feet the estimated cost per house was £2,000 and because the houses were double fronted, an additional £200 was allowed. A further £2,000 was estimated as necessary to cover extra building and decoration costs for the larger two house block which housed the residences of the Principal and Professor of Divinity. The houses were now to be laid out in three blocks in the area now known as Professors' Square, some 15ft. below the level of the main building. The two house block was to be in line with the south front of the main building. A seven house block formed the western boundary with a similar four house block to the north. Figs [150,151,152]

Economic pressures bring about sub-division of the building into affordable units essential to the running of the University.

The Joint Building Committee at their meeting on the 23rd March 1866, had discussed the updated estimated cost produced by Scott for the whole of the New Buildings. The cost was calculated at 8d per cubic foot and was broken down as follows:

College Building including Common Hall and Tower		£230,000
Levelling Summit of Gilmorehill		<u>2,000</u>
		£232,000
Principal's House, twelve professors' houses plus contingencies		<u>24,000</u>
		£256,000
Cost of site, roads and approaches and University grounds	£40,000	
Expense of removing contents of Museum and Library	4,000	
		<u>£ 44,000</u>
		£300,000
Above exclusive of heating and ventilation and architect's commission		20,000
Cost of building new Hospital		<u>24,000</u>
		£344,000

The funds available to the College were estimated to be £205,400 and the committee prudently decided to omit for the time being the Common Hall and restrict the height of the Tower to the level of the main roof. Scott was instructed to prepare the specifications in such a way as to allow contractors to price for the unbuilt portion of the Tower separately. (141) To this was added at the June meeting, the Hunterian Museum, arcades and cloisters and the ornamental chemical laboratory. The committee felt that although subscriptions were progressing favourably and were in excess of £80,000 there was no certainty the upward trend would continue. In view of the uncertain financial future it was agreed that only areas essential to the running of the University should be built at this time. (142) Following the deliberations of the committee, the works were divided into the following sections:

- The buildings generally.
- The upper part of the Tower and Spire.
- The Great Museum and adjacent lobby.
- The Octagonal Laboratory at the south east angle and the adjacent one storey building.
- The Great Hall with adjacent staircase and offices
- not to be included in this contract.

The several divisions of the building were clearly marked on the ground floor plan and elevations by red lines which unfortunately do not show up on the photographs. Tenders invited by the Building Committee were returned on the 2nd October, 1866 and were opened by the Building Committee, in the presence of Mr. Thomson, Scott's secretary with Mr. Lee and Mr. Burlison, two of his surveyors. Tenders were accepted from various contractors which amounted to £191,020.15.6 1/2d. The following day the Lord Advocate initialled the plans for the New College [Working drawings] prepared by George Gilbert Scott. This was in accordance with the fifth article of the agreement between the University and the Promoters of the Bill for the City of Glasgow Union Company dated 24th May, 1864. (143) The most successful contractor was John Thompson of Peterborough who undertook to construct the shell of the main building for £116,071; his contract price of £144,000 included the spire, museum and octagonal laboratory. Local firms tendering for smaller contracts made up the balance of the overall figure. Contracts were not signed until the 23rd January, 1867 and the first stone was laid on 4th April, 1867.

The contract between John Thompson and the University quite clearly stated that:

should any dispute arise between the parties with regard to the meaning or intention of these presents in respect of the foresaid Drawings, Specifications, General Conditions or in any way relating to the premises the same shall be and are hereby submitted and referred to amiable decision, final Sentence and Degree Arbitral of the said George Gilbert Scott whom failing by his resignation or incapacity to act of John Burlison, Surveyor of London, whom failing as aforesaid John S. Lee, Surveyor there as sole arbiter with all the powers competent to an Arbiter by the Law of Scotland by whose decision all parties shall be bound ... the award of the said arbiter shall be final and binding upon the parties. (144)

With the appointment by Scott of Mr William Conradi as his resident Clerk of Works, all supervisory and arbitrary powers were vested in Scott and his employees. This differed from 1846 when the College Removal Act had allocated the power to appoint arbiters to Her Majesty's Commissioners of Woods and Forests.

In 1868 the Senate applied pressure on the Treasury for additional government funding for a sum at least equal to the amount raised by public subscription. The Senate's submission was based on the precedent laid down in their Lordship's letter of 14th February 1862. (145) This led to parliament voting an additional grant of £120,000 payable in instalments of £20,000 over a period of six years. In previous situations such as at Marischal College in Aberdeen no government money was paid until the Office of Works in Edinburgh had certified all conditions had been met. It would appear that the same situation prevailed at Gilmorehill although no official documentation has been found to substantiate that this was the case. Private correspondence between Robert Matheson and James Robertson on the subject of the payment of the first instalment would suggest otherwise, as Matheson's letter of 11th September 1868 would imply:

'In consequence of your note requesting to know when the first instalment of £20,000 may be expected for the university Buildings - I applied privately for information - and I received a communication for which I make no doubt you may expect payment immediately. No delay took place here.' (146)

Matheson was making it clear that no blame for any delay could be levelled at his department.

The Gilmorehill Building Under Construction

The main contractor began site works in November 1866 and the time was spent erecting workmens' huts, forming access roads and fitting up site offices in Gilmorehill House. The weather was inclement and seriously impeded progress, delaying the digging of foundations. Extensive foundations were required and these were excavated to an average depth of 17ft. over the site, increasing to 24ft. under the central section of the south front which also supported the Tower. This area measured 76ft. x 61ft. and this huge excavation was back filled to a depth of 6ft. with concrete. The tower walls measured 12ft. wide at the base reducing to 7ft. 6inches at ground floor level. The foundations to Scott's Foreign Office in Whitehall in May, 1862, had been excavated to similar depths with the concrete raft increased to 12ft. in depth. (147) The accepted practice was to throw the concrete into the foundation from a height of 10ft. In theory such a practice would allow air into the material diminishing the strength of the concrete. In execution this does not appear to have caused any problems.

The basement walls of the eastern and southern wings had almost reached ground level, with the central section of the south wing at D.P.C. level by July. This included forming ducting for the heating and ventilation system. Work was held up by a strike of 120 masons which began on 31st May and despite not having resolved their dispute with their employer, the men returned to work voluntarily in February, 1868. Despite the strike, work progressed steadily and the foundation stone was laid by the Prince of Wales on the 8th October, 1868. By this time the number of masons employed had risen to 230 and the effect of the strike on progress was not as serious as it might have been. The introduction of gas lighting in the masons' sheds had allowed the men not on strike to continue working full time during the winter months and in periods of bad weather, in preparing stones. (148)

The Building Sub-committee discussed with the architect, various alterations required in the basement area as there was a need to provide additional store rooms for the Museum and Library, plus a meeting room for students. Scott instructed an additional area 28ft. x 30ft. be excavated between the Library and Museum on the north wing with a ceiling height of 15ft. He reasoned that this would be ample space in which to provide the accommodation required. It meant additional external

excavation was required on the north side of the building in order to provide ventilation and light. (149) A carriage entrance was also to be formed in the north wing which would give access to the main stair leading to the Hall, Library and Museum. This was to be constructed in conjunction with an underground tunnel running from north to south under the central area of the building. This was to allow direct delivery of fuel to the furnace room without having to cross the quadrangles.

It was thought prudent, if funds allowed, to construct the foundations of the central Hall simultaneously with the tunnel and heating and ventilation ducts. The cost of erecting the Hall foundations to ground floor level was estimated at £5,000. The contractor was informed that despite these additional works, no extension to the contract period would be granted. (150) In any case Scott was not instructed to prepare plans, specifications and estimates for the central Hall until February 1869 and work did not begin on the foundations until the following June.

The foundations were virtually completed by February 1868 with the exception of the central area of the north wing and the anatomical laboratory. The laying of the floor joists over the the basement area was delayed because of the failure of two 42ft. long cast iron beams when being placed in position. At the Library and north west corner the walls had reached ground floor level as had the piers which supported the cast iron beams. These beams in turn supported the brick arching and cast iron columns. There were fears that the castings would be at some risk of damage if stored on site at Gilmorehill. To ensure this did not happen the Senate leased a piece of ground adjacent to the Foundry where the material could be safely stored until required on site. (151) Further changes were instructed in the basement area to provide for two houses for the University Master of Works and the assistant Keeper of the Museum. During 1868 the work force increased dramatically with 340 masons, 400 joiners and labourers at work on the building. The number rose in 1869 to 1,000 when, by this time, roofing was in progress.

In July work began on the central Tower which, at ground level, housed the deeply moulded arched main entrance giving access to a groined vestibule. Above the entrance at first floor level there is a stone balcony with pierced tracery which echoed the entrance to the Old College. Fig. [153] Each floor of the tower is differentiated by individual window styles and the top storey evolves into an ornate

corbelled parapet with round turrets springing from three corners. The fourth tower on the north west corner is a continuation of the round shaft which runs the full height of the Tower. Fig. [154] The illustration of Glasgow University published in *The Builder* in February 1870 shows the Tower capped with a gabled spire and clock as designed by Scott for his St.Pancras Station complex in London. Fig. [155] There is a close relationship between the Glasgow spire and the spire erected at Preston Town Hall 1862-67. Another of Scott's finest but little known work was his Rajabai Tower built over the Library of the University of Bombay and it also reflects the Glasgow design. The spire as envisaged by Scott, was never built. The open work spire which completed the Tower in 1887 was designed by John Oldrid Scott who substituted the St.Pancras type spire proposed by his father. Fig. [154]

On the 19th May, 1871 a meeting of the Joint Building and Finance Committee was held and the decision was taken to suspend the completion of the Tower and Spire. This was due to a lack of money and despite pleas to continue its construction a sum not exceeding £500 was allowed for the construction of a temporary roof at the base of the proposed Spire. (152) The completion of the Tower was essential as the ventilation ducts were part of the heating and ventilation system and were an integral part of the Tower's construction and by 1872 the Tower at least was completed. Fig. [156] The building structure relied heavily on the use of malleable iron beams and columns. Scott believed that metallic construction was a great development in that it allowed the architect greater freedom in planning large open spaces on all floors of a building. He considered iron was a medium capable of great beauty as he demonstrated at Glasgow. In the 1860's Scott was involved in the construction of Preston Town Hall 1862-67 and St.Pancras Station Hotel 1866-76 as well as the University. All three buildings shared typical Scott features, decorated malleable iron beams and columns, marble inlay panels, stained glass and elaborate carvings. The main staircase at St.Pancras and the configuration of the cast iron window frames are closely paralleled at Glasgow.

Excellent examples of Scott's use of ironwork can be seen in the Library and Hunterian Museum situated in the north wing. Both occupy the ground and first floors and are of similar size measuring 129ft. x 60ft. In the Museum plain clustered columns on the ground floor support the riveted decorated beams which carry

the upper galleries, some spanning up to 40ft. Fig. [157] These columns terminate at first floor level where they are replaced by twin paired highly decorated single shafted columns which, in turn support the hammerbeam roof trusses. Figs. [158,159] The capitals of the columns are decorated with stamped foliage, and the wrought iron infilling and detailing of the curved brackets at first floor level confirms Scott's claim that iron was capable of great beauty. Fig.[160] This is again evident in the Hunterian staircase where the stringers are of malleable iron as are the beams which support the landings. Alternate coloured marble infill panels conceal the web of the beams. The beautifully decorated wrought ironwork of the balustrade illustrates the successful marrying of structural iron and fine ironwork. Figs. [161,162,163] The main stair leading to the Randolph and Bute Halls was constructed in a much simpler form where Scott again exposed the decorated metal stair stringer. A plain but elegant wrought iron balustrade gives the stair a much lighter appearance. Fig.[164]

Despite steady progress during the period of construction, the building programme did not meet the agreed completion date. A further year's extension was agreed to by the Railway Company. This delayed the University taking formal possession of the classrooms, offices, laboratories, library and museum until the 7th November 1870 at which time the old bells and the Lion and Unicorn staircase were transferred from the Old College. Some years later the staircase was relocated back to front against the west range. Fig.[165] The provision of furniture and fittings and classroom equipment was not covered in the main contract. This was the responsibility of the University authorities which resulted in: "a considerable advance on the [University's] Credit with the Bank of Scotland". (153)

In May, 1871 a series of meetings were convened by the Joint Building Committee and Representatives of the Subscribers to discuss the current financial situation. Mr. Lee Scott's surveyor presented an abstract account for their consideration, listing the University's outstanding liabilities:

Debts and balance of infirmary contribution and subscription	£64,045. 07. 04
Completion of works including Tower and Spire	26,337. 00. 00
Necessary additional works	<u>8,690. 00. 00</u>
	99,072. 07. 04
Deduct assets	<u>69,545. 00. 00</u>
Deficit	29,427. 07. 04

Further interest payments due on the Gilmorehill Bonds and Bank interest raised the total deficit to £32,727. 07. 04. On the 12th May a meeting of the Building Sub-committee and the Finance Sub-committee approved "the interim suspension of work not immediately necessary", which effectively brought building work to a finish. (154)

The central Hall, which was to separate the two quadrangles, was to be left in abeyance for the foreseeable future. In June, 1878 two generous donations by the Marquis of Bute and Mr Charles Randolph allowed the erection of the Randolph and Bute Halls to go ahead. The Marquis of Bute's offer to erect the central Hall was conditional on the cost not exceeding £45,000 with the University bearing the cost of the substructure. These conditions were accepted and the Senate took on the responsibility to: "maintain and uphold the said Bute Hall as a common Hall for the University of Glasgow in good and sufficient repair in all time coming". (155) The new Hall was to be built to the design of the late Sir George Gilbert Scott, who had died on the 27th March. Not include in the bequest was the fitting out and furnishing of the new Hall. The agreed contract price for the Bute Hall was £41,626, plus an additional £11,590 for the substructure, and £3122 to cover the architects fees. The Contract was signed by John Thompson of Peterborough and the Principal and professors on the 6th and 14th August, 1878. The building was to be completed by the 28th June, 1883 otherwise a penalty of £50 per week would be levied on the main contractor. (156) Building supervision would be carried out by John Oldrid Scott who had inherited his father's practice. The Bute Hall measures 110ft. x 70ft. and was built in conjunction with the Randolph Hall. The five bay galleried Hall is supported by the open rib vaulted undercroft. Externally the bays are defined by buttresses, traceried windows and circular towers. Figs [166,167] Internally, tall elegant clustered columns support the first floor gallery and roof. The Hall was recently redecorated with the columns painted in the Bute colours and stencilled with Gold Fleur-de-lys as in the original scheme. The finished building provided the University with a very fine centrepiece which fittingly completed the complex. Figs [168,169]

The Installation of the Van Hecke Heating System

The second major element in the construction of the University building was the installation of one of the earliest modern space heating systems in Scotland. The Senate, very early on, realised that an essential priority in the functioning of the building was the provision of an adequate heating and ventilation installation. A sub-committee was appointed early in 1864 to investigate and recommend the most effective and efficient system then available. The committee consisted of Sir William Thomson later Lord Kelvin and Dr. W. J. M. Rankine, two eminent scientist engineers, along with Dr Allen Thomson and Professor H. Blackburn. After a period of lengthy discussion and investigation the committee produced a performance specification of the type of system they thought appropriate:

1. Foul air to be removed from rooms through outlets placed as close to the source as possible. e.g. under desks or seats by means of ducting.
2. The total area of the outlet vents to be calculated at 28 sq. inches per person.
3. The total area of openings to allow the introduction of fresh air should be double the opening area of the outlets.
4. Fresh air inlets were to be at high level and positioned around the circumference of the rooms.
5. Both hot and cold air was to be supplied to each classroom, and a means for mixing the hot and cold air was to be provided.
6. The total air supply to the classrooms should be $\frac{3}{5}$ of a cubic foot per person per second.
7. The sectional area of the ducting exhausting foul air should be $\frac{1}{20}$ of a square foot per person.
8. Outlets should be so placed that none of the foul air re-entered the building.
9. Fresh air was to be drawn down from an area where the air was always fresh.
10. Fresh air was to be drawn in by mechanical means.
11. Foul air extraction ducts should lead to exhausts placed in suitable positions, and provided with 'furnaces capable of being lighted, the area of the furnace grate being $\frac{15}{1000}$ sq. ft. per person'.
12. Fresh air to be heated by hot water tubes, the most efficient position for such tubes to be in vertical passages in which the air current ascends. (157)

It would appear the list of requirements was drawn up with the Van Hecke heating and ventilation system in mind through the inclusion of points 9 and 10. Nothing appears to have happened until March 1866 when Scott was instructed to prepare a report recommending the most suitable system available, keeping in mind

the opinions of the heating sub committee. Scott selected three engineers to submit designs to him and in January 1867 the Senate discussed a report presented by Dr Rankine on the schemes submitted to the sub committee for their consideration. Scott had also taken part in the discussions and it was agreed the scheme presented by Wilson W. Phipson of London, met the criteria asked for by the sub committee. (158) The acceptance was conditional on Scott submitting a report that he was satisfied the system worked efficiently. Dr Thomson and Scott inspected a previous installation by Phipson at the Head Office of the National Provincial Bank in London, and reported "the system appeared to work perfectly". (159)

Phipson was the third son of Samuel Ryland Phipson of Ladywood near Birmingham born on the 31st August 1838. The family had to leave England about 1847 due to a down turn in the family fortunes. They finally settled in Brussels where living and educational expenses were cheaper. Phipson was educated in Brussels and Paris and with the help of the Earl of Cowley he became a student at the Ecole des Ponts et Chaussees, Paris, about 1857. During his time in Brussels he had spent a short time as a pupil of Dr van Hecke who had developed an efficient and economical method of heating and ventilating hospitals. On the completion of his studies in Paris, Phipson returned to Brussels to assist Van Hecke in installing his system in several hospitals in France and Belgium: the Necker and Beaujon in Paris (1859), the 353 bed hospital at Vesinet (1860) and the Hospital de Nivelles in Belgium plus others.

In 1859 at the age of 21 Phipson returned to England and immediately established his own practice. He was a keen exponent of new technology and was an enthusiastic advocate of the Van Hecke system and the Prall high pressure hot water system. In 1859 he was faced with prejudice and ignorance amongst architects and medical practitioners. It is fair comment that at this time the science of producing heating and ventilation schemes was still in its infancy, despite the fact there was general agreement that the fetid atmosphere in theatres, hospitals and public buildings left a lot to be desired. Through the influence of his father, Phipson was engaged to design a combined heating and ventilation system for the Piccadilly residence of the Baron Rothschild: "the success of these works attracted the attention of some of the leading architects of the day, and several other important

buildings were placed in his hands". (160) The Van Hecke system was a refined simplification of an earlier design by David Boswell Reid which drew air into one or more basement plenum chambers epitomised by his design for St. George's Hall, Liverpool, 1841-51. In Reid's system air was heated and humidified to suit the needs of the building and distributed through a complex network of ducting by steam driven fans. The foul air was then exhausted through upcast shafts heated by gas jets or re-circulated for reheating.

The Van Hecke system installed at Glasgow required a plentiful supply of fresh air. Air was drawn down four 5ft. x 3ft. shafts 100 ft. high built into the walls of the Tower and terminated in a room well above the roof line. Openings into the room were at both high and low level. External air was admitted to the room through timber louvres fitted in the south facing lancet windows. At this height the air was thought to be free of all impurities. A 7ft. 6 inch diameter fan powered by an 8 horse power steam engine situated near the base of the tower sucked the air down the shafts. On reaching the basement the air was forced through a series of underground ducting which led to five distinct air chambers. The south east and south west chambers were located immediately under the gateways leading into the quadrangles. A centrally placed chamber was in a sub-basement in the east wing, the two remaining chambers were built along each side of the main walls of the library and museum. The fresh air was heated in each of these chambers by being forced over a series of 4 inch diameter hot water pipes arranged in upright coils. These coils extended the length and breadth of the chamber presenting the incoming air with a large area of exposed heating surface. Each chamber was supplied by its own independent hot water boiler and the heated air was dispersed by branch ducting to a series of vertical air shafts. At ground level the shafts measured 18 inches x 12 inches reducing to 12 sq. inches on the upper floors, the shafts were again constructed within the wall thickness with openings in the horizontal channels at low level with upper openings in the classrooms. Figs [170,171]

Fresh air, with few exceptions, entered the classrooms at near ceiling height. The libraries and museum, because of their special functions, admitted fresh air at skirting level. Classroom inlets allowed a supply of 750 cubic feet of air per person to enter the rooms and was supposed to be capable of being regulated. The

extraction of foul air from the classrooms was by perforations in the risers of the seats, then flowing into a secondary series of horizontal and vertical ducting. Three main vertical shafts each 5ft. deep x 3ft. wide and 96ft. in height were constructed for this purpose in the south west, south east, and east end pavilions. The extraction power of these shafts was increased by dissipating the waste heat from the hot water and steam boilers. This was carried through a cast-iron pipe 2ft. 3 inches in diameter at a maintained temperature of 25 degrees, exhausting to the air above roof level through sympathetically designed stone terminals. Fig.[172] The medical wing, which was to be in use from early morning, used gas lighting which required additional vents at ceiling level. No means of mechanical extraction was provided in the libraries and museum other than air flues in the walls discharging direct to the open air above roof level. Ventilation was provided in the anatomical department by the simple means of opening windows. (161)

Sometime after the system had been installed the flow of air drawn down the shafts by the fan to the heating chambers was monitored. It was found that the wind speed and direction varied the amount of air provided, due perhaps in some measure to the location of the building being on top of a hill. Calculations showed that 1,350,000 cubic feet of air per hour was the lowest amount to have been supplied. The total extent of the heating surface exposed to the cold air was 20,710 sq.ft., the five heating chambers averaging 4000 sq.ft. with a further 600 sq.ft. in the chemical and anatomical laboratories. To maintain room temperatures at a steady 54 degrees in a building of 2,035,000 cubic feet, a constant supply of 1,800,000 cubic feet of fresh air was required per hour. Daily consumption of coal was 2 tons 3 cwts. over an eight hour period. This equates to the combined movement of 3,835,000 cubic feet of hot and cold air per hour. The operating staff consisted of one engineer and one stoker with an additional stoker employed during winter. A sum of £500 was allowed per year for running and maintenance costs, the installation including the ducting, vertical flues and extraction shafts was in the region of £17,000. (162)

In December, 1878 Phipson presented a paper to the Institute of Civil Engineers on his design for Glasgow University and concluded by stating:

that this application has given general satisfaction and is probably the best arrangement that could have been adopted under the circumstances. The successful issue is certainly attributable in a great degree to the persevering labours of the eminent professors who formed the ventilating committee and to their architect the late Sir George Gilbert Scott RA. (163)

During the discussion which followed, Phipson's design was strongly criticised. Professor James Thomson, Professor of Civil Engineering at the University, did not agree by pointing out that in several of the large classrooms the ventilation was inadequate. In winter the windows were left open to "mitigate the evil odours". (164) This was due to the failure of the implementation of clause 5 of the specification which required the cold and hot air to be capable of being mixed. This appeared to be a particularly bad fault in the system as it was incapable of individual room control. At any one time the system could only provide simultaneous comfort in all the rooms served from the common source. A crowded lecture room which generated its own body heat received the same temperature as adjacent rooms, many of which may have been unoccupied, thus creating temperatures that became unbearable. The Van Hecke system was developed to heat hospitals which required a steady temperature in every room throughout the building. The failure of the Van Hecke system to meet the demand for variable temperatures when required in various parts of the building, would suggest its installation was misapplied at the University. There is no documentary evidence to suggest that Phipson was able to overcome this defect significantly none of his subsequent contracts used this system.

Dr. Allen Thomson agreed with Professor James Thomson that the problems of heating large buildings had not yet been solved. He looked on the Glasgow installation very much as an experiment but he would not condemn it out of hand. On the subject of classrooms he had found that both the heating and ventilation provided a general degree of comfort, and the health of the students had been extremely good. In his view the large crowded classrooms should be treated as a special case because the size of the inlet and extraction vents were not designed to deal with such large numbers. It was regrettable that this problem had manifested itself but as a result the system should not be summarily condemned.

One of the major drawbacks, as far as Phipson was concerned, was that by

the time he was commissioned to design the system the basement area was already under construction. This not only had a bearing on the design of the heating and ventilation system, it added considerably to the cost of the installation.. A point Phipson emphasised in his paper making it clear that: "the details concerning the levels, the directions of the air channels, and the position of the vertical shafts should be accurately laid down on the architects working drawings previous to the works being commenced". (165)

From the failure of Baird's scheme in 1849 to effect the relocation of the University to Woodlands, it had taken the University authorities almost another twenty-five years to complete the move to the partially completed buildings at Gilmorehill. The new purpose built accommodation designed and built by George Gilbert Scott for £190,000 was half of what was spent on his St.Pancras Station complex. The University of Glasgow now had a building of massive proportions and its completion signalled the end of the modernisation and rebuilding of the Scottish Universities. These refurbished establishments remained the responsibility of the Office of Works in Scotland under R. Matheson and his successor W. W. Robertson until 1889, when the Universities (Scotland Act) of that year transferred the maintenance and funding of University buildings from Government control to the University Courts.

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165. *Ibid.* p. 129.

Conclusion

The three Universities investigated in this Thesis were all founded in the fifteenth century; St. Andrews in 1410 followed by Glasgow in 1451 and finally Aberdeen in 1495. What has become clear is that whilst each institution developed independently, their evolution followed very similar patterns. Immediately following the granting of the university charters, teaching had to be carried out in the private residences of the masters, as the fledgling seminaries possessed no property. Faculty meetings were held in the ecclesiastical buildings of the university towns. In 1450 at St. Andrews Bishop Kennedy laid the foundation stone of St. Salvator's College, and this was followed by St. Mary's College founded by Archbishop Beaton and built between 1537 and 1544. The University Library was constructed during the period 1612 to 1642, and restoration work was carried out on the mediaeval buildings between 1680 and 1688. In 1754 building work was finally completed with the erection of a new classroom and residential block on the northern boundary of St. Salvator's courtyard. Bishop Elphinstone, funded the early building work carried out at King's College Aberdeen between c.1500 and c.1505, and Bishop Dunbar, added a south wing c.1530 subsequently replaced by the Fraser wing in 1725. Marischal College, founded in 1593, took possession of property vacated by the friars of the Dominican and Carmelite Orders. In spite of a fire in 1639 which caused extensive damage to the original building, duly repaired thanks to generous public donations, they remained in continuous occupation until moving to the new Marischal College on its completion in 1844. The mediaeval layouts of the St. Andrews and Aberdeen colleges were similar, with the college chapels taking up one side of the square. The common hall, classrooms and residential accommodation completed the other three sides. Glasgow University was a much larger complex built in stages between 1630 and 1660, the buildings being arranged around two courtyards in the shape of a Cambridge College. Despite the awareness of the university authorities of the need to keep their buildings in good repair, they continued to deteriorate through lack of regular maintenance, caused by a chronic shortage of money.

By the eighteenth century it was recognised by their governing bodies that the

condition of the original mediaeval buildings had deteriorated to such a level that they were in need of renovation. Despite attempts to improve matters at this time, aided by private donations and public subscriptions, nothing of any great consequence was achieved. In the early decades of the nineteenth century it was again recognised that the fabric of the Scottish Universities were in a very run down condition and it was imperative the situation was redressed as soon as possible. In the past there has been a tendency to blame the bad management of the College authorities for allowing such a situation to develop but it was in fact largely out of their control. From their inception the university administrators had never had an annual budget which would have allowed for the proper care and maintenance of their properties. Income was mainly derived from endowments, teinds and feu duties and these were not subject to annual increases. The effects of inflation were equally as apparent then as now. The decision to augment parochial stipends further reduced annual income with money being taken from the teinds which made up a large portion of the original endowments. This state of affairs had continued well into the nineteenth century. Any essential repairs that had been carried out were paid for out of the Professors' salaries or by borrowing money, placing a further burden on their already inadequate annual income. Since the beginning of the eighteenth century the University authorities had been aware that the neglect of their buildings had been their worst enemy. They were also aware that money and expertise were necessary to secure any long term conservation and improvement, two commodities which they did not have.

The role played by the Scottish Office of Works before and after its amalgamation in 1832 with the reorganised English Office of Woods and Forests, and the final 1851 reform which created the Office of Works, was critical to their survival. Robert Reid had campaigned for the setting up of the Scottish Office of Works despite the fact he had been a successful Edinburgh architect in practice on his own account. Since 1808 he had enjoyed the prestige his title King's Architect and Surveyor in Scotland, had afforded him. Through the Scottish Barons of Exchequer he had become increasingly involved in looking after the Crown properties in Scotland. These were originally the remit of the Scottish Master of Works who had long drawn a yearly fee for doing nothing. There was a need to have this

anomalous situation resolved and Reid was appointed to the dual post of His Majesty's Master of Works and Architect in Scotland on the 21st August, 1826. Whatever Reid's motives were, the Scottish Office of Works under his leadership, was established in 1827. From its inception the newly created Office of Works in Scotland was capable of providing a full architectural service and in this respect they were under-employed. The small establishment carried by the new department would have restricted their ability to handle large contracts and their remit regarding public buildings was ill defined. To begin with they were engaged mainly on routine maintenance work, and the Scottish Office of Works suffered from a general lack of recognition by government controlled institutions who refused to use their services. It can be argued that the laissez-faire style of government of the period did not recognise this was a problem and this probably encouraged the use of architects in the private sector. This is not surprising as their English counterparts continued to use attached architects as and when required. The concept of a government department providing in-house architectural services was still some way in the future.

It was perhaps fortunate the Office of Works inherited a range of projects previously under the jurisdiction of the King's Architect and Surveyor in Scotland by providing an established clientele and some official recognition. This included the modernisation of St. Mary's College and the rebuilding of United College at the University of St. Andrews. The bulk of their work however continued to be the provision of reports and estimated costs for the maintenance of Crown properties throughout Scotland. These costs were produced for the Treasury's information and provided them with valuable checks on the figures presented by the universities or other bodies when applying for government funding. Equally important was the role they played as government inspectors in checking that all building work carried out, not under their direct control, was of the required standard. The issuing of certificates to that effect to the Treasury allowed the release of instalment payments due to the contractors. This was a role the Scottish Office carried out during the building of the new Marischal College and the new Glasgow University building at Gilmorehill.

In 1822 and 1834 it can be argued it made good sense to commission John Smith

and Archibald Simpson as the architects for the King's and Marischal Colleges' redevelopments. Both were well known local architects who were on hand to supervise and control the contracts. There was no need for the government architect to travel long distances given the transport difficulties of the pre-railway age. The reasons why Reid was not appointed architect for the new Marischal College in 1834 after providing a report, drawings and estimated costs, are not known. It may have been their indebtedness to the anonymous scheme, presumed to be Simpson's, which was probably recognised at this time. Reports prepared in this way by the staff of the Scottish Office of Works, as far as their Lordships of the Treasury were concerned, were nothing more than fact finding exercises. The Treasury had not made Reid's appointment a condition of its grant towards the building costs of the new Marischal College. Perhaps it was the prevalent attitude to the government providing in-house architectural services which prevented Reid's engagement. Perhaps it was nothing more than a clash of personalities between the Senate and Reid, who was known as a forceful character and difficult to work with. Simpson, on the other hand, had prepared earlier sketch plans and was already familiar with the needs of the Senate.

By the 1850's when Matheson made his report and recommendations for King's College, it appears he was automatically allowed to complete the commission. This may have been due to the fact that the concept of a government department providing architectural services had had time to take root and be more readily acceptable for contracts of medium size. Perhaps it was the development of the railway network which had now made direct supervision from Edinburgh so much easier. But despite having produced a feasibility study in 1858 recommending the relocation of Glasgow University to a new site, Matheson's continued employment for that project was never seriously considered. Realistically the small staff carried by the Scottish Office could not have coped adequately with such a large project and would have been unable to produce in a relatively short period the large quantity of drawings required. It was also recognised by the Senate that it was imperative that an architect with a high profile be engaged for this commission, one whose reputation would be more likely to encourage a higher level of public subscription towards the cost of such a prestigious building.

By the early decades of the nineteenth century the Universities realised that due to social change abetted by government legislation, they had to meet the growing national demand for a broader based educational curriculum. This meant that student numbers would increase and it was imperative that their outdated and inadequate accommodation was upgraded to meet these demands. Specifically the universities now needed classrooms rather than residential accommodation. Most of the momentum for change in regard to better facilities, was instigated by the University Senates aided by the invaluable assistance of individuals acting in a purely private capacity or through some official position. At St. Andrews the Chancellor, Lord Melville, as a member of Lord Liverpool's government and a University Commissioner, did much to obtain the original grant from the Treasury in 1828. In 1844 both Melville and Provost Playfair, who was well connected in London, secured additional funding to allow the completion of United College. The University of St. Andrews relied entirely on public funding, never having been asked by the Treasury to raise additional money by public subscription, this being a mandatory condition imposed by the Treasury on both Marischal College and the University of Glasgow. The reasons why St. Andrews did not have this condition applied to it are not recorded. Perhaps it was recognised that St. Andrews, as a small town, did not have the resources available through large commercial and industrial enterprises prepared to donate money, as did the cities of Glasgow and Aberdeen.

Similarly, the Marischal College authorities were indebted to Alexander Bannerman, Provost Blaikie and the Town Council. Bannerman lobbied parliament and the Treasury in presenting the College's case for funding and organised the appeal for public donations. A conditional offer of financial assistance was made by the Treasury who insisted on having a guarantee that, should the contract figure be exceeded, the Town Council would be responsible for the overspend. After lengthy negotiations a Bond was signed by the Provost and Magistrates agreeing to the Treasury's terms. Otherwise the Treasury would not have released the money causing further delays in resolving the problem of new buildings for the College. This was the significant difference between Marischal College and King's where the Senate appeared to be very much on their own in conducting their negotiations with the

Treasury. The Duke of Gordon, their Chancellor, while good intentioned, did not appear to have had much impact having had to write to Lord Melville asking for his advice on what action he should take.

At the University of Glasgow the situation was altogether different. In 1845 and 1863 the University authorities were approached by two different railway companies who offered to finance their removal to a new site. In both the failed 1845 scheme and the successful removal to Gilmorehill in 1863, the value of their existing site was critical. The size and scale of the accommodation required for the new university was such that nothing could have been achieved without the sale of their major asset. The original site was sold in 1864 for £100,000 which was set against the cost of the new university; and in this respect Glasgow differed from the other two universities. Much credit is due to Dr. Allen Thomson who worked tirelessly to bring about the successful outcome of the move to Gilmorehill. He chaired many of the sub committees of the Removal Committee and had a close working relationship with George Gilbert Scott. In the area of public subscriptions it was the generous donations of the leading Glasgow industrialists which provided most of the topping-up funding which gave the financial stability so essential for the completion of the Glasgow project. What must not be forgotten was the crucial role played by John Baird and the university professors between 1845-49. It had been through their combined efforts and the comments of Barry and Pugin that an acceptable plan form was evolved. Scott himself, must have been aware of the value of Baird's contribution as it was his plan which provided the basis for Scott's all embracing concept of a modern university at Gilmorehill. It also enabled the project to be planned and approved within the short space of eighteen months.

Their Lordships of His/Her Majesty's Treasury had, until 1851, exercised almost arbitrary powers in determining the amount of government money which was spent on public buildings. They not only determined who qualified for government assistance, they also specified the allocation. This situation remained in force until the re-organisation of the Office of Works in 1851. Money for public buildings was now allocated on an annual basis in the estimates of that department and voted on in parliament. Despite this new arrangement the Treasury still exercised a great deal of control, control which was not relinquished until the University (Scotland) Act of

1889. Of the three Universities covered, the University of St. Andrews was the only University to have their renovation and rebuilding costs met in full by government funding. No conditions were imposed by the Treasury to raise additional monies by public subscription, although these had been mandatory conditions enforced in the case of King's and Marischal Colleges and the University of Glasgow. The conditional offer of financial assistance made to Marischal College by the Treasury was subject to a written guarantee that any expenditure over the agreed contract figure would be met by the Town Council. After lengthy negotiations between the Treasury and the Town Council, an agreement was reached and a Bond signed which made the Town Council responsible for any extra expenditure incurred. If the Treasury had been funding the full cost of the renovations of the Scottish Universities, the stringent controls imposed by them would have been justified. In reality the funding provided by central government covered only 55% to 60% of the cost at King's and Marischal Colleges. Their contribution towards the cost of the removal of the University of Glasgow to Gilmorehill was as low as 35%. Any criticism of the approach adopted by successive governments in the nineteenth century has to be tempered by an understanding of the political ideology prevalent at that time. Central government expected that funding for such projects should be met in part by the residents in each locality.

Throughout the period researched, protracted negotiations with the Treasury delayed the start of the building process in every case. This was due in some measure to the need to balance the requirements of the Universities and both private and public sector architects against the constraints imposed by the Treasury. In the nineteenth century architects were having to adjust to the accelerating changes taking place in new methods of construction and the introduction of new technology and materials. One of the significant changes was the development of malleable iron beams capable of carrying larger loads over greater spans. A good comparison in the development of the use of iron construction relates to the relatively simple hog backed cast-iron beams used by William Nixon at St. Andrews in 1844. These were far removed from the large scale network of clustered columns and rivetted malleable iron beams used as the main constructional elements by George Gilbert Scott at the new Gilmorehill building. The new Glasgow University building was also

at the forefront of modern technology having one of the first space heating systems to be installed in such a large building.

These remodelled Scottish university buildings were in the forefront of the movement for change in university education, by providing suitable classroom, library and examination hall accommodation, rather than residential accommodation and chapels. The influence these buildings had, on the emergence of the essentially secular non denominational English red brick universities, in mid-Victorian times, cannot be underrated. The only comparable new English university to have been built at this period was the much reduced version of William Wilkins' 1826 winning design for University College London, the plan of which certainly influenced the layout of Simpson's final scheme at Marischal College and Baird's first plan at Woodlands. Originally planned around three sides of a court in the form of an E, the central feature was the Great Hall with its imposing portico over a stepped podium. This arrangement may well have been inspired by Thomas Hamilton's 1825 Edinburgh High School. (1) Financial restrictions allowed only the main wing to be built between 1827-1829 in which were housed only museums, libraries, Great Hall and lecture rooms. The Great Hall was repositioned to the rear of the building and this resulted in the dome being more prominent than the portico. The University College commission had brought Wilkins into contact with two of the leading social reformers of the age, Henry Brougham and Jeremy Bentham. Bentham led the opposition to the power exercised by the Church of England over education and he had the support of a group of London merchants and the Baptist Church. (2) One of Brougham's many criticisms was the lack of adequate scientific instruction provided by the Universities of Oxford and Cambridge. He was later to be responsible for successfully piloting "The London College Bill" through Parliament despite fierce opposition from within and outwith Parliament. This led to the foundation of King's College London with its incorporation in 1829. The new College designed by Sir Robert Smirke, formed part of Sir William Chambers' uncompleted Somerset House, the layout of which constrained the planning of the college.

The foundation of these non sectarian University Colleges was a potential threat to the ongoing Oxbridge tradition. It was only after the completion of

University College London that Cambridge University engaged C. R. Cockerell (1788-1863) to extend their library. This extension was to house several departmental museums, schools for Divinity, Physics, Art and administrative offices. The building was planned around a central courtyard but a shortfall in funding prevented the development of all but the north wing which was built between 1837 and 1842. (3) Both Oxford and Cambridge Universities remained residential colleges and they did not give much of a lead in the development of the new concept of university planning.

While the accommodation they offered was very similar, the new red brick English Universities of Manchester, Leeds, and Liverpool differed from the single-campaign purpose-built Glasgow University in one very important respect: they were all developed "piecemeal over a considerable period of time". (4) Although Manchester University is almost as unified in its architecture as Glasgow, it was not built to a pre-conceived plan. Owens College in Manchester designed by Alfred Waterhouse (1830-1905) was built in 1869 as a complete building. It was originally an E plan block, stone faced with limited decoration. Additional building works were planned as early as 1875, but the main works were not carried out until after 1880 when a royal charter created the Victoria University with its seat in Manchester. (5) Owens College which had been founded in 1851, as the result of similar pressure to that which had led to the establishment of the University of London, became its first college. The series of developments at Manchester began with the extension of the medical school in 1882 and culminated with the building of the Grand Hall in 1898. (6) The University Colleges of Liverpool and Leeds were added in 1884 and 1887 with Waterhouse as their commissioned architect. At both, existing buildings were adapted and these formed the core of the developing universities. University College Leeds followed the precedent set at Manchester with building work beginning in 1878 and continuing through to 1898. In 1881 at University College Liverpool, construction work began with the adaptation of the old Asylum building and ended with the construction of the new medical building in 1899-02. In 1903 the Victoria University was dissolved with the creation of three independent universities, the Victoria University of Manchester, the University of Liverpool, followed by the University of Leeds in 1904. (7)

The renovation and repair of any ancient building worthy of preservation needs constraint and a great deal of skill by both architect and tradesmen in order to retain their authenticity. This is illustrated by the sympathetic treatment carried out on the mediaeval buildings at St. Andrews and King's College, Aberdeen during the nineteenth century Scottish Universities rebuilding programme. Unfortunately this treatment was not extended to the mediaeval hall at United College St. Andrews, which sadly was sacrificed as it was considered to be both unstable and redundant. The new buildings were significant examples of public architecture of the period, and university architecture in particular. Along with University College London they were in the vanguard of the changing concept of what a university should be, and set the format for new university buildings for the rest of the century. A format which was embodied in George Gilbert Scott's new Glasgow University building at Gilmorehill, arguably the most important British university project of the century.

Notes: Conclusion

1. R. W. Liscombe, *William Wilkins 1778 -1839*, Cambridge, 1980, p. 159.
2. *Ibid.* p. 156.
3. D. Watkin, *The Life and Work of C. R. Cockerell*, London, 1974, p. 183.
4. S. Maltby, S. MacDonald, C. Cunningham, *Alfred Waterhouse 1830-1905*, London, 1983, p. 39.
5. *The Cambridge History of English and American Literature in 18 Volumes (1907-21)*. Volume XIV. The Victorian Age, Part Two. XIV Education. Section 40. The New Universities.
6. C. Cunningham, and P. Waterhouse, *Alfred Waterhouse 1830-1905, Biography of a Practice*, Oxford, 1992, pp. 124-130.
7. *The Cambridge History of English and American Literature in 18 Volumes (1907-21)*. Volume XIV. The Victorian Age, Part Two. XIV Education. Section 40. The New Universities.

Appendix A

Copy of Robert Reid's R.I.B.A. Nomination Papers.

The British Architectural Library 66 Portland Place London F.VI. p. 59

Robert Reid of Charlotte Square, Edinburgh being desirous of being admitted a Fellow of the Institute of British Architects of London. We, the undersigned, do, from our personal knowledge of him, propose and recommend him to the Council for ballot.

Witness our hands this 9th day of February, 1835.

Henry Seaward

J. H. Good

Thos. L. Donaldson.

Approved H. Robinson

Chairman of Council Feb. 17/35.

Appendix B

Abridged Copy of an undated memorial by Robert Reid to the Lord Chief Baron and Barons of His Majesty's Court of Exchequer in Scotland. (N.A.S. E242/2 Report Book 2) p. 132.

'Whereas your Lordships having been pleased in the year 1826 to direct the memorialist to prepare Designs and Drawings of New Buildings for the United College at St. Andrews, and your memorialist after frequent communication with the professors of the said College in regard to the nature and extent of the accommodation necessary to be provided in the said New Buildings did make various drawings for those buildings grounded on the statements drawn up by the professors in regard to the accommodation necessary, as also general estimates of the expenses that would attend carrying out the Buildings as then projected into execution, but on those drawings and estimates as then prepared being submitted to the Lords of the Treasury, their Lordships considered the expense of executing the buildings to be greater than could then be granted for that object. And new designs were ordered to be prepared in which the Principals House was to be altogether omitted and the accommodation in other respects changed and curtailed which was accordingly done, and on these new designs being submitted with general estimates of the Expense, the same were approved of by the Treasury'.

Appendix C

Copy of a letter in draft form from the Lord Viscount Melville to the Chancellor of the Exchequer, as printed in Evidence p. 260 (U.St.A.M. UY 132/120)

Melville Castle,

Edinburgh.

28th December, 1827.

Sir, Having as Chancellor of the University of St. Andrews, had several communications with you and with Lord Goderich, then Chancellor of the Exchequer, respecting the ruinous state of the Buildings in that University, Mr. Reid, His Majesty's Architect for Scotland, was directed to prepare plans and estimates for the repair or rebuilding of such parts as were in the most dilapidated state. These plans were accordingly prepared, and the total amount supposing the whole to have been executed, exceeded, as far as I recollect, the sum of £40,000. It appeared to me that the amount of building, as proposed by Mr. Reid, was unnecessarily large and consequently expensive; and he was requested to modify and curtail it. He has accordingly prepared another set of plans on a more moderate scale, but which, I have no doubt, will afford sufficient Accommodation; the estimated cost of which, as you will perceive by the inclosed paper, and supposing also the whole to be executed, does not exceed £23,500. The amount, however, which it at present required, and which is really indispensable but which will be sufficient till it may be convenient to supply funds for completing the whole, need not, I think, exceed £12,000 or £14,000. I understand that Mr. Reid is to proceed to London immediately with his plans, in order that he may afford to you any explanation you may require.

The University of St. Andrews consists of two Colleges, viz. the United College of St. Salvator and St. Leonard (United by Act of Parliament about 80 years ago), and St. Mary's College, the latter being limited to students in Divinity.

1st. The buildings of United College are in a ruinous, and as appeared to me,

really in a dangerous state, or at least a considerable part of them; but you will perceive from the inclosed paper, and it will be pointed out to you by Mr. Reid, that it is proposed at present to erect only one portion, amounting to about £5.600, besides some additional items for a Porter's Lodge, for drains, levelling the ground etc.

2ndly. St. Mary's College is generally in a better state and will only require some repairs and alterations to preserve the fabric from decay and to render it sufficiently commodious. The estimated amount as you will perceive, is £2,000 and which I have no doubt, will be quite sufficient.

3rdly. The building which contains the University Library is in good repair but is incapable of containing the books now in their possession and still more of providing for the daily increase which is taking place. An addition to the building is indispensably required, the estimated amount of which you will perceive is under £3,000; and which is connected also, as the plans will show, with the proposed alterations at St. Mary's, a ruinous and unoccupied portion of which is intended to take down and the space appropriated to the required addition to the library.

You are no doubt aware, that a Commission has been employed for above a year in visiting the several Universities and Colleges in Scotland; and though the subject to which this letter relates was brought under the consideration of the Treasury long before that Commission was issued, I consider it to be proper, and indeed highly necessary, being myself one of the Commissioners, to submit the whole to their consideration, the condition of the buildings in each University being one of the points to which they were enjoined to direct their inquiry; and I am enabled to state to you, that the Commissioners who visited St. Andrews were unanimously and decidedly of opinion, that the buildings and repairs to the extent now proposed by Mr. Reid to be executed forthwith, are indispensable, and that the whole ought to be completed at as early a period as may be practicable. I have not thought it necessary to request the opinion of the Commissioners as to the description of architecture, and the elevation and external appearance of the proposed new buildings. The Lords of the Treasury are perfectly competent to form a judgment on those points, and can either adopt the elevations proposed by Mr. Reid, or direct any alterations in that respect which may appear to them to be requisite.

I think it right to state for your information, that the Commissioners for visiting Scottish Universities will have to report hereafter on the buildings of the University of Aberdeen, and the extent of repair or renewal which they will require; but that question is connected with and depends mainly on another, viz. the proposed Union of the two Colleges of that University. No such cause of delay has arisen or can arise as to the buildings at St. Andrews, because, as I have already stated, St. Mary's College is limited to the study of Divinity and the United College embraces the other branches of learning and Science usually taught in the Scottish Universities, exclusive of Divinity; and even if those two Colleges were to be conjoined, which is not contemplated or proposed, still the same extent of new building would be required. At Aberdeen however, the case is totally different. The two Colleges there are independent of each other, and there are Professors in each who teach the same branches of Science, which, of course, would be deemed unnecessary if the Colleges were united, as was done at St. Andrews (as above mentioned) in regard to the Colleges of St. Salvator and St. Leonard and for reasons similar to those which have suggested the union at Aberdeen.

At the Colleges of Glasgow and Edinburgh no such demands are likely to be made on the public. The former possesses sufficient funds for the repair of its fabric or for any necessary additions to it; and the College at Edinburgh has recently been completed by grants from Parliament.

I have the honour to be, &c. (signed) Melville

The Right Hon. J. C. Herries, &c.

Abstract of the Estimated Expense which will attend the erection of the New College Buildings, and other matters proposed to be executed at St. Andrews, agreeably to the plans thereof.

New Buildings for the United College of St. Salvator and St. Leonard.

Amount of the expense of completing the proposed new range of buildings intended to be first erected on the east side of the College Court, containing Class Rooms and other accommodations, as filled in with a dark grey tint, and marked No.1 on the General plan.

£5,579.00.00.

Amount of the expense of completing the proposed new range of buildings, as intended to be afterwards erected on the north side of the College Court, containing a Great Hall for the general assembly of the students, a Hall for the meetings of Professors, Class Rooms and other accommodation as filled in with a red tint, and marked No.2 on the General plan.

£9,829.00.00.

Amount of expense making alterations in the old building at the entrance, in fitting it up as a house for the porter, and other accommodations.

£350.00.00.

Amount of the expense of forming the ground, making common sewer, drains, boundary walls, etc.

£1,250.00.00.
£17,008.00.00.

St. Mary's College

Amount proposed to be allowed in repairs and alterations in the present building.

£2,000.00.00.

Amount of expense of building and furnishing an addition to the library, agreeable to the plans thereof.

£2,850.00.00.
£21,858.00.00.

Add seven and a half per cent on the amount of the foregoing estimate, for incidental charges, &c.

£1,638.15.00.
Total : £23,496.15.00.

Edinburgh, December 1827. (Signed) Robert Reid, Architect.

Appendix D

Transcript of an interview between Robert Balfour and the University Commissioners as printed in Evidence. U.St.A.M. UY132/120)

3rd August, 1827. Mr. Robert Balfour called in and examined.

You are an architect? - I am.

And you live in St. Andrews - I do.

Have you had occasion frequently to see the Buildings of the Colleges here and to be acquainted with the state of them generally? - I have.

Have you today inspected the building between this Library and the house of the Principal of St. Mary's College? - Yes, I looked through the building today.

In what state did you find the walls of that building? - The south wall is very much off the plumb and seems to be a very slight wall.

Is it your opinion that if the interior of the building were taken out, the walls are fit to bear such a repair as would make it a fit place for a Library, to form an addition to the present Library? - No I do not think that the walls are sufficient.

Is the lower part of the Principal's house, and of the other buildings to the south of that where the Divinity Hall is, very damp? - Yes very damp.

To what causes is that damp to be attributed? - It is so much sunk under the ground; and the surface water, I suppose has access to the ground storey, and it is not sufficiently aired.

Is not the drainage in a very imperfect state? - I did not examine the drainage, but it seems to be so, from the damp state of the building.

Is the water that falls from the roof of the building collected and carried off? - No it is not.

Did you examine how much higher the earth was on the outside than the floor on the inside? - I did not measure it, I suppose the floor is about eighteen inches below the surface of the ground.

Are the walls of that building in the Divinity Hall sufficiently sound to bear repair? - I think those walls are in a sufficient state.

The Commissioners understand that the ground to the westward of those buildings

is not the property of the College? - No.

So that you could perform no operation in draining there, without the consent of the neighbouring proprietor? - No. I do not know the level of the ground upon the west side of the building; I never examined that, it is only the ground upon this side that I examined.

Did you observe the height of the rooms sufficiently to say whether the floors admit of raising, so as to put them upon the level of the ground without? - I do not know exactly to what purpose they are to be applied; I did not examine the height particularly.

Did you examine the buildings of United College? - Yes.

Did you examine both the Western and Northern range, or only the Northern range? - It was the Northern range of buildings I looked at today.

From inspection of the Western range, would you conceive that to be defective? - The Western range is very defective; it is a great way off the plumb, I suppose from a foot to eighteen inches in the height of the wall; that is to say, the east wall of that Building, upon the west side.

Is there any danger attending it now? - I do not know if there is any immediate danger; it has been in that state since ever I came to this place, which is more than thirty years ago; I do not perceive any difference.

Then it is presumed, that part of the Building of United College could not be repaired to any advantage, and ought to be taken down and rebuilt entirely? - There is no doubt of it.

Then, as to the Northern range, what state is that in? - The Northern range is divided into a number of small divisions, and the building in that place is very much strengthened by a number of cross walls in the building; but both the walls and the roof are very faulty in many particulars; there are a number of cracks down the walls and besides that, the south wall is very much off the plumb, at one particular part, near about the middle of the wall.

Do you conceive that the building might be gutted, and converted into proper-sized Class Rooms, with any advantage? - No, I do not think it; the roof is much slighter than I supposed that it was at first; the copings, or scantlings of the roof, are not more than three or four inches deep - not more than two and a half, or three inches

thick. Now from the time they have already stood, they must be very slight; and that roof is covered with great slates which are of a great weight, and it is in consequence of so many partitions being under the roof, that it makes it appear so straight and keeps it up.

Then if it were gutted, there would be danger of its falling down altogether? - It would be dangerous to do it.

In order to convert it into proper class rooms, would it not be necessary to take out some of those cross-walls? - Yes and also the floors and partitions.

Would not all that tend to weaken the general fabric very much? - Yes.

And it follows from that option, that those side walls would not bear the weight of a new roof, supposing they were not strengthened by the cross-walls? - I do not think they would.

Then it is your opinion professionally, upon the whole, that the Building is such as it would be advisable to repair and fit up for additional class rooms? - No I do not think it is.

With regard to the upper library, did you look at the spouts that convey the water from the roof? - Yes.

Are they sufficient to contain the water that falls from the roof? - There are not a sufficient number of conductors, or perpendicular pipes, and it is too great a length for the size of the spout; it would require to have two conductors.

Does the water at present run over them and occasion damp upon the walls? - Frequently I believe.

Were they put under your immediate inspection? - I do not know. I no doubt gave some directions about putting them up but I was not aware that the water would run so much over them as it does. I had no concern with the doing of the work, I was merely consulted about getting the necessary articles for it. (The Witness withdrew).

Appendix E

Robert Reid's choice of architectural style at the University of St. Andrews for the rebuilding of United College, the refurbishment of St. Mary's College and the extension of the University Library

At St. Andrews University Reid was faced with the problem of having to rebuild and refurbish the University buildings located on three separate sites. Each site had its own inherent problems which precluded from the beginning the use of a unified architectural style. The existing north building at United College in North Street had been built in a vernacular classical style, which was very different from the plainer St. Mary's College in South Street. The existing University Library which also had classical antecedents was in close juxtaposition with St. Mary's.

Reid had several options open to him and he could have developed the classical design at United College which, as a recognised classical architect, he well may have favoured. The difficulty would have been to have successfully married a classical design alongside the existing mediaeval college chapel. The same can be said for the neo Jacobean style that was finally adopted; the alternative would have been for a full blown Gothic design in keeping with the chapel. It is not known if either the classical or Gothic styles were contemplated as both were likely to have been rejected on grounds of cost as financial assistance from the government was proving hard to come by.

No documentary evidence has been found as to why the neo-Jacobean style was chosen as there are no extant drawings or stylistic descriptions of Reid's early sketch plans. Reid had produced two if not three designs each progressively less ambitious as a result of cost cutting. The 2nd Viscount Melville was the single most influential figure in bringing about the redevelopment of the University buildings and documentary evidence confirms he met Reid on several occasions to discuss alternative schemes. It was common practice at this period for wealthy clients to dictate the architectural style in which they wished to have buildings erected. It has been suggested the choice of architectural style used by Reid and Nixon was attributed to Lord Melville and the members of the Royal Commission of 1827. They

were described as "a group of influential Scots who wished to impose southern standards" on Scottish architecture. (1) This was unlikely as Melville had made it clear he had not consulted with the Commissioners on the question of style. He believed the Treasury were competent judges of style and they could either accept or amend Reid's designs if they wished. There is no evidence of any adverse comments by the Treasury on the chosen neo-Jacobean style for United College unlike eighteen years later when the Treasury was highly critical of John Baird's 1845-49 Scottish Renaissance Palace design for the new Glasgow University. The only other source of direction on style could have come from the University authorities. This is again unlikely as the descriptive memorandums provided by the Principal and Professors would have been restricted to the accommodation needs of the University. (Appendix B)

By the late 1820s there was a movement away from the constraints imposed by formal classical planning and classical country house design was now in decline. This was not due entirely to planning changes but to a growing selectivity which was associating public buildings and country house design with more informal styles. A more regularised form of design had been imposed on the development of Edinburgh's New Town by specifying a building line and placing height restrictions on eaves and roofs. The passing of the Edinburgh Improvement Act of 1827 reinforced these measures by specifying that buildings built to the north of the New Town were to be "in the old Flemish style of architecture" or whatever style appeared best suited to the City of Edinburgh. (2) The Act had created an awareness of the need to rationalise the use of space and the revived neo-Jacobean style was only becoming established. Reid was familiar with the Improvement Act of 1827 and this could have influenced his thinking.

Reid may have felt this style had a certain rapport with the romanticism of the ancient city of St. Andrews. On the other hand its choice may have been quite simply a reflection of the swing in architectural fashion. The choice of neo-Jacobean was probably a compromise as it was cheaper to build due to the advent of new materials and methods of construction, making it more popular with clients - a powerful argument in its favour at St. Andrews.

The style had developed in England with a proliferation of transomed and

mullioned windows, oriel windows and shaped gablets, a style that was now being favoured for country houses. An early example was Sir Robert Smirke's Castle Green House at Hereford 1821. The principal examples in Scotland were the work of that prolific designer of country houses throughout the United Kingdom, William Burn. He used the revived Jacobean and its closely related Tudor style at Carstairs 1821 where he used shaped gablets on the south front. (3) This design was repeated over the mullioned bay windows at Riccarton 1823 where he also used similar gablets and some Tudor details over the dormer windows at first floor level. A later design at Garscube 1826 has been described as one of the finest neo-Tudor houses where shaped gablets again featured on its southern front. At Fettercairn the Jacobean influence was also apparent with the entrance tower having a shaped gable, a feature which was further developed by Burn in his unbuilt design for Kimmurghame, 1828. By 1828 with his design for Dupplin the neo-Jacobean style can be said to have been fully developed. (4) Here again the projecting mullioned bay windows and shaped gablets are remarkably similar to his later Madras College at St. Andrews, 1832.

It is likely Reid was familiar with Burn's work. The fact that Reid made use of a similar semi elliptical arch above the main entrance to his east building at St. Andrews could suggest he may have followed Burn's lead. The other possibility is that he could have used as his paradigm the entrance gate to St. Salvator's Chapel. Nixon, when he designed the cloister in 1846 could also have used the profile of the mediaeval gate. The new revived Jacobean style was an eclectic mix of English and Dutch components but the development of any architectural style would depend on the skill and ability of the individual architect to adapt the models from which he is taking inspiration.

Other examples of English influence on Scottish architecture at this period, were the introduction of a Tudor style for which there was no historical precedent in Scotland other than at Pinkie House and William Wilkins' Dalmeny House, 1814 for Lord Rosebery which were early Scottish examples of the Tudor revival. (5) This was followed by Edward Blore's 1816 eclectic Scots Baronial English Tudor design for Abbotsford for Sir Walter Scott and its subsequent extension in 1822 by William Atkinson. These examples had no Jacobean details being sans strapwork and

curved gables. The Scottish architects were slow to develop the revived Jacobean style despite the availability of Britton's second volume of *Architectural Antiquities* published in 1809, which contained examples of both Elizabethan and Jacobean material.

At United College, Reid made use of Scottish elements, triangular shaped pediments, strapwork, wallhead decoration and scalloped quoins, features common to Heriots Hospital in Edinburgh. He also included mullioned and transomed windows with gabled string course and shaped gable stair well. In comparison with Reid's east wing Nixon retained Reid's basic concept producing a much more mature south elevation to his north building. Fig [47] He introduced a finely detailed English style doric portico which appears to be a much simpler version of the south entrance to Hatfield House in Hertfordshire, as shown on p. 277. Nixon is listed as a subscriber to Billings' *Baronial and Ecclesiastical Antiques of Scotland*, which confirms he had access to the growing number of published material. Reid used half dormers and triangular pediments to sympathetically embellish the fenestration of the east elevation at St. Mary's, retaining the character of the original structure. Fig [30] The Principal's house was remodelled using the same elements and the University Library was unashamedly extended in the same classical idiom producing in the process a much better balanced building.

William Burn was a prolific designer of country houses throughout the United Kingdom using the revived Jacobean and its closely related Tudor style. He also designed and built Madras College in St. Andrews in 1832 but it is highly unlikely that Burn had influenced Reid as relations between both men were extremely poor. By 1844 Nixon would have been aware of the new school in the town and again there is no way of knowing if he was in any way influenced by the greater scholarship of Burn's design. In any case Burn did not become a consultant architect to the Commissioners of Woods and Forests/Office of Works until Blore's retiral in 1849 and it was also unlikely he exercised any direct influence over Nixon.

The designs produced by Reid and amended by Nixon not only reflected the antiquity of the old mediaeval town, they were also abreast of the changing architectural fashion of the times.

Notes.

1. G.E. Davie, *The Democratic Intellect; Scotland and her Universities in the nineteenth century*, Edinburgh, 1961. p. 6.
2. M.Glendinging, R.McInnes, A.MacKechnie, *A History of Scottish Architecture* Edinburgh, 1996. p. 209.
3. D. Walker, "William Burn the country house in transition", in J. Fawcett (ed). *Seven Victorian Architects*, London, 1976. p. 8.
4. Ibid. pp. 9 -10.
5. R. W. Liscombe, *William Wilkins 1778 -1839*. Cambridge, 1988. pp. 83-84.



Southern entrance to Hatfield House, Hertfordshire.

Appendix F

Copy of the final statement of accounts prepared by Robert Reid dated 26th November 1832 for the new wing at United College, St. Mary's College renovations and the extension to the University Library

(N.A.S. E342/2 Report Book 2.) pp. 271 - 272.

Statement of the Works at the University Buildings at St. Andrews as actually executed from the designs and under the direction and superintendence of Mr Robert Reid, His Majesty's Architect and Surveyor and Master of Works for Scotland during the years 1829, 1830, and 1831, together with an abstract of the several Tradesmens Accounts showing the amount of Expense incurred, as the same have been examined checked and certified by Mr Reid and as paid to the different Tradesmen by the Kings Remembrancer of Exchequer.

United College of St. Salvator and St. Leonard.

At this College a New Building has been erected containing sundry classrooms and other accommodations, and which new Building forms one side of the square of the general design, for ultimately altogether renewing the College, but the portion now executed of that general design is the only part of it yet authorised to proceed on. The expense which has been incurred in the erection of the New Building in terms of the contract made with him.

	£6661. 17. 5.3/4.	
Amount paid to Mr Wallace for sundry matters not included in the contract.	270. 12. 6.1/2	
Amount paid to John Anderson for cast iron girders and other matters provided by him	416. 0. 9.	
Amount paid to Robert Ritchie for heating apparatus and stoves.	113. 9. 0.	
Amount paid to Wm. and Chas. Budd for tables and other matters provided by him	<u>17. 19. 6.</u>	
Total expenditure at United College		£7479. 9. 3.1/4

St. Mary's College and University Library

At this College a new additional building has been erected in connection with the Library giving additional Library accommodation and additional Buildings, and material alterations have also been executed in connection with the College Buildings giving additional Class Room accommodation and increased and improved accommodation to the Principals House.

brought forward. £7.479. 9. 3 1/4

The expense which has been incurred in the additional buildings and alterations in the University Library and St. Mary's College Buildings is as follows:

Amount paid John Kennedy for Mason Work.	£2294. 15. 5
Amount paid Robert Balfour for Carpenter Work	2458. 13. 8 1/4
Amount paid George Chambers for Plumber Work	135. 11. 7 1/4
Amount paid James Anderson for Plaster Work	279. 18. 3 1/4
Amount paid The Shotts Iron Co. for Cast Iron Work	33. 18. 5
Amount paid I. and A. Simpson for Iron Railings	11. 7. 2 1/4
Amount paid James Dalziel for Marble Chimnies	25. 0. 0
Amount paid James McGregor for Painterwork.	111. 1. 4
Amount paid Robert Ritchie for Stoves	13. 0. 0
Amount paid William Erskine, drainage done in his garden in taking common sewer through it	<u>45. 10. 4</u>
Total Expenditure at St. Mary's College and University Library	<u>£ 5.409. 16. 3</u>
Total Expenditure at St. Andrews University Buildings	£12.889. 5. 6 1/4

Signed Robert Reid.

Office of Works,
Edinburgh, 26th November, 1832.

Appendix G

Copy of estimate of the probable cost of works proposed to be executed in erecting a new additional building at the United College containing the Great Hall, Museums and four Class Rooms and Apartments connected therewith. Also for other works in repairs and additions upon the present College Buildings. (N.A.S. MW/5/146).

Office of Works, Edinburgh, 1st March, 1845. William Nixon.

Mason and Excavator Work	£2,244.11.02
Carpenter and Joiner Work	£1,570.11.01
Plumber Work	£ 275.17.01
Slater Work	£ 99.12.06
Founder and Smith Work	£ 276.10.05
Plaster Work	£ 259.17.01
Zinc Sashes	£ 75.19.03
Glazing	£ 66.18.07
Ironmongery comprising the locks, bolts and door handles for the principal apartments	£ 41.13.00
Painter Work	£ 120.00.00
Heating apparatus upon the mild hot water principal for the Great Hall, Museums, main Entrance Lobby and Stairs and for the Class Rooms	£ 35.00.00
Wood glazed cases and other fittings for the collections in the Museum and Anatomical Museum	£ 200.00.00
Movable benches and seats for the Great Hall	£ 40.00.00
Grates for all the fireplaces and sundry fittings to Class Rooms	£ 65.00.00
Erecting two additional private rooms for Professors at the back of the present building and building new privies for the students	£ 150.00.00
Taking down and rebuilding the dilapidated portion of the boundary walls	£ 100.00.00
Repairs upon the College Porter's House and adjoining office buildings	£ 100.00.00
Levelling and reforming the surface of College Court and garden ground	£ 50.00.00
Superintending the works of the builders and contractors	£ 128.09.10
Total	<u>£5,900.00.00</u>

Appendix H

The introduction of cast iron beams as main constructional elements in the building industry.

In the eighteenth century, when cast iron was introduced to the building industry it was used as a decorative material and it did not become a constructional element until after 1750. On the initiative of the government who were demanding better quality cannon and armaments as a result of the American War of Independence, coke replaced charcoal in the smelting process and there was an immediate improvement in the reliability and quality of the cast iron. This had a knock - on effect of opening up new markets for cast iron products, particularly in providing components for bridges. The first cast iron bridge to be built was at Coalbrook in 1779 which spanned 120ft. using arched iron ribs springing from two vertical abutments. Many other bridges were to follow with ever increasing spans; cast iron columns were also being used to support galleries of theatres and churches. It was but a short step to cast iron becoming a leading component in the construction of the industrial buildings which were springing up towards the end of the century. The first complete metal framed structure to be built in 1796-97 was the cotton mill of Marshal and Benyons designed by Charles Bage.

The use of cast iron became wide and varied and two early exponents of the use of this material were John Nash and Robert Smirke, both attached architects with the Office of Works in England. Nash designed a conservatory for the Prince of Wales as early as 1798 which demonstrated the versatility of this material by allowing slim sections to be produced. Much use was made of cast iron in the field of horticulture and Nash also used cast iron at the Royal Pavilion at Brighton 1815-18, where he supported the central dome on a metal frame. (1) Smirke led the way in promoting the use of iron work in the construction of domestic and public buildings; in 1810 he used built-in cast iron bearers which spanned 30ft. at Cirencester Park, the home of the Earl of Bathurst. (2) Nash, during the reconstruction of Buckingham Palace, used iron girders with an abandonment which raised fears for the stability of the building. He also claimed to have designed his own iron beams but these were of a relatively crude nature.

The best known floor of the type used by William Nixon at St. Andrews dates from 1824. It spans the floor and ceiling above the King's Library at the British Museum in London. Smirke had taken over the commission from George Saunders to design the British Museum, partly because of his position as attached architect to the Office of Works, and partly in recognition of his work at Covent Garden Theatre and the Royal Mint. He recommended building two parallel wings in the garden of Montague House and work began in 1823. The main feature of the east wing was the King's Library, a huge room 100yds long by 41ft wide and 30ft high with four Aberdeen granite columns at the central bay. Unlike Cirencester Park and possibly because of the increased span, Smirke abandoned the use of iron beams cast in one section and instead designed a trussed girder made up of sections of cast and wrought iron. After a discussion with John Rastrick - a leading advocate of and manufacturer of cast iron - who was of the opinion such a girder would be made to vibrate by the floor loading and subsequently fail. Rastrick advised a casting of one piece and he assured Smirke he had directed the use of 90ft long beams during the erection of the Stourport Bridge over the Severn. (3)

It is almost certain Rastrick was responsible for the innovative design of the beams used at the Museum and they were manufactured by Foster Rastrick & Co. Stourbridge. Similar iron construction and fireproofing was used by Smirke in conjunction with Rastrick at two other contemporary London buildings - the General Post Office 1824-29 and the Custom House 1826-27. (4) In total twenty beams were cast and individually numbered for use at the King's Library, fourteen beams were erected in the south section with a clear span of 41ft (12.5m). The six beams of the central section had a clear span of 44ft (13.4m). The elliptically arched hogbacked beams measured 3ft 6 inches (1.05m) at their centres reducing to 1ft 9 inches (0.52m) at the ends, the web thickness was just under 2 inches (45mm). Each beam had large oval shaped perforations in the web specifically to reduce the dead load of the beam and to facilitate handling. The upper flange was narrow being only 3.5 inches (90mm) and had evenly spaced bracketed sockets to support the timber binders. The lower flange was much wider at 8 inches (200mm) widened at the bearings to 2ft 6 inches (750mm); this was extended further on the larger central beams. The columns at the centre section also supported three arched iron girders which took

the floor load and the brickwork of the internal walls. Figure A shows the floor construction of timber flooring carried on timber joists spanning between the timber binders supported in turn by the cast iron beams. Above the lower flanges are continuous projecting extrusions which support the arched fireplates, with the Library ceiling suspended from timber binders. (5)

Rastrick load tested each individual beam before it left the foundry and the actual load applied to the beams under his test conditions is unclear as several loads are indicated varying from 20 to 40 tons. (6) The need to test each beam shows that there was some uncertainty about the quality of the castings. A fatal accident occurred in May 1847 when the Dee bridge near Chester gave way under the weight of a passing train, and the collapse of two cotton mills near Manchester in 1844 and 1847 caused concern among the public and engineers. (7) The cotton mills had failed due to a combination of factors, bad layout, bad design and overloading of the floors. The rail disaster prompted the government to order a public inquiry - the first of its kind in the world. (8) The inquiry proved to be inconclusive, the investigation merely highlighted the wide differences of opinion held by engineers at this time on the safety of cast iron. One of the major factors causing concern was the brittle nature of cast iron and the lack of warning of failure. Isambard Kingdom Brunel, in giving evidence, considered cast iron to be an uncertain material which he avoided using if it was to be subjected to tension. William Fairbairn, one of the leading nineteenth century engineers and industrialists, was cautious in his support for cast iron; this was as a result of his collaboration with Eaton Hodgkinson, a professor of mechanical engineering at University College London. Hodgkinson specialised in the strength of materials especially cast and wrought iron, paying particular attention to their application as load bearing beams and columns. The results of their joint research was published in a series of papers by the Manchester Literary and Philosophical Society, The British Association and the Royal Society. In 1854 Fairbairn published a second book on the *Application of Cast Iron and Wrought Iron to Building Purposes* and he made a telling observation when he wrote:

It is to be lamented that so much ignorance of those undeviating laws which given the strength of materials should still prevail. Experimentalists and Mathematicians have provided the knowledge but practices I fear have, in great degree, failed to avail themselves of it.

The first doubts were raised about the stability of the floors of the British Museum after the Easter Monday opening in April 1837, when over 23,000 visitors crowded into the building. The live load on the floors would have been considerable and the Trustees must have had cause for concern when they noted that 'the pressure upon the floors of two or three rooms was very great' and Smirke was called in for his 'opinion as to their condition'. It is not known if Rastrick's beams were considered to be suspect at this time. (9)

Finally in 1932 measures were taken to restrict the floor loading as the result of a report by Ralph Freeman of Sir Douglas Fox and Partners who questioned earlier test results on beams carried out by Herbert Gough in 1931 at the National Physical Laboratory. The beams examined were removed from the Museum during the reconstruction of the Egyptian rooms and were similar to those installed by Rastrick's at the King's Library. Gough had concluded the main girders were unsound due to several defects which included cracks in tension chords and blow holes. Further investigations were carried out in the early 1990's at the request of the Museum who asked for the floor restrictions to be removed and the floor upgraded to at least 4KN/m². A detailed survey was carried out and in 1993-94 a new structure was placed within the floor leaving Smirke's beams to carry no more than their own weight.

There are numerous other examples of similar floor construction used during the 1820's and 1830's two examples are the Manchester Art Gallery by Charles Barry c.1830 where the iron beams used are rather crude inverted T sections. The Gallery is about to be refurbished and the beams will be exposed to allow a detailed survey of their condition to be carried out. Barry also made extensive use of cast iron beams at the Palace of Westminster using brick arched floors instead of timber. The beams used were symmetrical I section with equal top and bottom flanges unlike Rastrick's at the British Museum. (10)

The evidence available would suggest that William Nixon was influenced by Smirke rather than Barry. By making a direct comparison of the cross-section of Nixon's and Smirke's beams the proportions are remarkably similar, the only major difference being that Nixon's beam has a solid web and it does not have to support the additional weight of fireproof panels. see Fig 52

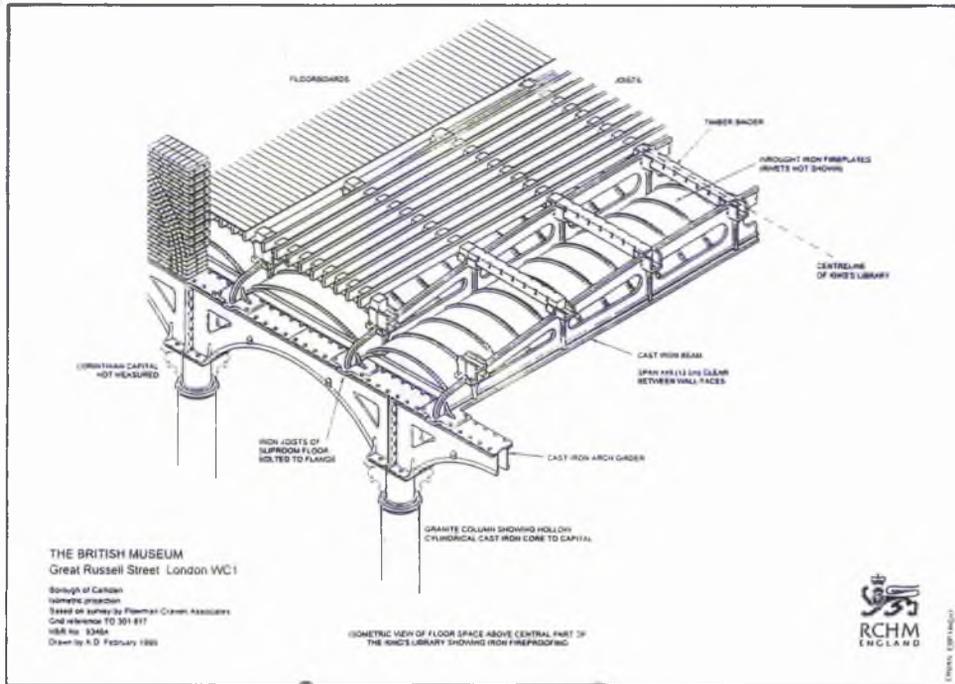


Fig. A Detail of floor construction over the King's Library at The British Museum. (source *The Structural Engineer* Vol.73 Number 12. June 1995.)

Notes.

1. M. Mansbridge, *John Nash*, London 1991. p. 202.
2. J. Mordant Crook, *The British Museum*, London, 1972. p. 141.
3. R. E. Slade, C. Playle, "The British Museum: upgrading the floor over the King's Library", in *The Structural Engineer*, Vol.73 Number 12 June 1995. p. 194.
4. P. Guillery, "Report on Floor over the King's Library", in *The Royal Commission on the Historical Monuments of England*. NBR Index No:93464. NGR TQ 301817, 1995. p. 2.
5. *Ibid.* pp. 2-3.
6. R. E. Slade, C. Playle, *op. cit.* p. 194.
7. *Ibid.* p. 194.
8. *Ibid.* p. 194.
9. *Ibid.* p. 194.
10. Information received from T. Swailes, Lecturer in Structural Engineering University of Manchester.

Appendix I

Sundry payments made for works carried out at United College and St. Mary's College and recorded in the Office of Works' Main Ledger 1853-54 and the Office of Works Abstract of Cash Payments 1854-55

Main Ledger 1853-54 : United College.

John McIntosh, Mason	£25.00.08
David Balsillie, Carpenter	£17.06.00
Mr. Beattie Jnr., Carpenter	£02.16.02
Hume & Melville for a Vane	£14.03.00
Farquharson, Plumbers	£01.14.03
James McPherson, Plasterer	£03.09.02
Robert Beal, Smithwork	£03.00.00
Elias James Gas Fitter	<u>£01.01.06</u>
Total	<u>£68.10.09</u>

Abstract of Cash Payments 1854-55 : United College and St. Mary's College.

D. R. Hill & Co., Painters	£196.12.10
Allardice & Sclander, Upholsterers	£203.17.00
David Balsillie, Carpenter	£053.08.02
David Mackie, Plumber	£009.04.00
James McPherson, Plasterer	£016.03.07
J. Neil & Co., Gas Fitters	£019.17.10
J. Miller & Co., Ironmonger	£006.01.00
Peter Steele, Carpets	£025.06.04
Alexander Doig, Upholsterer	£007.19.06
James Gray & Son, Ironmongers	£015.15.06
Jesse Hall, Superintendence	<u>£020.00.00</u>
Total	<u>£631.05.08</u>

Appendix J

Copy of Robert Reid's Report, respecting the building of King's and Marischal Colleges

Office of Works,
Exchequer Buildings,
Edinburgh.
15th May, 1834.

Sir,

With reference to your letter of 11th February last, acquainting me that the Lords Commissioners of His Majesty's Treasury having under their consideration, applications on behalf of the University and Colleges of St. Andrews, for the completion of the buildings there and that their Lordships were of opinion before further considering the claims on behalf of the University of St. Andrews, that the state of the buildings of the University of Aberdeen should be brought under their notice:- your letter also directing that I would proceed to Aberdeen to make a survey of the King's and Marischal Colleges and to report the state and condition thereof, accompanying my report, with plans, specifications and estimates, of what may be required, and with such observations and information on the subject as might appear to me material, in regard to the wants of the respective Colleges, and the means of providing for the same; I now beg to acquaint you that I proceeded to Aberdeen accordingly, and after inspecting the several buildings and communicating with the parties mentioned in your letter, I have now the honour to report as follows:

Marischal College.

The Buildings of this College are centrally situated in the city of Aberdeen, having access from one of the public streets, and consists of one large ancient fabric with some small and unimportant detached Buildings. In the drawings accompanying this report, there is a general ground plan, showing the site of the present College Buildings, as connected with surrounding streets and adjoining property. Also plans of the first and second floors of the College Building itself,

together with a sketch, showing the external appearance of that Building as it now exists. The Building of Marischal College was erected at different periods between the years 1684 and 1742 and consists of class rooms and other accommodations, as exhibited by the plans. The fabric generally, is in a state of great dilapidation and disrepair. The timber of the roofs, and of the several floors, with very few exceptions, are decayed and insufficient, and the interior finishing almost entirely decayed and worn out.

The class rooms and other accommodations are, in most cases, too small, and appeared to me to be ill adapted and unsuitable for the purposes to which they are appropriated. From the nature of its construction, and almost ruinous state of the present fabric, I have no hesitation in stating, as my professional opinion, that it is altogether incapable of alteration and repair, so as to render it, in any degree, suitable to the present wants of the University, and that rather than attempt to repair and alter the present structure, it would be more judicious and economical at once to pull the whole down and erect in its room, an entire new building.

As directed by your letter, I obtained thro' Mr. Bannerman, the Member of Parliament for the City of Aberdeen, the plans of the proposed New Building for Marischal College, which had been prepared in the year 1824, and which were, at that period submitted to the Lords Commissioners of His Majesty's Treasury, and having gone over those plans in conjunction with the Principal and Professors of the College, I found that whatever opinion might have been entertained at the period when these plans were prepared of the accommodation they contained, the professors were now decidedly of opinion that, from the change of circumstances since 1824 arising out of the increased numbers of teachers and classes, which the extended system of education in the University had rendered necessary, those accommodations as then contemplated, were now wholly inadequate and unsuitable; and from the particulars pointed out to me, and explanations given by the professors, I could not but coincide in that opinion. Under these circumstances, I requested that the Principal and Professors would furnish me with a descriptive list of the nature and extent of the several accommodations which they, at this time, deemed necessary for the purposes of the University; but including only, in that list, such apartments as were essential and indispensable for conducting, in a

satisfactory manner, the system of education as at present existing in the University, in order that I might be enabled to prepare a design for a new plan, embracing the necessary accommodations. I was accordingly favoured with the list of accommodations in question; and after much consideration, I completed a design for an entire new structure to contain the requisite accommodations, as exhibited in the drawings thereof. I submitted to the consideration of the Senatus Academicus the sketches of this design before being extended and which were returned to me with the accompanying minute of approval. In comparing this design, with the list of accommodations required, it will be found that although the proposed building is of very considerable extent, yet it embraces nothing but what is contained in that list; and from the explanations given me by the professors, and the observations I made on the spot, I am satisfied there are no accommodations exhibited in the plans of the new Buildings, either in number or extent, but such as are indispensably necessary for the increased wants of the University.

In the present stage of the business I have not judged it necessary to prepare and submit any elaborate drawings or details of the design in question, and have only to observe that, in external appearance and character, it is proposed to be plain and simple, and in the Grecian style of Architecture, as best suited to the massive nature of the materials of which it would necessarily be constructed. I calculated the total expense of executing and completing the proposed new Building at £36,000; and although the expense would be somewhat reduced were the columns and Porticos altogether omitted in the execution, yet I am of opinion that the expense of erecting any Building, whatever may be its style or architectural character, to the extent of the accommodations required cannot be estimated at any sum materially less.

King's College.

The Buildings of this College are situated at the distance of about two miles from the city of Aberdeen, they are in general in good condition, a considerable sum having been expended on their repair about fifteen years ago, at which time a grant of £2,000 was obtained from Government in aid of certain funds and voluntary contributions which had been procured for the purpose of repairing and putting into

a proper state the Buildings of the College, and the only repairs now necessary are a few casual repairs on the roofs, and other matters of small importance. On the whole, the present Buildings require little at this time to be done to them for the purpose of preservation. The Principal and Professors, however stated, that in point of extent of accommodations, the buildings are defective: in particular the library, which at present occupies a portion of the Chapel Building, is inconvenient and circumscribed, and that some further class rooms are requisite.

In the range of Buildings forming the south side of the College Court are situated a number of small rooms, formerly used as lodging rooms for students. These rooms under the present system, are not now required or used for the purposes to which they were formerly appropriated; and it is proposed that the portion of the Building, in which they are situated, should be entirely gutted, and the space fitted up for the reception of the Library, as shown by the plans thereof accompanying this Report. These plans and sketches of the elevation of the different sides of the Buildings, show the new work that would be necessary for giving the additional accommodation required and assimilating the South and East sides of the Building in external appearance and style with the other portion of it. The estimated expense of executing the whole as proposed by those plans, including enclosures, and entrance gateway from the street amounts to £5,850.

With respect of how far the inhabitants of the city of Aberdeen would be disposed to contribute towards the expense in the event of the wants of the Colleges exceeding such aid as may probably be given by Government. I have only to observe, that I held communication with the Provost of the city of Aberdeen and others on this point, but found it impracticable to obtain any specific information on this subject, - although a general opinion seemed to prevail, that a few thousand pounds could probably be raised by contributions from the inhabitants, towards supplying the wants of the Colleges, in aid of any sum which Government might be pleased to grant for that purpose.

I am, Sir,

Your most obedient humble servant,

(Signed) Robert Reid.

P.S. - The several plans and drawings referred to in this Report are forwarded in a box, per the mail coach.

The plans of Marischal College as they now exist, are those in the set of drawings marked No.1.

The plans of the then proposed New Buildings are those in the set of drawings marked No.2.

A copy of the list is annexed to this Report.

The plans showing this design for a New Building, are those in the set of drawings marked No.3.

A copy of the minute is annexed to this Report.

The plans showing the proposed alterations and additions to King's College, are those in the set of drawings marked No.4.

Appendix K

Copy of the statement given by Archibald Simpson certifying the expenditure on
Marischal College, in his progress Report dated 24th December 1840.

The following sums have been paid on account of the Building to this date.

Paid Alexander Rainnie by Certificate under my hand for work executed on his contract inclusive of Foundations and extra work.	£19260.00.00
Paid for sundry Furnishings	500.14.00
Paid for Warming Apparatus and Iron Work	390.00.00
Paid for Fittings to Account	100.00.00
Paid for Architects Commission	810.00.00
Paid for Inspector of Works	218.00.00
Paid for Allowance to workman injured	14.00.00
Paid for expence of Contracts, Foundation Ceremony, Insurance, Clerks allowance	<u>480.00.00</u>
	<u>£21,779.09.00</u>
For further sums which I consider requisite to complete the building.	
Balance to be paid Alex. Rainnie on his general contract	3,520.00.00
Balance to Alex. Rainnie for subsequent contracts and additonal works	950.00.00
Balance to Mr. Robert Ritchie on Warming Apparatus Contract	42.00.00
Balance to Messrs. Blainie on contract for Gas Fittings	80.00.00
Estimated expense of furnishings to Lecture Rooms not yet completed	500.00.00
Estimated expense of cases for Library Museum and Philosophical apparatus	1,650.00.00
Estimated expense of Observatory Cupolas	250.00.00
Estimated expense of Painter Work	350.00.00
Architect's commission on further works	550.00.00
Wages to Inspector of Works	60.00.00
Insurance against Fire and Incidents	<u>300.00.00</u>
	<u>£8,252.00.00</u>

Appendix L

Abridged copy of the Account of Charge and Discharge of the monies received and paid out on account of the rebuilding of Marischal College under the charge of the Rector of the College and the member of Parliament, Provost and Dean of Guild of the City of Aberdeen and Commissioners appointed by the Lords of the Treasury.

From the commencement of their superintendence 1836 to 1 August 1844 continued to 14th June, 1845.

The Charge

1836 Aug. 2nd	Government Grant	£15,000.00.00
1841 April 21st	Balance of Grant with accrued interest	5,853.09.02
1836 Aug. 2nd	Amount received by public subscription between Aug. 2, 1836 - Aug. 1, 1844	8,103.18.07
	Bank Interest between Aug. 2, 1837 - Aug. 1, 1844	<u>1,781.11.11</u>
		£30,738.19.08

The Discharge

Contract Price of new buildings	£21,000.00.06
Payments to A. Rainnie for extra work	4,072.14.07
Payments to other contractors, smithwork, furniture & fittings etc.	4,548.13.11
Expenses for foundation laying ceremony	62.16.06
Heating apparatus	565.06.06
Gas fitting and plumberwork	221.19.06
Expense of fitting up library	388.00.00
Expense of painting college	313.11.11
Insurance of building against fire	213.10.00
Architect's commission	1,282.10.00
Wages of Resident Inspector	382.04.00
Salary to Clerk and Secretary	307.07.06
Miscellaneous Accounts	<u>190.18.09</u>
	£29,893.18.07

Abstract

The amount of the charge	£30,738.19.08
The amount of discharge	<u>£29,893.18.07</u>
	£ 845.01.01

Aberdeen July 15th 1844. Examined, compared with the vouchers and found correct.

(Signed) John Smith jnr. Auditor

Appendix M

Copy of List of Plans for Glasgow College (Woodlands) (GUA 728)

List of Plans of proposed New College of Glasgow delivered to Dr. William Thomson, Clerk of Faculty on 12 March 1851.

1. Book containing eleven plans by Mr. Baird for the proposed New College marked respectively A B C D E F G H I K L.
2. Book containing Six Plans by Mr. Baird for Professors' houses in connection with New College marked respectively M N O P Q R.
3. Description and Specification of Works of these Plans prepared by Mr. Baird and marked S.
4. Plan by Mr. Macfarlane of present College and Grounds - marked W.
5. Plan by Mr. Kyle of Lands of Woodlands marked T.
6. Plan of part of Woodlands by Mr. Baird marked No.1.
7. Sheet marked No. 5 containing six skeleton elevations of the principal and two side fronts of the New College with corresponding interiors
8. Sheet marked No. 6 containing two Ground Plans of College being (1) Block Plan of Ground Floor with part of Buildings to be sunk; and (2) First or Principal Floor with separate slip shewing modified arrangement of exterior Wall of Library designed by Mr. Baird.
9. Sheet marked No. 7 containing two ground Plans of College being (1) Plan of second Floor; and (2) Plan of Third Floor with separate slip shewing modified arrangement of exterior wall of Museum corresponding with Back Elevation, No. 15 of this List designed by Mr. Baird.
10. Lithograph Plan of the City of Glasgow marked No. 10.
11. Sheet marked No. 9/A shewing modification of Front Wall and interior arrangements of Professors' houses in conformity with Plan No. 16 of this List - designed by Mr. Baird.
12. List marked No. 11 explaining partitioning of apartments shewn on Plans marked Nos. 6 & 7 prepared by Mr. Baird.
13. Front Elevation Design of New College by Mr. Blore. }
14. Side Do. Do. by Do. }
15. Back Do. Do. by Do. }
16. Elevation, Design of Professors' houses by Do. }

In tin Case.

Note. All these Plans & Documents are endorsed and signed as having been approved of by the Faculty of the College and by the Commissioners under the College Estate Act 1846.

Appendix N

Copy of Report submitted by Messrs. Barry and Pugin, New College, Glasgow. 9th March, 1847. No 7496. Regd 15th March, 1847 (P.R.O. T1/5325 - 28723)

(Draft letter written on report cover in an unknown hand.)

Write to Dr. Macfarlan, Principal of Glasgow College.

I am to state to you on receiving from him the plans of the New College proposed to be erected at Glasgow by the Glasgow, Airdrie and Monklands Junction Railway Company, under the provisions of the Act 9 & 10 Vic. Cap.43 their Lordships referred them to Messrs. Barry and Pugin for their opinion, and a copy of the report which has been made by these gentlemen is transmitted herewith for the information of the College Council, and for any observations they may wish to make upon it. Their Lordships request that the report now sent may not be printed or published.

Copy of Report:

Westminster 9th March, 1847.

Sir,

In obedience to the command of the Lords Commissioners of Her Majesty's Treasury as conveyed to us in your letter of the 2nd inst. we have carefully examined the plans and other documents therewith transmitted to us relative to the rebuilding of the College of Glasgow by the Glasgow, Airdrie and Monklands Junction Railway Company under the provisions of an Act of Parliament of the 9th and 10th Victoria Cap 43 and having maturely considered the three several points referred to us, we have now the honour to make the following report upon them in the order in which they are enumerated in your letter -

Firstly

As to "The cost at which it may be fairly estimated that the building and "other works described in schedule A of the Act might be executed according to the "plans therein referred to". We are of opinion that the cost of erecting and completing the Building in a sound and creditable manner in accordance with the

plans and specification referred to in schedule A of the Act and of carrying into effect the other works connected therewith as set forth in the said schedule including the sum of £10,000 proposed to be expended upon an Hospital would not be less than £175,000.

Secondly

As to the estimated cost of "erecting a building and executing the other works according to the revised plans which have received the sanction of the Heads of the College at Glasgow and of the Commissioners appointed by the Act".

We are of opinion that the cost of carrying into effect the revised plans and other works above alluded to including the sum of £10,000 for the proposed Hospital would not be less than £197,000.

Thirdly

As to the architectural taste "the nature of the accommodation and the general convenience of the proposed buildings according both to the original and revised designs".

With regard to the original design referred to in the Act, we are of opinion that although wanting in purity of style deficiency in artistic feeling and in many respects incongruous and unpleasing, it could not fail in execution to have a striking effect owing to the extent and height of the proposed building, its commanding position and surrounding scenery; but considered abstractedly as a display of architecture we feel bound to state, that in our opinion, it is not of a high class of art or in any respect very meritorious.

The detached situation of the Principal and Professors' Houses we consider too objectionable as interfering with the light and air of the building and impairing the effect of the College from the only distant points of view from whence it will be seen.

We regret that we are not able to speak favourably of the arrangement of the plan of the College, which appears to us to be defective in the following particulars namely, the insufficient size of the quadrangles to ensure a proper amount of light and air to all parts of the Building; the want of shelter for the recreation of the students out of doors; and for the passing both of professors and students from one class room to another; the insufficient heights of the several class rooms in

proportion to their size and accommodation; and the want of sufficient elevation in the seats for the students above each other; the position of the several staircases to the class rooms, which being placed between them, and directly communicating with them, in common on the several stories, would be productive of much noise and inconvenience particularly upon the dismissal of classes at such times as others are assembled; the placing of the Dining Room together with the accommodation for culinary purposes in the one Pair Story, by which the only access for Servants and Tradesmen and for conveying supplies etc. etc., will be by the Public Staircases of the College; and the want of any provision whatever for conveniences for the Students etc. The taste of the columnal arrangement of the Library and Museum is questionable inasmuch as the columns will conceal to a very great extent the books and specimens, from the judicious display and arrangement of which the character of these rooms should legitimately be desired, and the effect of the columns employed would be much impaired by the Pilasters which are attached to them for the support of the Galleries. The Library, owing to the height of building forming the quadrangles, will, we fear be imperfectly lighted, particularly the central portion of it, which derives its light principally from the window only at the end of the room. - The construction of the Building does not seem to have been well considered, no attention appears to have been paid to fire-proofing or ventilating, and the only apparent provision for warming the class rooms, Library, Museum consists of a heating chamber shown on one of the sections.

With respect to the architectural character of the revised plans we are able to speak more favourably than of the original Design; for although it is in some respects incongruous, it possesses a certain amount of artistic feeling and as a whole would undoubtedly in execution have a striking and picturesque effect. There is however a deception practiced in the perspective view and in the elevation of the south wing, which we feel ought not to be passed unnoticed, namely the grouping of the four Cupolas in the Principal Front around the Great Tower symmetrically. - This could not be the case according to the arrangement of the plan, which, if fairly carried out, would produce a far less satisfactory effect than is shown in the Drawings alluded to. The Carriage Porch in the centre of the Principal Front, which although well designed in itself, is inharmonious and injurious to the effect of the Front as a whole.

The deviations in the plans from those of the original design consist in closing the fourth sides of the Quadrangles to the injury of the light and ventilation of the Building; the addition of anatomical rooms and laboratory at the northern angle of the Building, which interferes injuriously with its symmetry; and the throwing out of a Carriage Porch in the principal front the effect of which we have before noticed.

In other respects the revised plans are very similar to the original set and are consequently open to the same objections; therefore apart from the consideration of the additional accommodation which they afford, we consider the arrangement of them as a whole more objectionable than that of the original design.

We have the honor to be
Sir,
Your obedient and faithful servants,
Charles Barry
A. Welby Pugin.

Appendix O

Copy of Memorial presented to the Lords Commissioners of Her Majesty's Treasury
by Regius Professors of the College of Glasgow condemning the conduct of the
Faculty of Glasgow College during their negotiations with Her Majesty's Treasury
(PRO T1 5325 - 28723)

Unto the Right Honourable the Lords Commissioners of Her Majesty's Treasury.
The Memorial of The undersigned Regius Professors in the University of Glasgow.

Glasgow 27th March, 1847.

Most Respectfully and Humbly Sheweth,

That in the last Session of Parliament an Act was passed to enable the College of Glasgow to effect an exchange of the Lands and Buildings belonging to the said College. -

That the undersigned though appointed to their respective offices by the Crown - exercising the functions of their offices within the College Buildings - and forming constituent Members of the University of Glasgow were not consulted as to the terms and provisions of the said Act. -

That the foresaid Act embodies a Contract or Agreement between the College of Glasgow and the Glasgow, Airdrie and Monklands Railway Company, by which among other things it is provided "That the said Railway Company shall build and "erect Halls, Lecture and Class Rooms, Laboratories, Dissecting Rooms, Museum, "Library and other buildings necessary for carrying on therein the system of "instruction now taught in the said University and College, and such "accommodation in all respects as the change of local situation may render "necessary."

That revised Plans and Drawings of the Halls, Lecture Rooms and Class Rooms have since the passing of the Act been laid before the Faculty of Glasgow College, and by a letter from the Clerk of Faculty, the undersigned were informed that the aforesaid Plans were lying on the table of the Fore-Hall for the examination of the members of the University - and that the Faculty would be glad to receive

from the undersigned any observations in reference to their particular department of instruction, as well as any suggestions as to the layout of the College generally.

That most of the undersigned being actively engaged in Medical Practice, as well as in teaching their several departments of Medical Science, could not at the season and hours when they were permitted to inspect the plans, afford time to do so without sufficient care and deliberation; that some of them on going to the place appointed for that purpose could not find the Plans, and even when found the Plans were not accompanied by any description or specification to render them intelligible.

That the Circular by which the undersigned were invited to make observations and suggestions, contained the very significant clause, "that it was desirable that the extent of the new buildings should exceed as little as possible what is laid down in the Provisional Plan" and the undersigned felt reluctant to offer any medical suggestions when they could so easily be set aside by a clause of this kind.

That even the hasty inspection, which some of the undersigned had the opportunity of giving to the foresaid Plans, was sufficient to satisfy them, that they were not commensurate with the want of the present advanced state of science and society, that they were unworthy of the architectural taste of the present century, and that they furnished no consolation for the forcible removal of a great national institution from its present time - honoured although no longer fashionable situation.

That in the aforesaid Plans there is a great want of convenient and proper access to the several Class Rooms as well as of internal communication between one part of the building and another; that heating and ventilation have not been duly provided for under the direction of a person practically acquainted with the modern improved methods of heating and ventilation public buildings. That the Courts and quadrangles of the building are narrower and confined, and altogether inadequate for want of Cloisters or other similar accommodation, to afford protection or shelter to the numerous students who frequent the Courts, during the severe weather of a Scottish winter.

That the undersigned have no hope of any remonstrance from them to the Faculty of Glasgow College proving successfully in remedying the defects to which they have alluded, but as holding Commissions from the Crown and as Teachers in a

Royal University, they appeal with confidence to Your Lordships, and pray that you will not give your sanction to any Plans that are unsuitable to the present advanced state of society, or which may have the effect of impairing the usefulness or even of lowering the character of a National Institution, with which the happiness and improvement of the West of Scotland, as well as the general interests of the Empire are interwoven.

That this appeal is made to your Lordships in consequence of the undersigned having just learned accidentally that the Plans of the proposed College Buildings have been submitted to Your Lordships, together with a Statement of reasons in favour of the removal, many of which reasons the undersigned believe to be founded in error and exaggeration.

John Brown	Professor of Surgery
John Couper	Professor of Materia Medica
Andrew Buchanan	Professor of Institute of Medicine
John W. Ragan	Professor of Midwifery
Harry Rainy	Professor of Forensic Medicine
G. Walker Arnot	Professor of Botany

Appendix P

Copy of letter from John Richardson to Robert Knox re Barry and Pugin's Report dated 11th May, 1847 (GUA 733)

21 Fludger Street,
Westminster.
11th May, 1847.

My Dear Sir,

Glasgow College

You are aware of the difficulties under which the College has been placed by the report to the Treasury by Messrs. Pugin and Barry and you know that, in order to surmount these, it has been indispensable to adopt various modifications of the original and revised plans of the new buildings. After a great deal of discussion between Prof. Ramsay and Dr. Thomson on the one part, and Mr. Barry on the other, all the particulars of which the Treasury have been from time to time advised, I think I am justified in saying that the following are all the alterations on which it is necessary to ask the acquiescence of the Railway Company which you represent: taking the original plan referred to in the Act of Parliament as the standard of comparison they are -

- (1) The removal of the third storey of the centre compartment of the side wings;
- (2) The prolongation of each side wing to the extent of thirty feet;
- (3) The removal of the Library and Museum to the rear of the quadrangle and their prolongation to the extent of sixty feet;
- (4) A covered colonade extending along the underside of each side window not exceeding ten feet in height;
- (5) Building of two stories connecting the Library and Museum with the side window;
- (6) The classroom stair cases to be enclosed in walls of such thickness as to deaden sound;
- (7) The erection of Anatomical classroom and of Practical Rooms for Anatomy and Chemistry exterior to the main building, on scale laid down in second set of plans;
- (8) Beams for supporting floors when exceeding twenty five feet in length to be of iron without supports;

- (9) The removal of Professors' Houses to the front of the College in two rows of six each, with a separate villa for the Principal, or if this arrangement shall appear objectionable to Mr. Blore on inspection of the ground, the rows to consist of seven houses each - a double house being allowed for the Principal. All these changes excepting 1-6 and 8 are represented in a ground plan prepared by Mr. Baird.

You will readily ascertain from Mr. Baird what increase of cost these modifications of the plans will occasion as compared with the estimate of the revised plans, and you will bear in mind - that in that estimate were included two items which should be included under the original estimate rather than be charged by the additional ten per centage - namely - the expense of what was called in the revised plans the transept portion of the Library and classrooms; and the expense of arching the floor between the Library and Museum. Even supposing that the increased dimensions of the Library and Museum were properly chargeable to the additional ten per centage, I believe you will find that the increased cost will amount to a very moderate sum.

Mr. Barry declined to make any suggestions for the improvement of the elevation exhibited in the revised plans; or to substitute new elevations and I mentioned to you that the Treasury desired that Mr. Blore should be applied to and you will find from a copy of a letter from Mr. Blore to Dr. Thomson herewith sent that he has agreed to give his suggestions and that his impression is that any alteration which may in consequence be made will tend to diminish considerably rather than increase the cost. In this tho' I have perfect confidence. You must judge for yourself. My own conviction is that if the Railway Company will agree to execute the plan subject to these modifications and to such changes in the elevation exhibited on the revised plans as Mr. Blore may suggest, the Treasury on being assured of this, will give its approval and notification of the measure authorised by the Act of last Session; and with a most earnest desire for its accomplishment I see no room for hope that it will be otherwise brought about.

Yours very sincerely

(signed) John Richardson.

Robt. Knox Esquire.

Appendix Q

Copy of Comparative statement of University Accommodation, Prepared by the Professors in August 1864. Listing existing accommodation, the 1864 proposals, and the needs of 1866 (GUA 17146 Removal Committee Book No1. p47)

Comparative Statement of the apartments to their uses and the number of sittings in the present buildings, as in 1846 and in 1864, and in the New College planned for the future, with columns for the dimensions of apartments required in the proposed University Buildings in 1864.

Name and names of apartments with all changes from 1846 to 1864, marked in italics, in brackets.	University Buildings in 1846		Proposed Buildings in 1864		Height of Ceilings		Height of Ceilings		Height of Ceilings	
	Dimensions	Height of Ceiling	Dimensions	Height of Ceiling	Height of Ceiling	Height of Ceiling	Height of Ceiling	Height of Ceiling	Height of Ceiling	Height of Ceiling
<i>Library - short</i>	47 x 27	6	44 x 35	18.0	37.720	18.0	38.0	11.0	10	30
<i>Library</i>	31 x 21 1/2	6	38 x 14	18.0	35.2	18.0	35.0	11.0	10	30
<i>Author's Room</i>	37 1/2 x 12	6	25 x 14	18.0	35.0	18.0	35.0	11.0	10	30
<i>Professors' Room</i>	None	6	31 x 15	18.0	37.5	18.0	37.5	11.0	10	30
<i>Abbott's Glass Room</i>	42 x 18	15.10	35 x 25	18.0	15.750	18.0	17.0	11.0	10	30
<i>Professors' Room</i>	None	6	16 x 10	18.0	16.0	18.0	17.0	11.0	10	30
<i>Church St. (Scrij) - Glass Room</i>	None	6	35 x 29	18.0	15.270	18.0	17.0	11.0	10	30
<i>Professors' Room</i>	None	6	25 x 15	18.0	34.5	18.0	34.5	11.0	10	30
<i>Biblical Criticism - Glass Room</i>	None	6	35 x 36	18.0	16.380	18.0	16.5	11.0	10	30
<i>(Elect in Ab. in Glass Room 1864)</i>	None	6	16 x 10	18.0	16.0	18.0	16.0	11.0	10	30
<i>Div. (Glass Room)</i>	36 x 17 1/2	11.0	35 x 36	18.0	16.380	18.0	16.5	11.0	10	30
<i>Professors' Room</i>	15 x 9	11.0	16 x 10	18.0	16.0	18.0	16.0	11.0	10	30
<i>(Mat. Med. in Glass Room 1864)</i>	None	6	35 x 36	18.0	16.380	18.0	16.5	11.0	10	30
<i>Convalescing - Glass Room</i>	None	6	16 x 10	18.0	16.0	18.0	16.0	11.0	10	30
<i>English Tr. (Teacher) - Glass Room</i>	None	6	35 x 36	18.0	16.380	18.0	16.5	11.0	10	30
<i>Latin (Mat. in Glass Room 1864)</i>	None	6	16 x 10	18.0	16.0	18.0	16.0	11.0	10	30
<i>Professors' Room</i>	40 x 31	12.9	35 x 41	18.0	21.830	18.0	22.5	11.0	10	30
<i>Professors' Room</i>	15 x 13	12.9	15 x 12	18.0	15.0	18.0	15.0	11.0	10	30
<i>(Met. in Common Hall 1864)</i>	37 x 35	26.0	15 x 12	18.0	15.0	18.0	15.0	11.0	10	30
<i>Greek - Glass Room</i>	40 x 31	14.0	15 x 12	18.0	15.0	18.0	15.0	11.0	10	30
<i>Professors' Room</i>	None	6	15 x 12	18.0	15.0	18.0	15.0	11.0	10	30

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The Office of Works and the Renovation of the
Scottish Universities
1808 -1889

Volume II. [Figures 1-172]

David Grant.

Submitted for the degree of Doctor of Philosophy

St. Andrews, July 2001



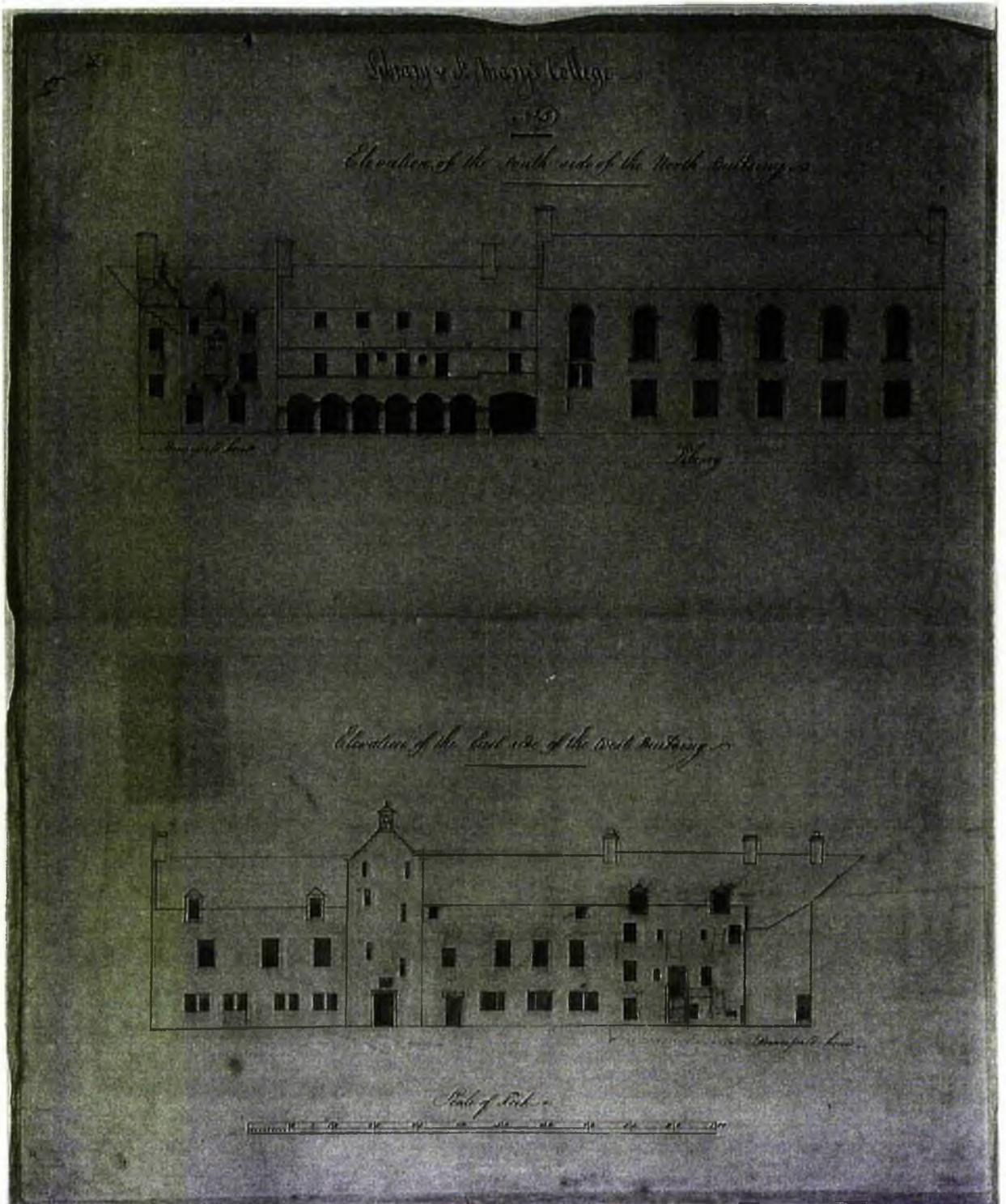


Fig.1. St.Mary's College. Survey drawing No.5. south elevation of north building and east elevation of west building. R. Reid, probably drawn 1825.

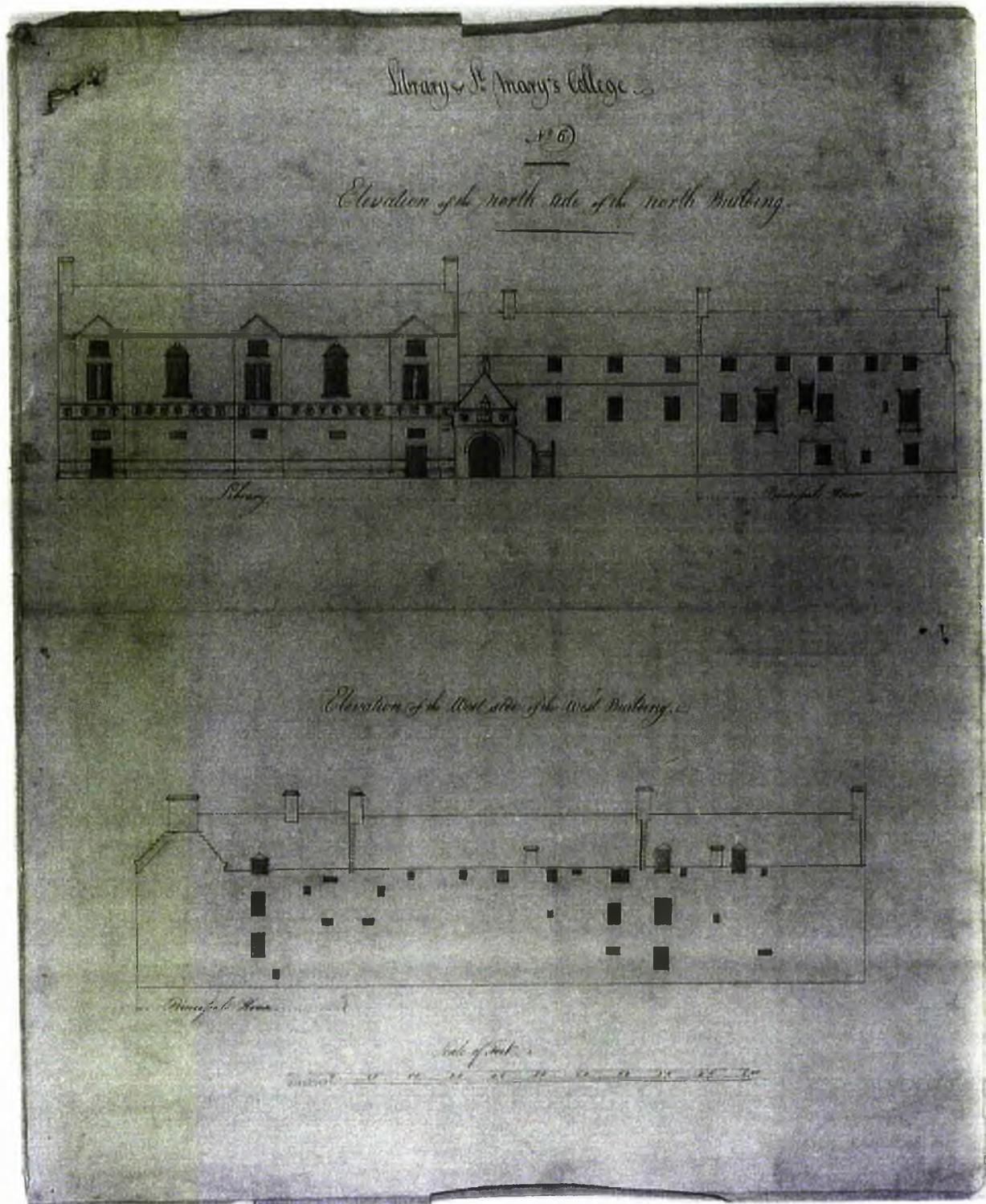


Fig.2. St.Mary's College. Survey drawing No.6 north elevation of north building and west elevation of west building. R. Reid, probably drawn 1825.

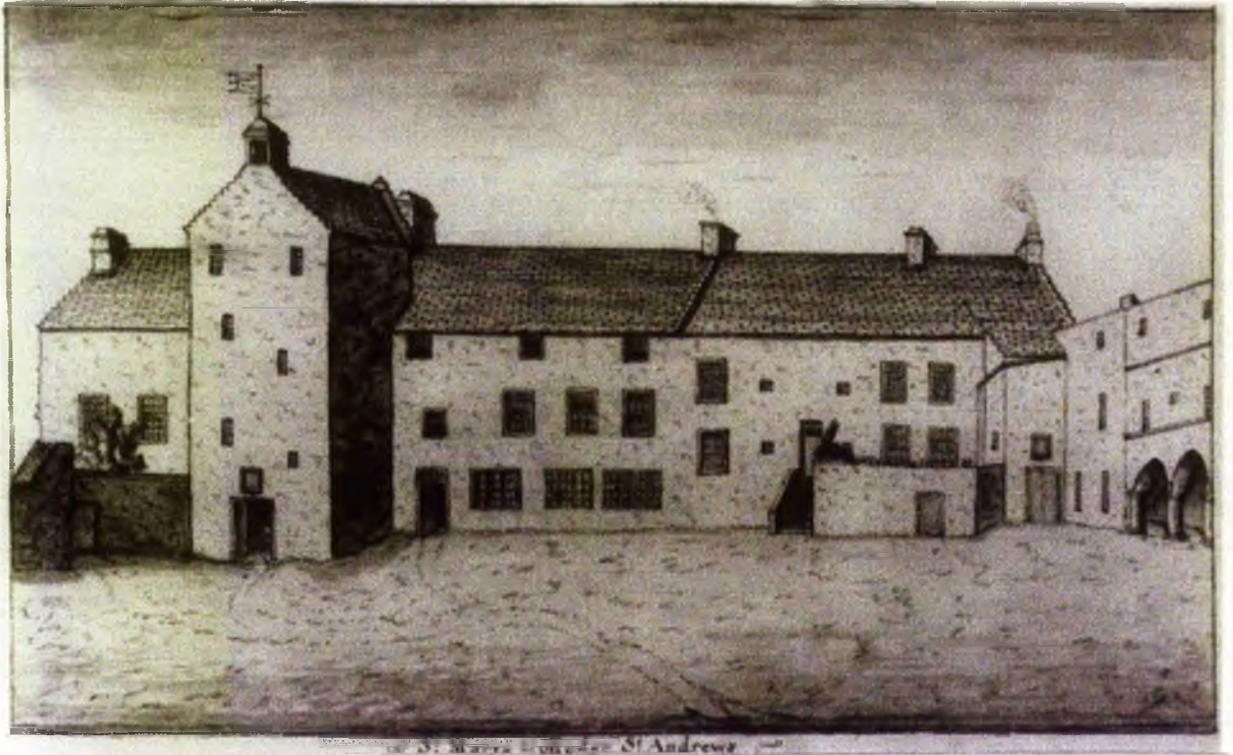


Fig.3. St.Mary's College. Sketched by John Oliphant 1767, arcaded Cloister can be seen at right hand side of drawing.

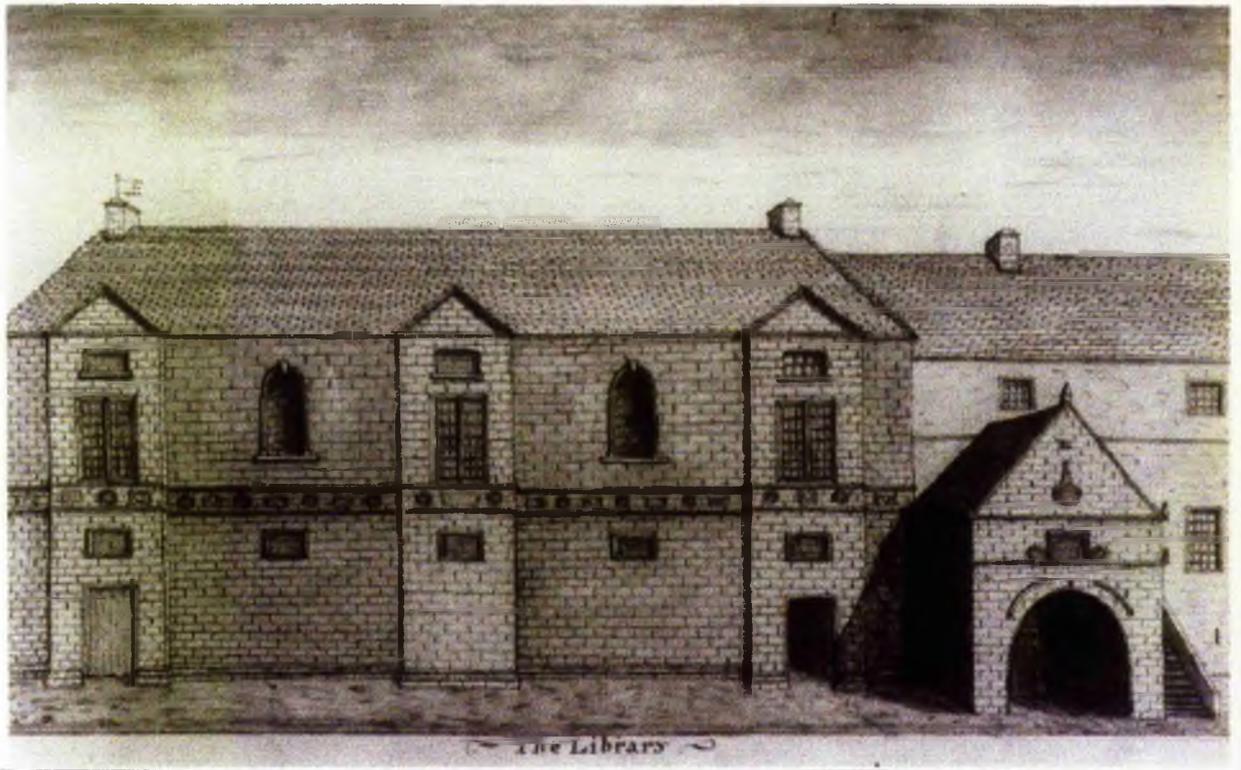


Fig.4. University Library. Reconstructed by John Gardner 1764-67, drawn by John Oliphant 1767.

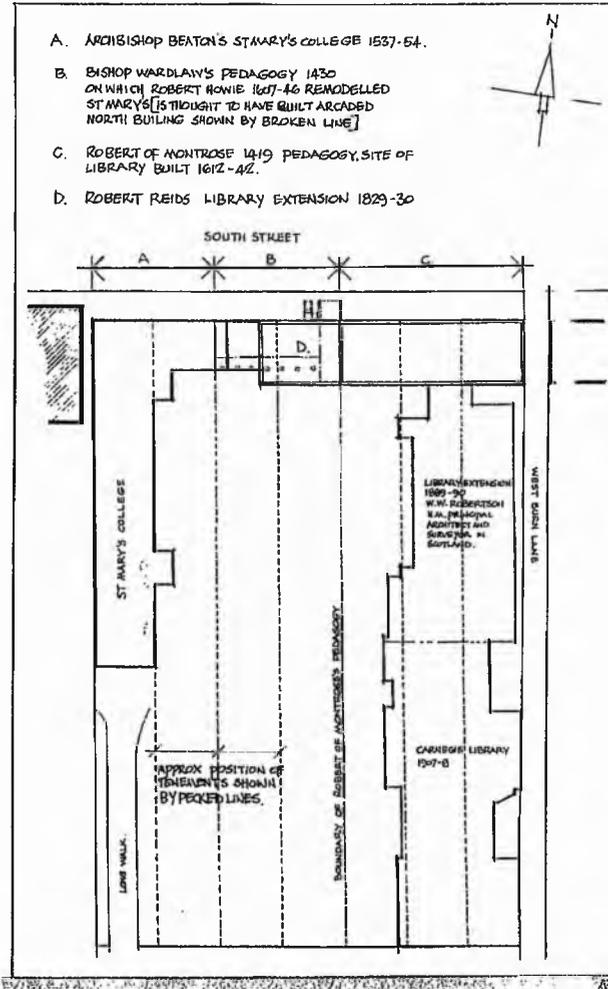
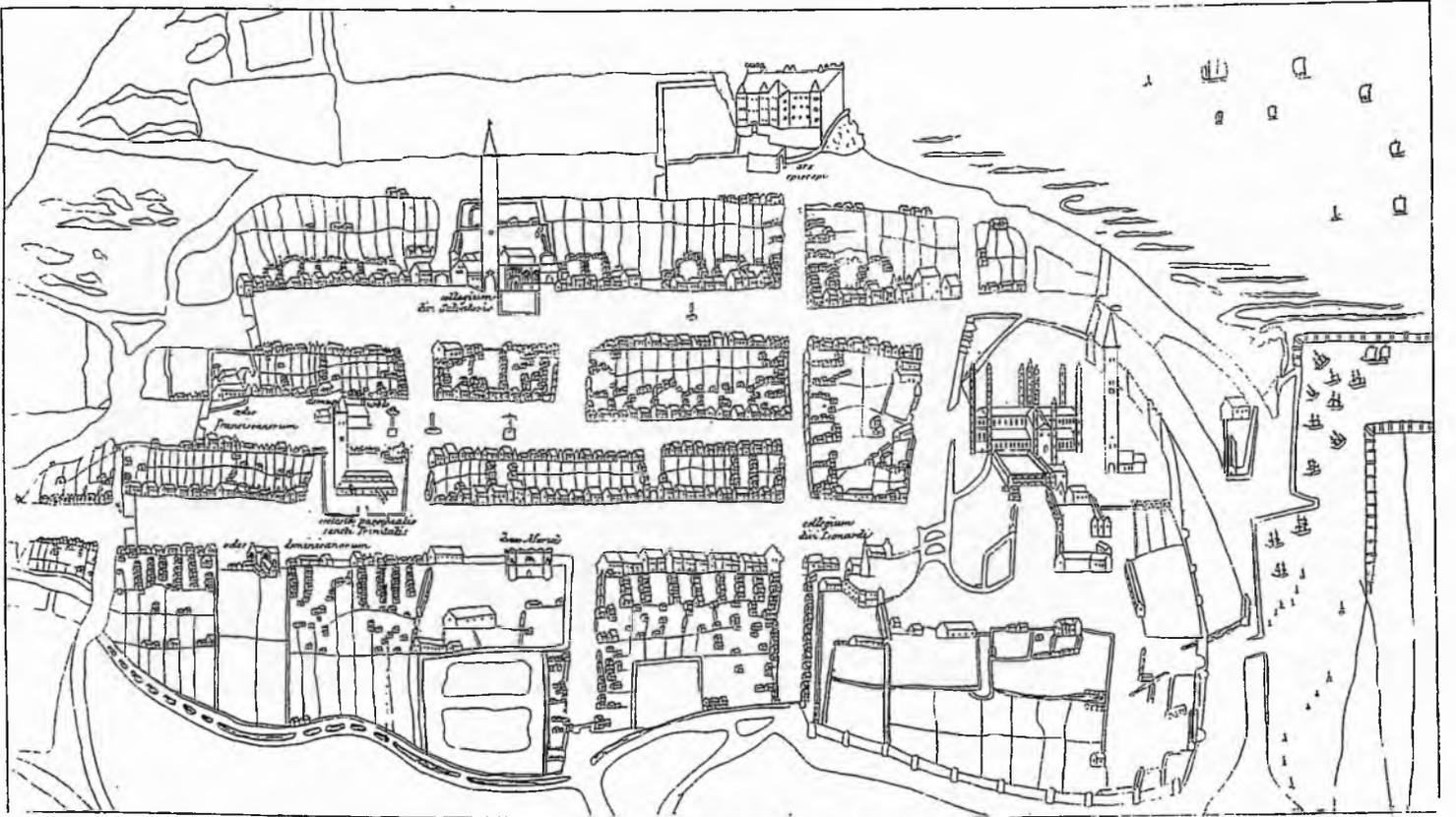


Fig.5 The development of the South Street site, St.John's College, the Pedagogy, and St.Mary's College (drawn by D. Grant).



PLAN OF ST. ANDREWS.

(1500-1550).

This picture, under the title of "Bird's Eye View of St. Andrews," was published in Lyon's *History of St. Andrews* (1843).
 Nothing is recorded of its origin, but it has every evidence of authenticity.

Fig 6 Bird's eye view of St. Andrews (1500-1550) published in Lyon's History of St. Andrews (1843).

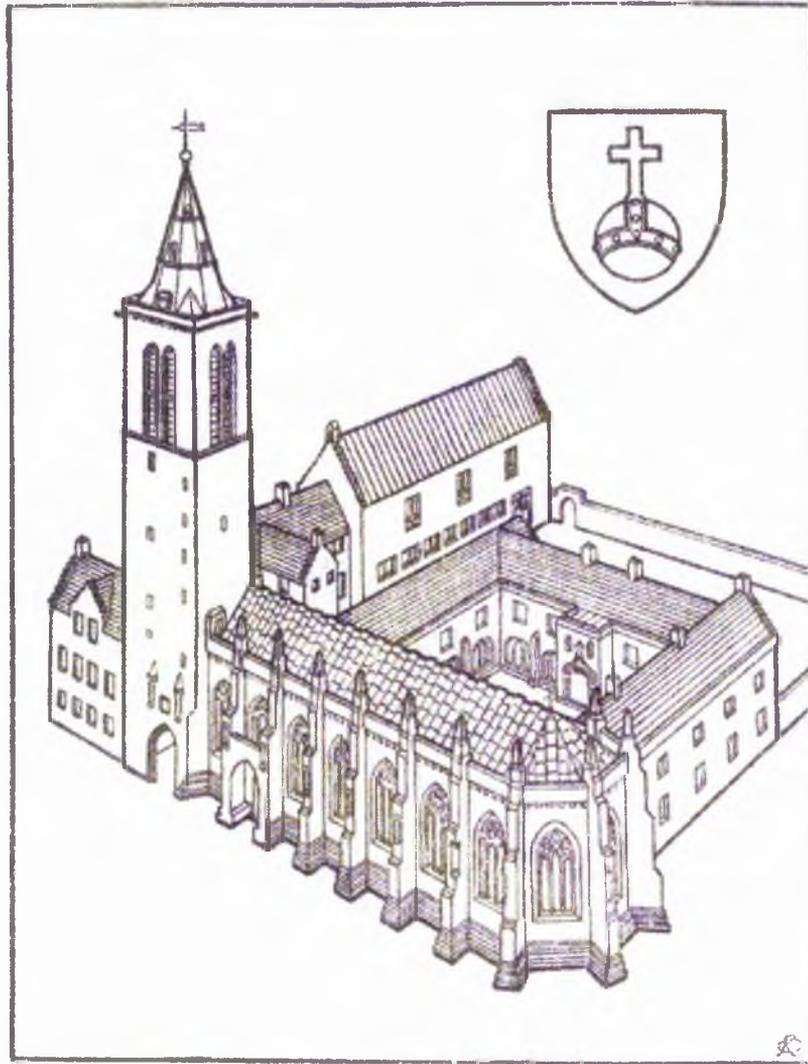


Fig.7 Perspective reconstruction of St.Salvator's College as it may have appeared in the mediaeval period (drawn by R.G.Cant).

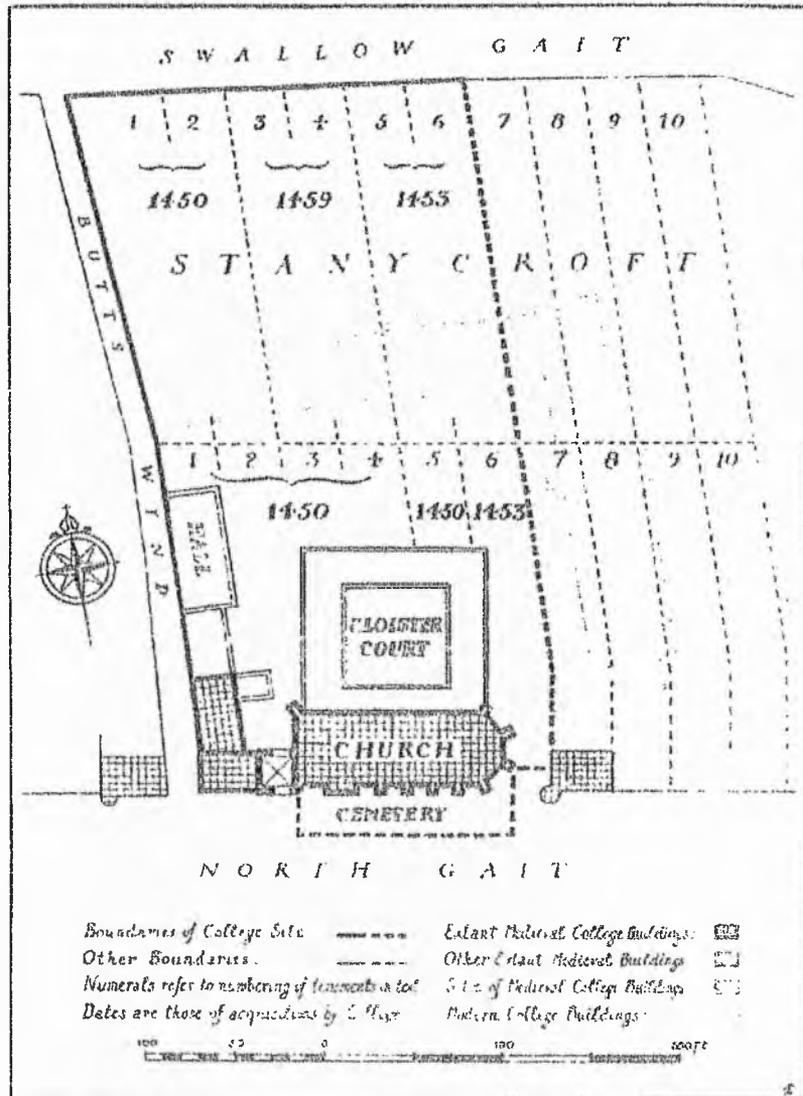


Fig.8 Site plan of Mediaeval College (drawn by R.G.Cant).

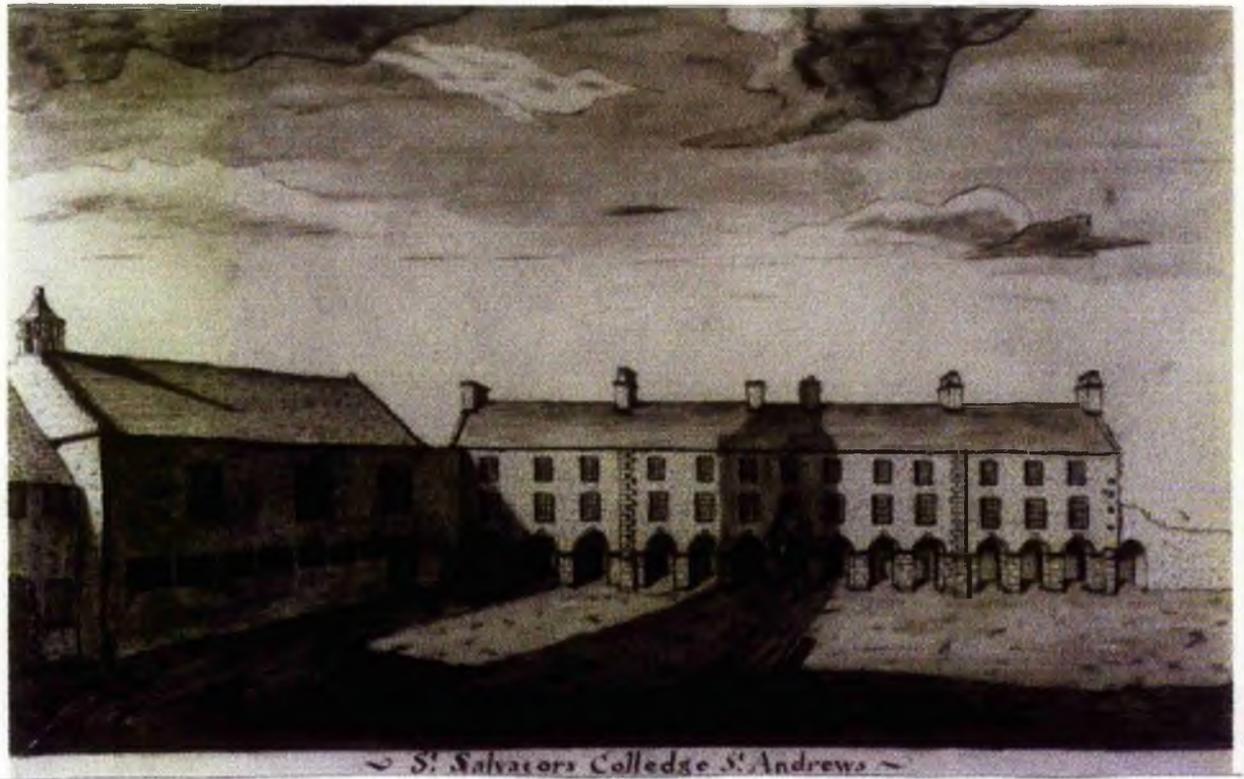


Fig.9 St.Salvator's College. Quadrangle sketched by John Oliphant 1767.



Fig.10 St.Salvator's College. College Chapel sketched by John Oliphant 1767.

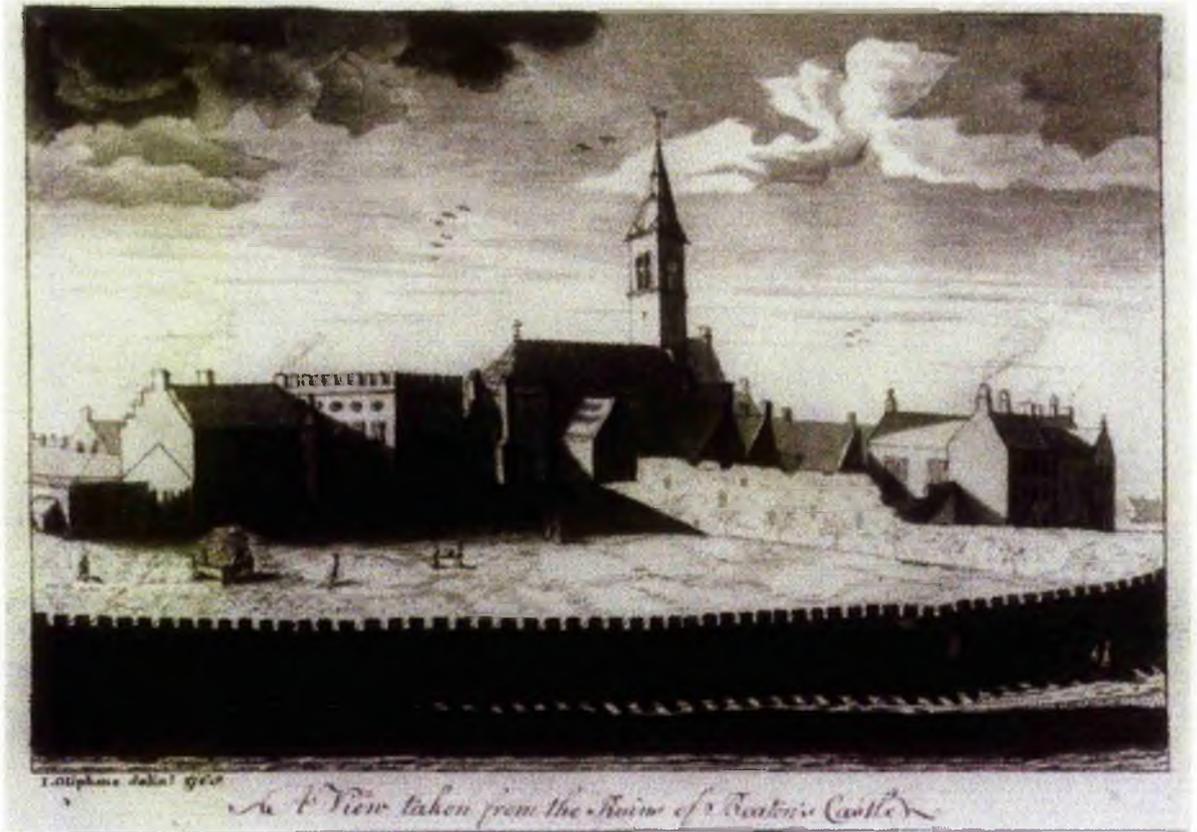


Fig.11 St.Salvator's College. Sketched from the Castle by John Oliphant 1767.

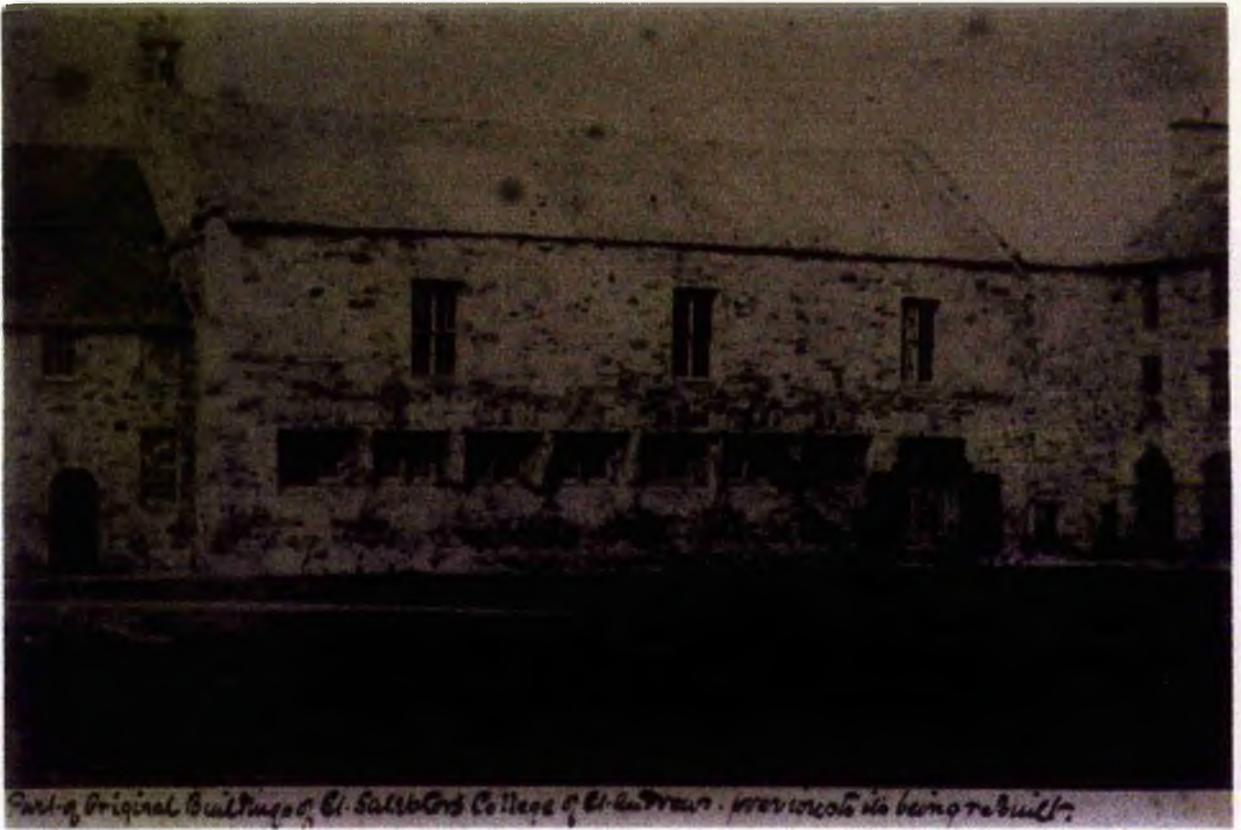
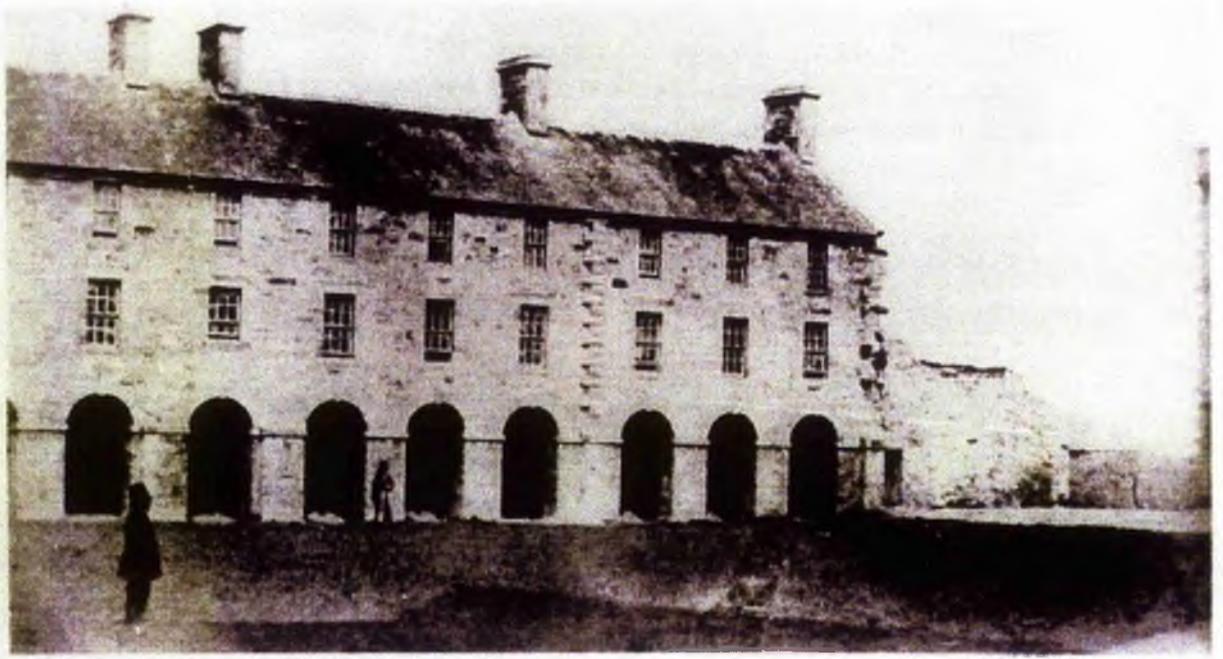


Fig.12 United College. Early Photographs c1840's showing west building from an unidentified paper negative; in the photograph of the north building, the north west corner of Reid's east building is just visible.



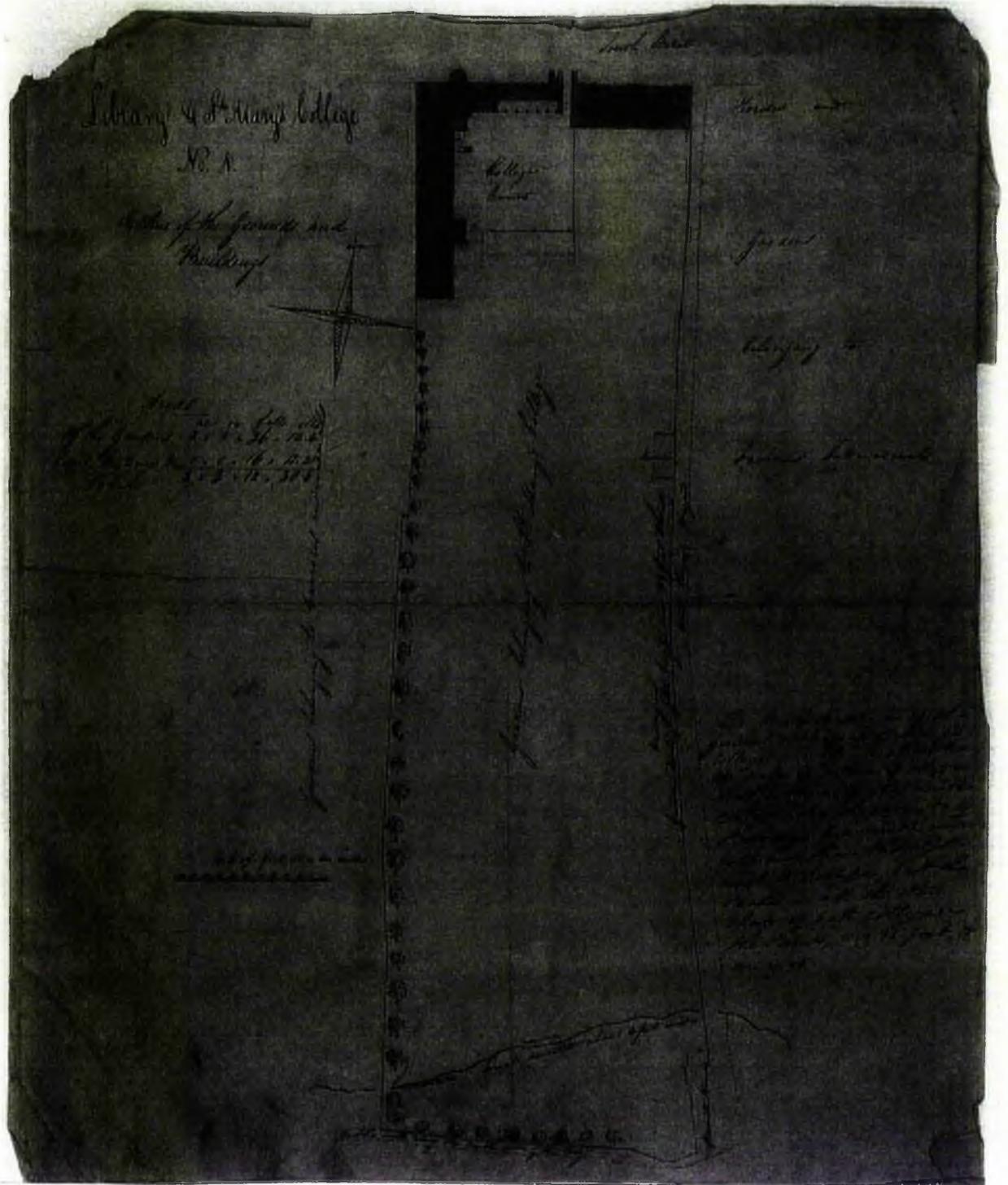


Fig.13 St.Mary's College. Site plan survey drawing No.1. R. Reid, probably drawn in 1825.

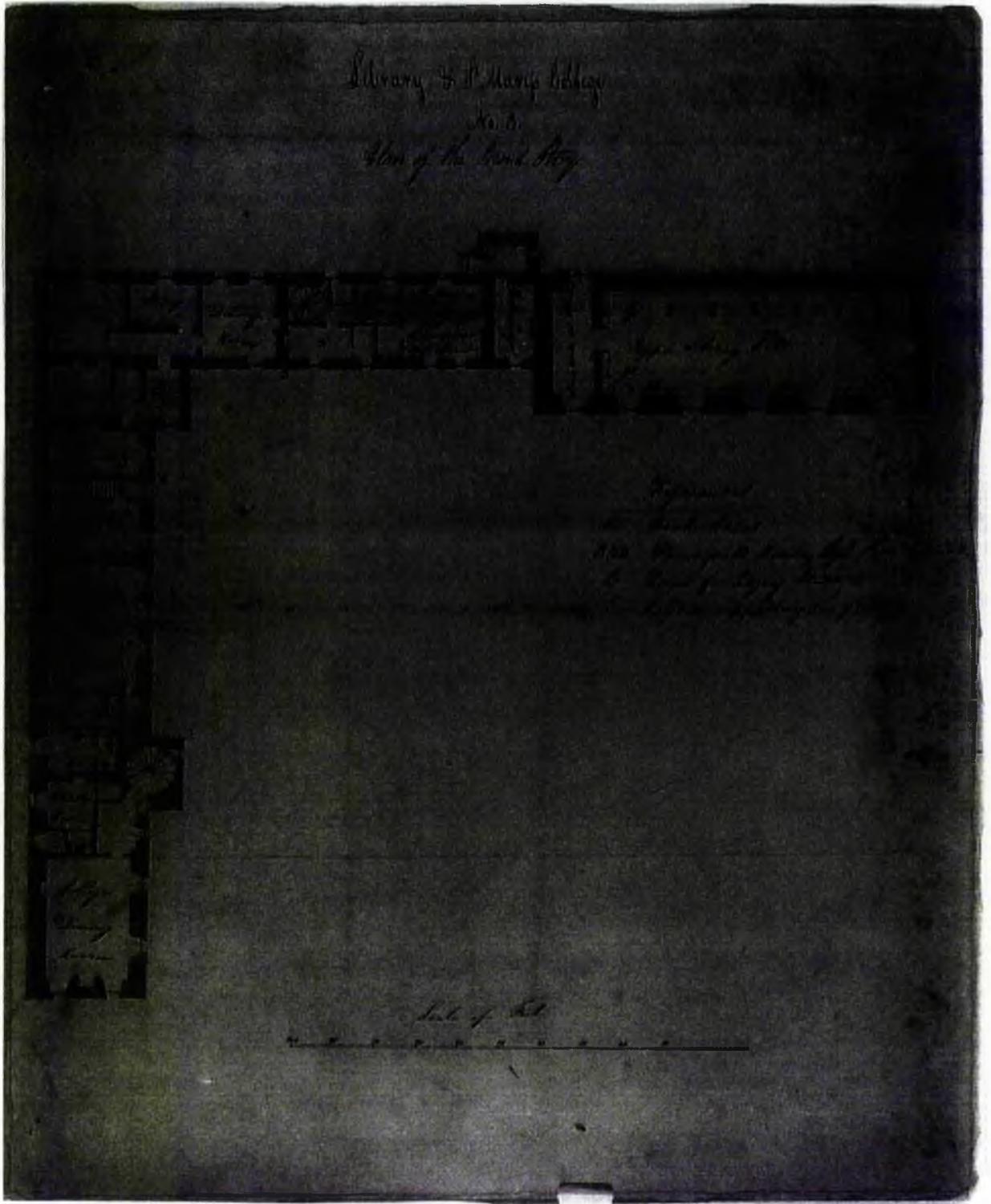


Fig.15 St.Mary's College. First floor plan survey drawing No.3. R. Reid, probably drawn in 1825.

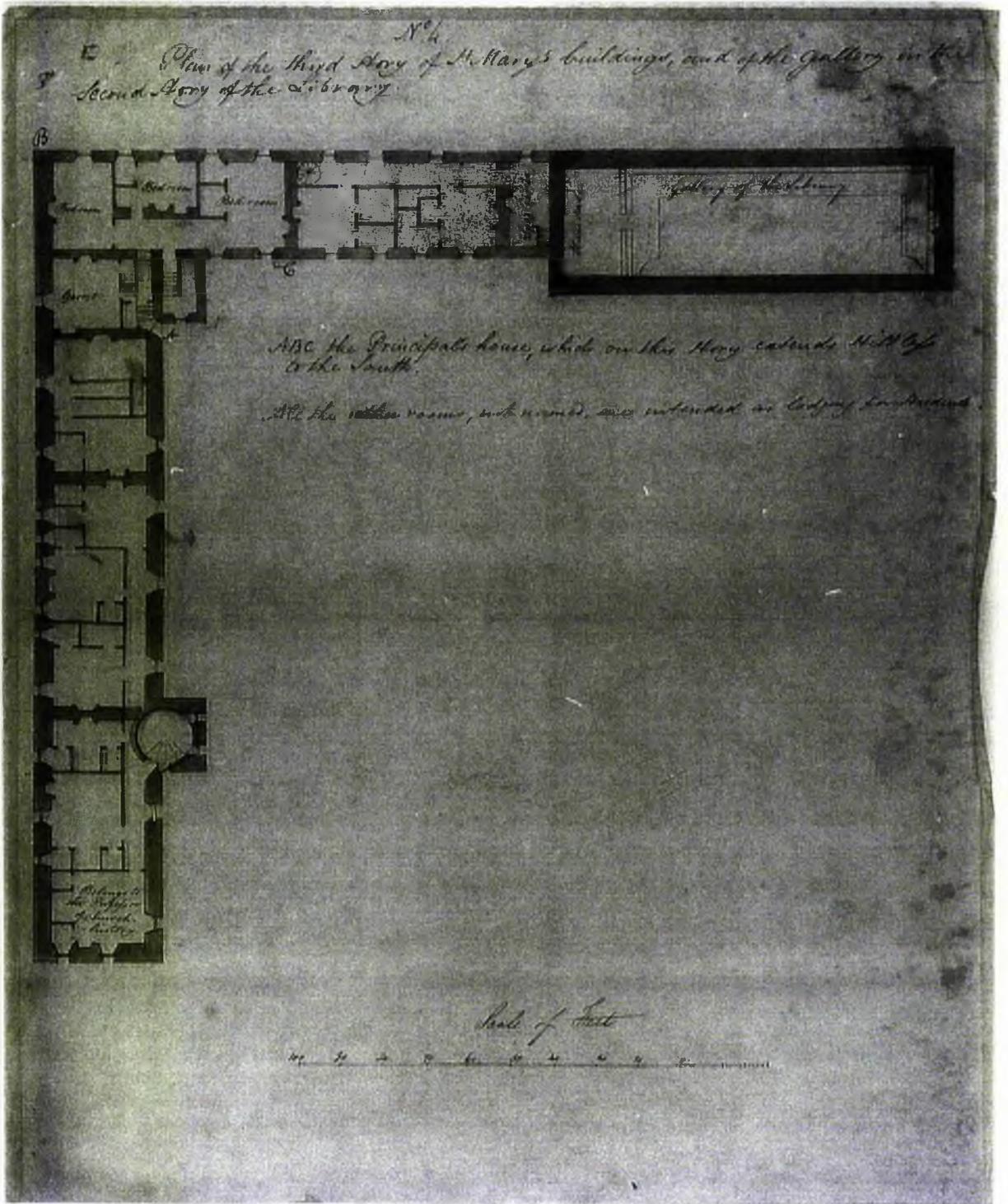


Fig.16 St.Mary's College. Second floor plan survey drawing No.4. R. Reid, probably drawn in 1825.

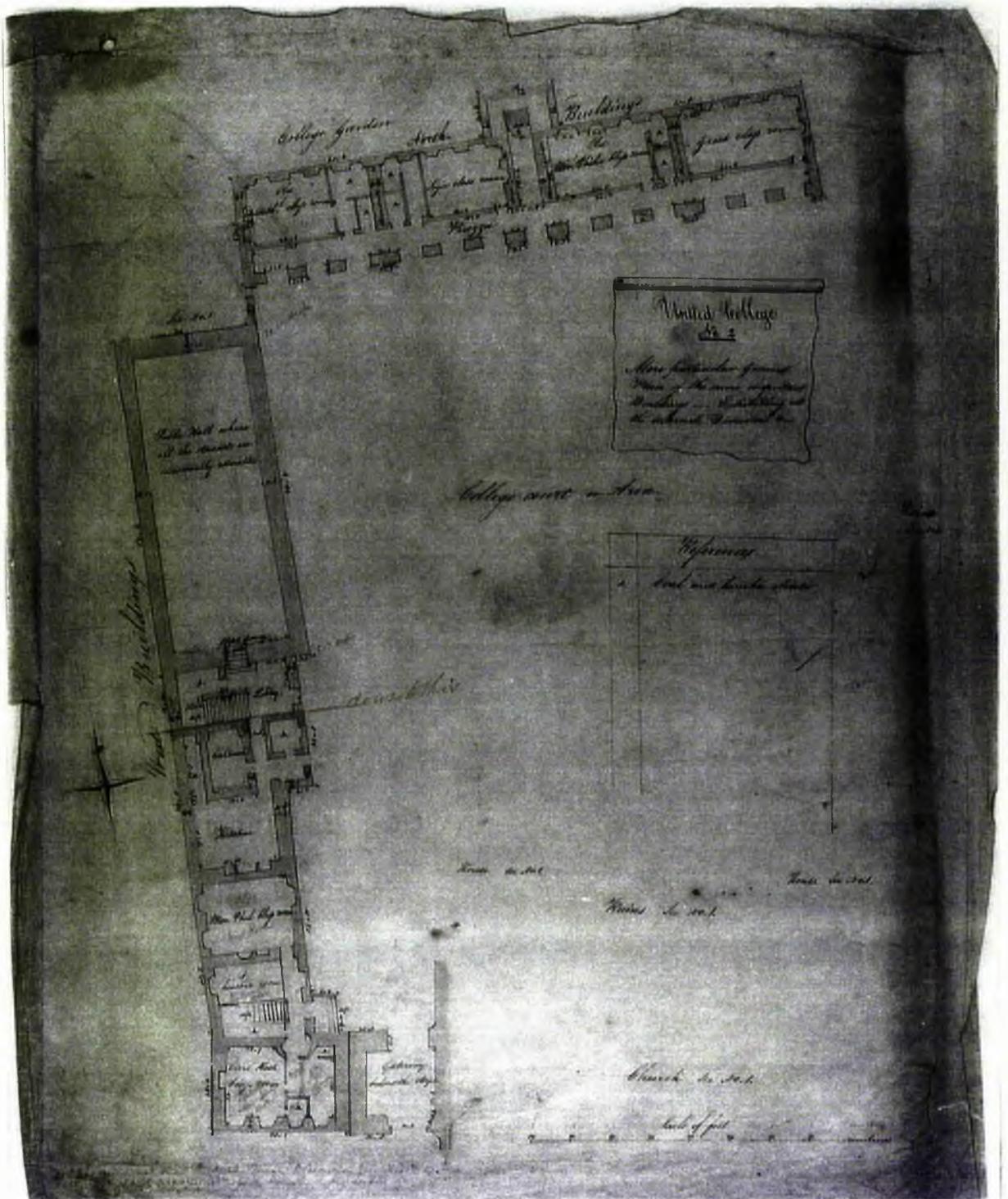


Fig.17 United College. Ground floor plan of west and north buildings, survey drawing No.2. R. Reid, probably drawn in 1825.

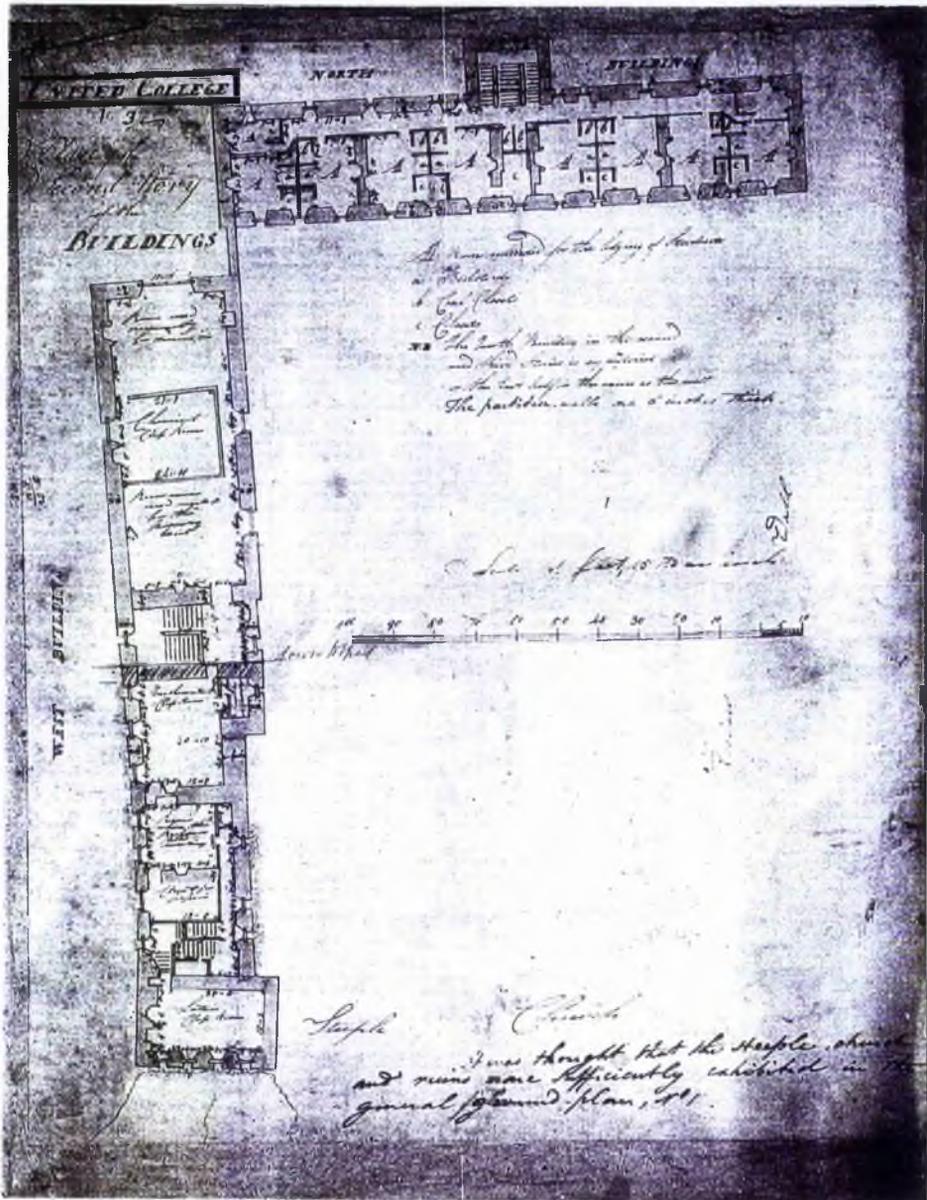


Fig.18 United College. First floor plan of west and north buildings, survey drawing No.3. R. Reid, probably drawn in 1825.

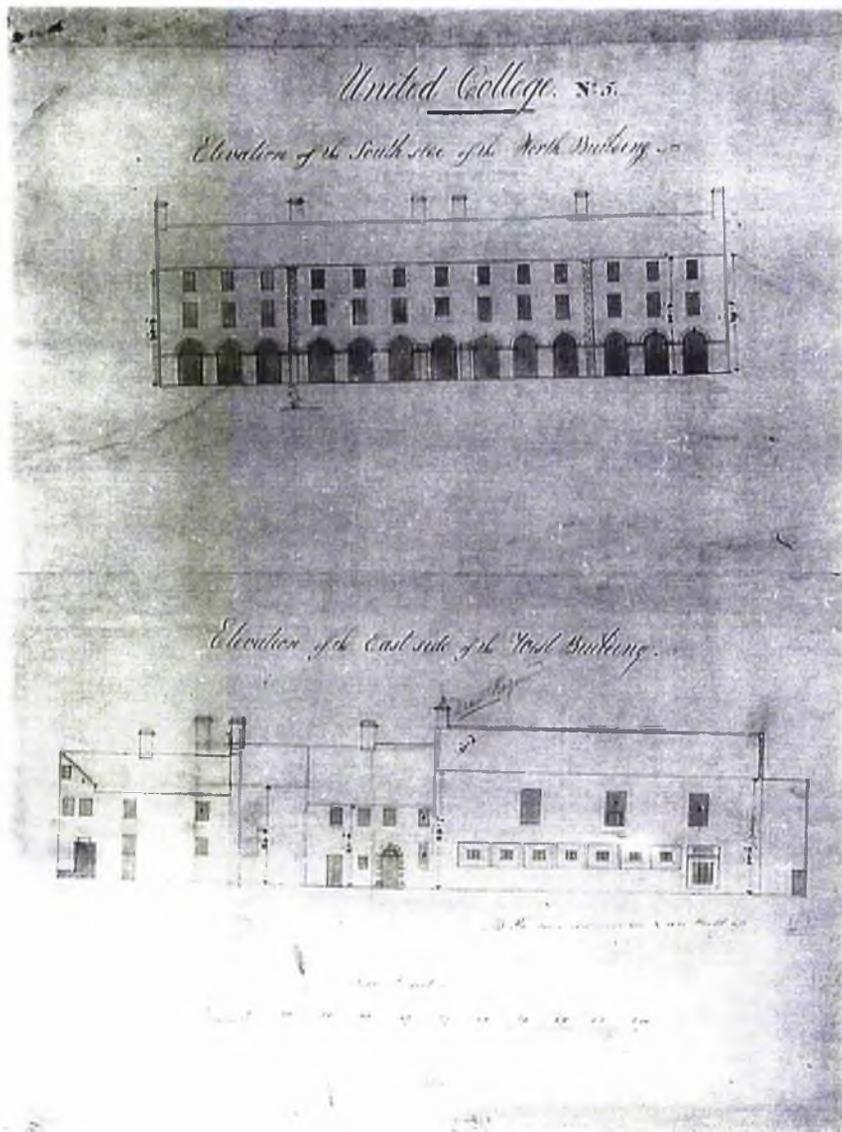
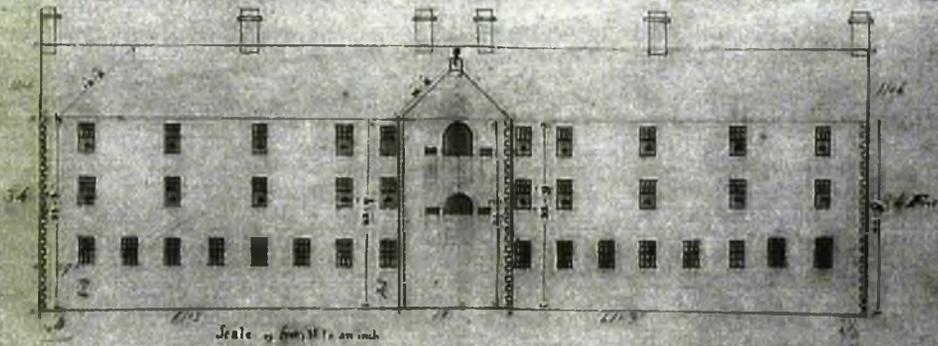


Fig.19 United College. Elevations of south side of north building and east side of west building, survey drawing No.5. R. Reid, probably drawn in 1825.

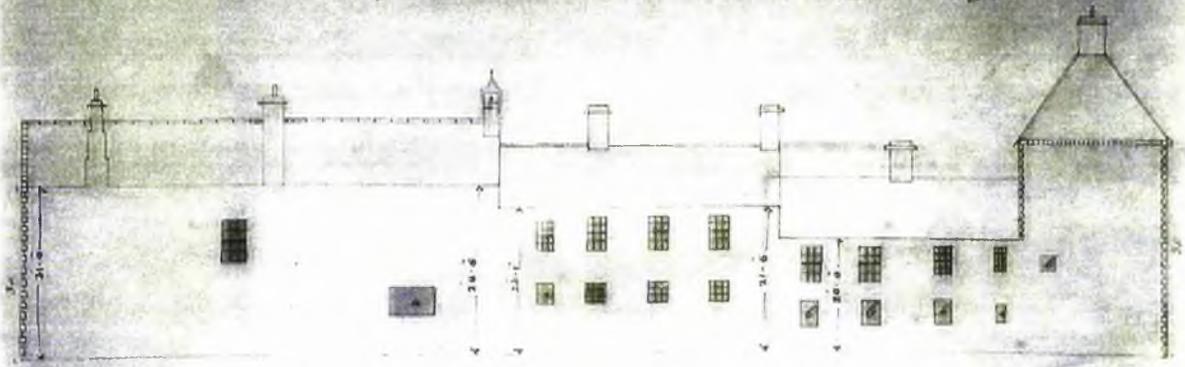
United College N^o 6. ELEVATIONS

Elevation of the north side of the North Building



The lower part of the windows of the second and third
floors are closed with wood

Elevation of the west side of the West Building



a closed with stone
b closed with wood

Fig.20 United College. Elevations of north side of north building and west side of west building, survey drawing No.6. R. Reid, probably drawn in 1825.

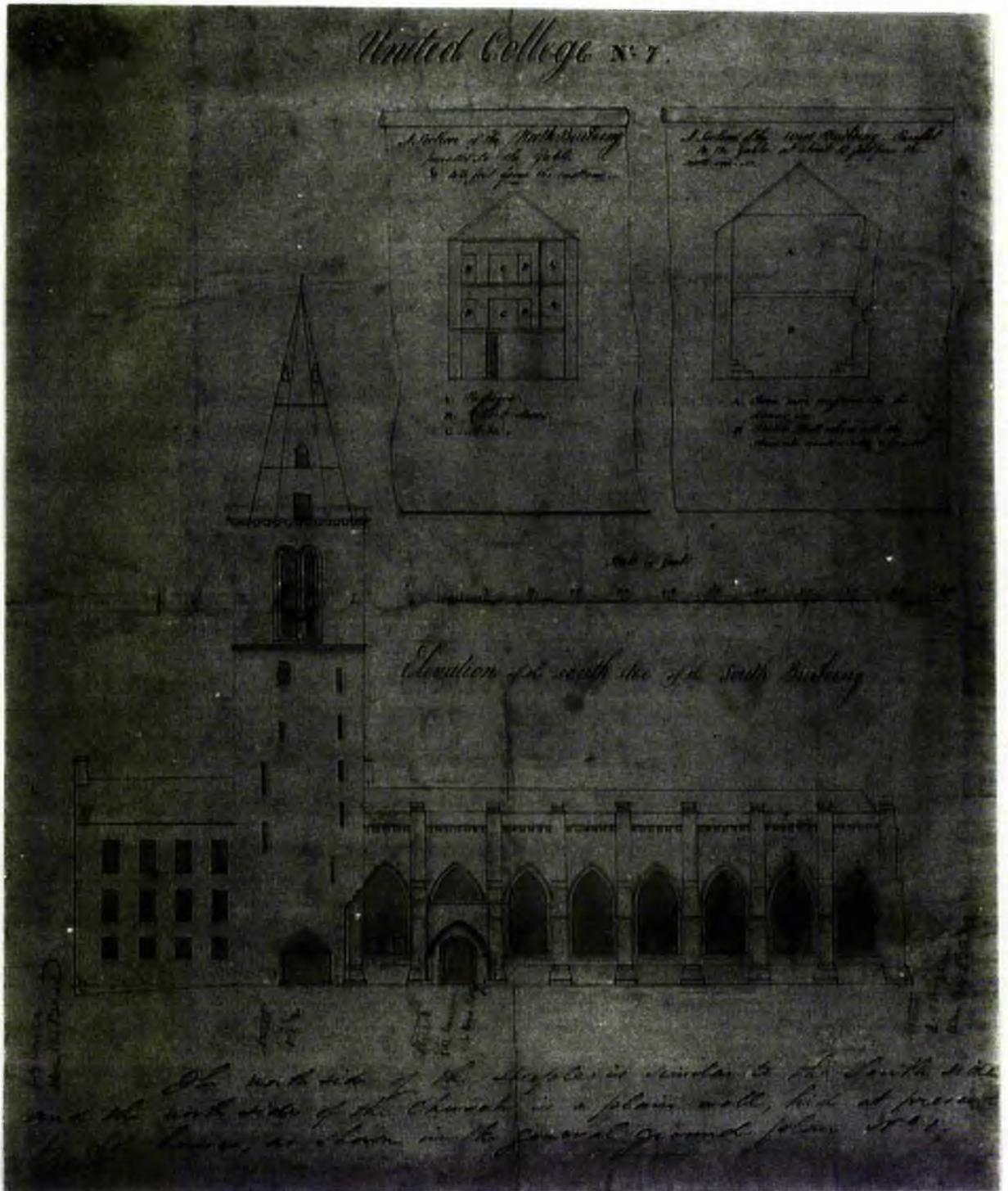


Fig.21 United College. Elevation of south side of south building. survey drawing No.7. R. Reid, probably drawn in 1825.

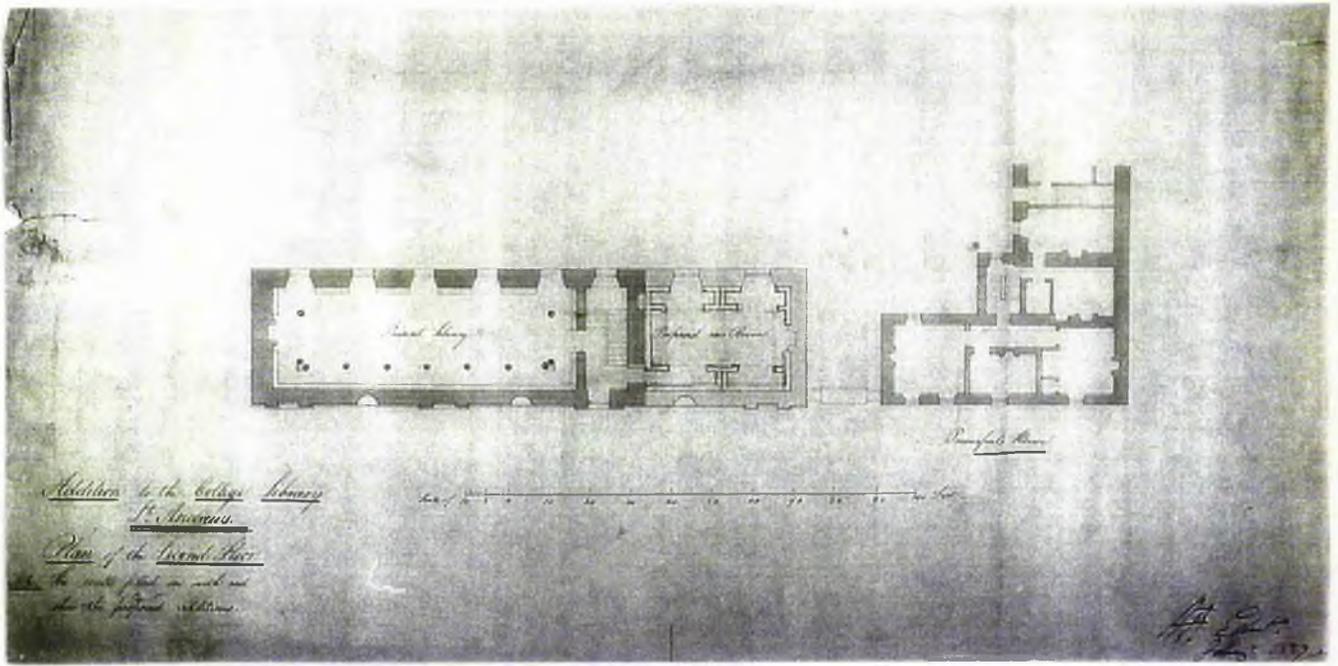


Fig.23 Library Extension. First floor plan, R. Reid, January, 1827.

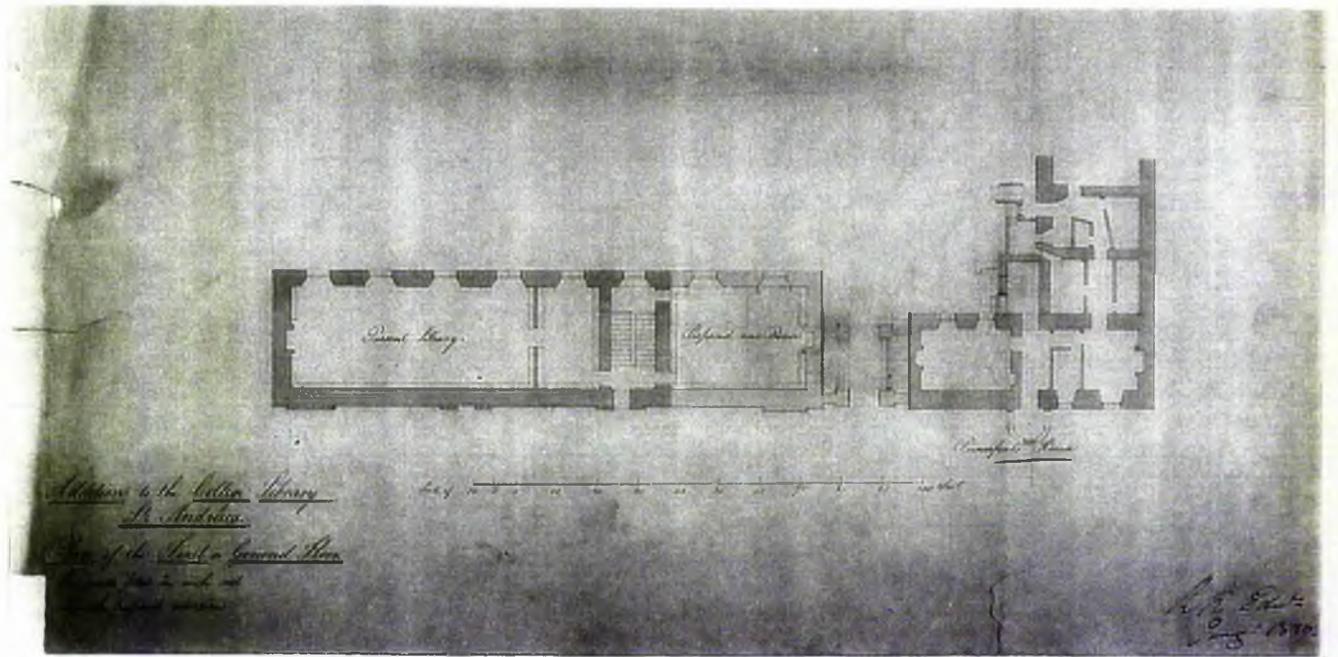


Fig.22 Library Extension. Ground Floor plan. R. Reid, January, 1827.

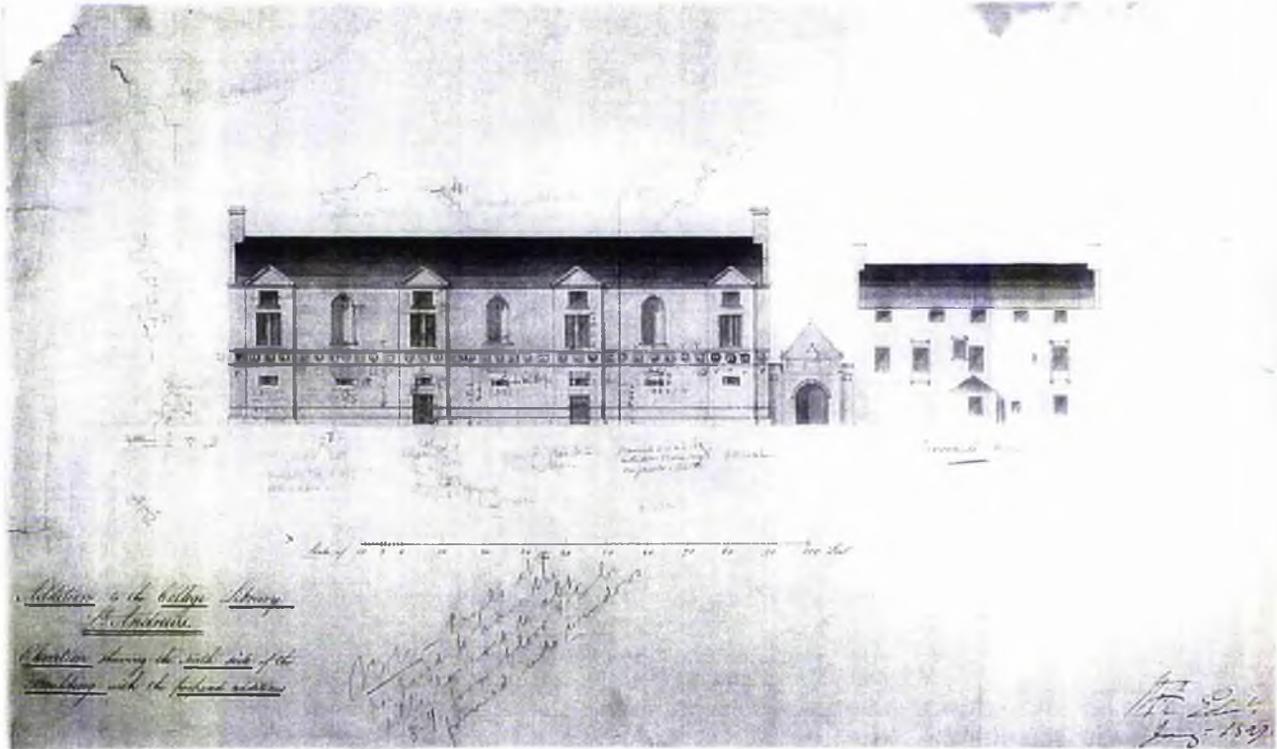


Fig.24 Library Extension. North elevation. R. Reid, January, 1827.

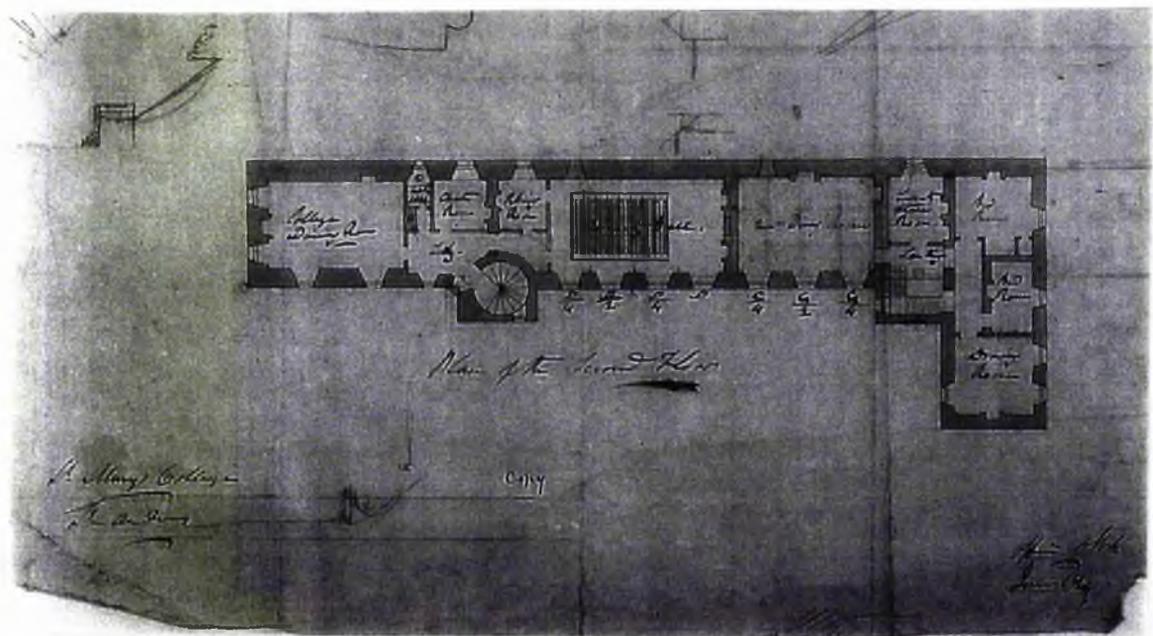


Fig.26 St.Mary's College. Proposed alterations to first floor. R. Reid, June. 1829.

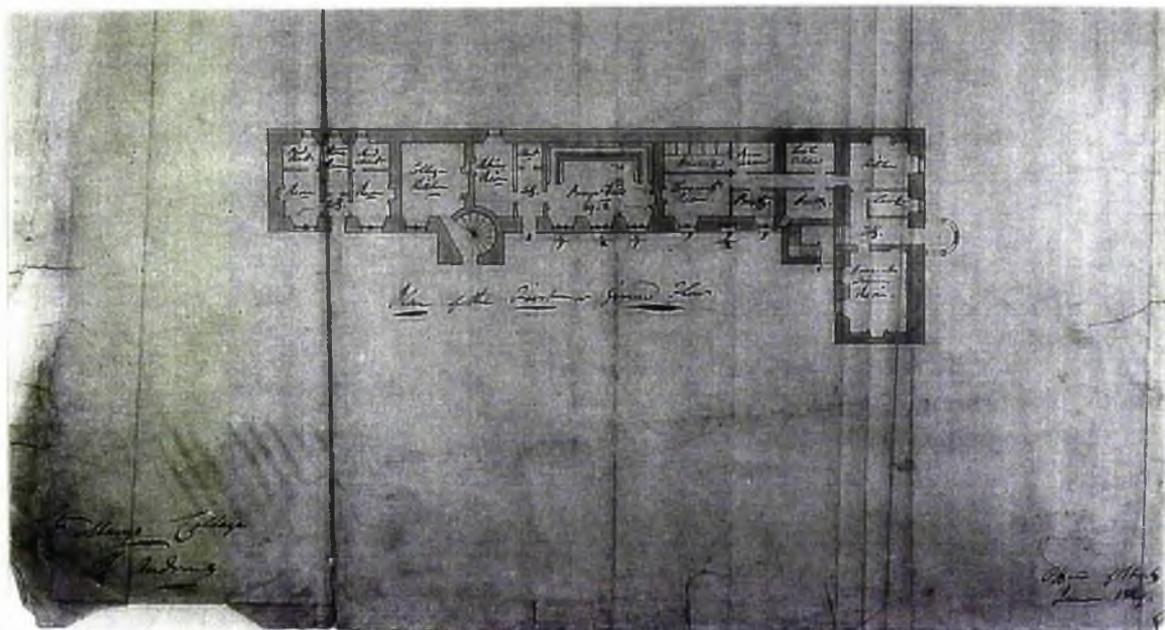


Fig.25 St.Mary's College. Proposed alterations to ground floor. R. Reid, June, 1829.

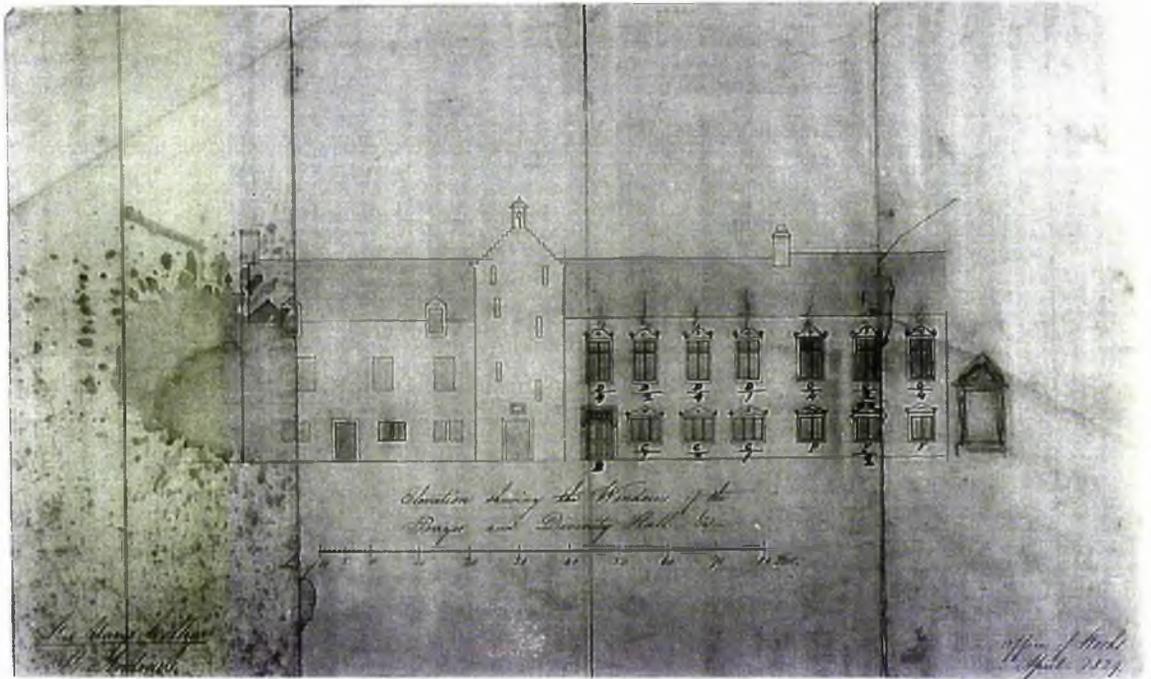


Fig.27 St.Mary's College. Proposed alterations to east elevation. R. Reid, June,1829.

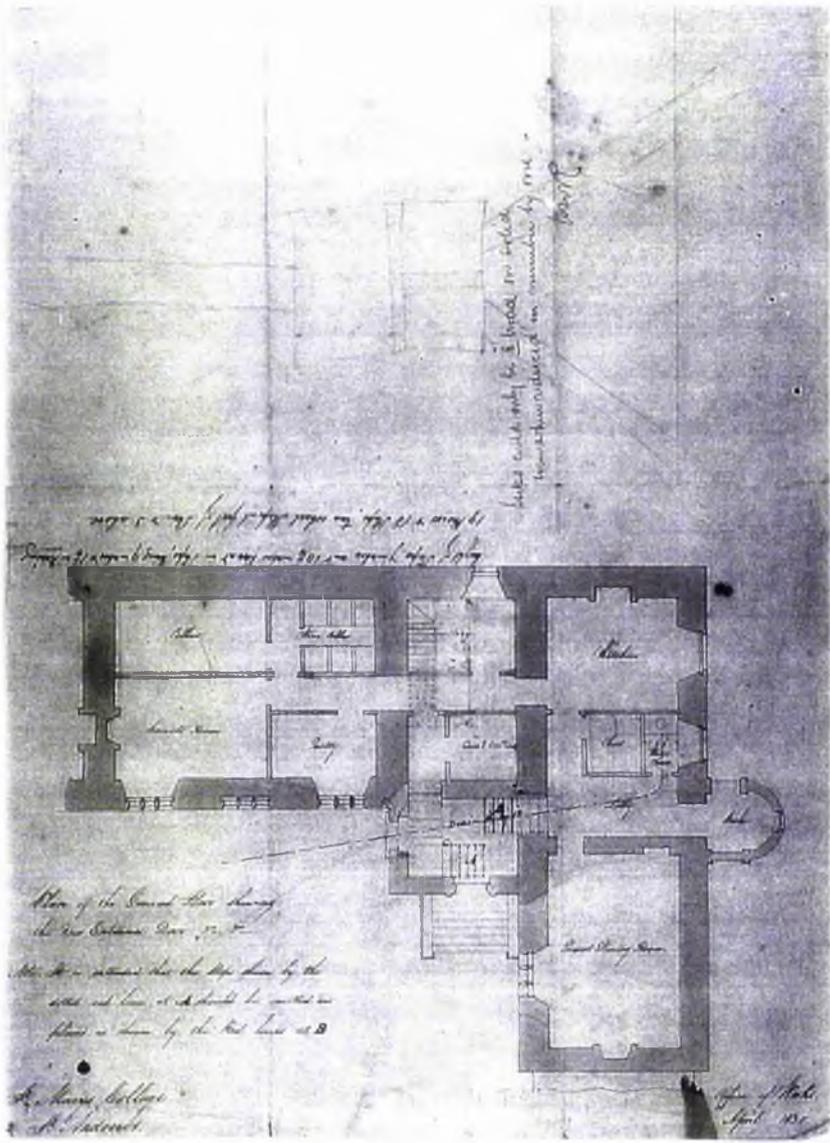


Fig.28 St.Mary's College. Proposed alterations to ground floor of Principal's House. R. Reid, April, 1830.

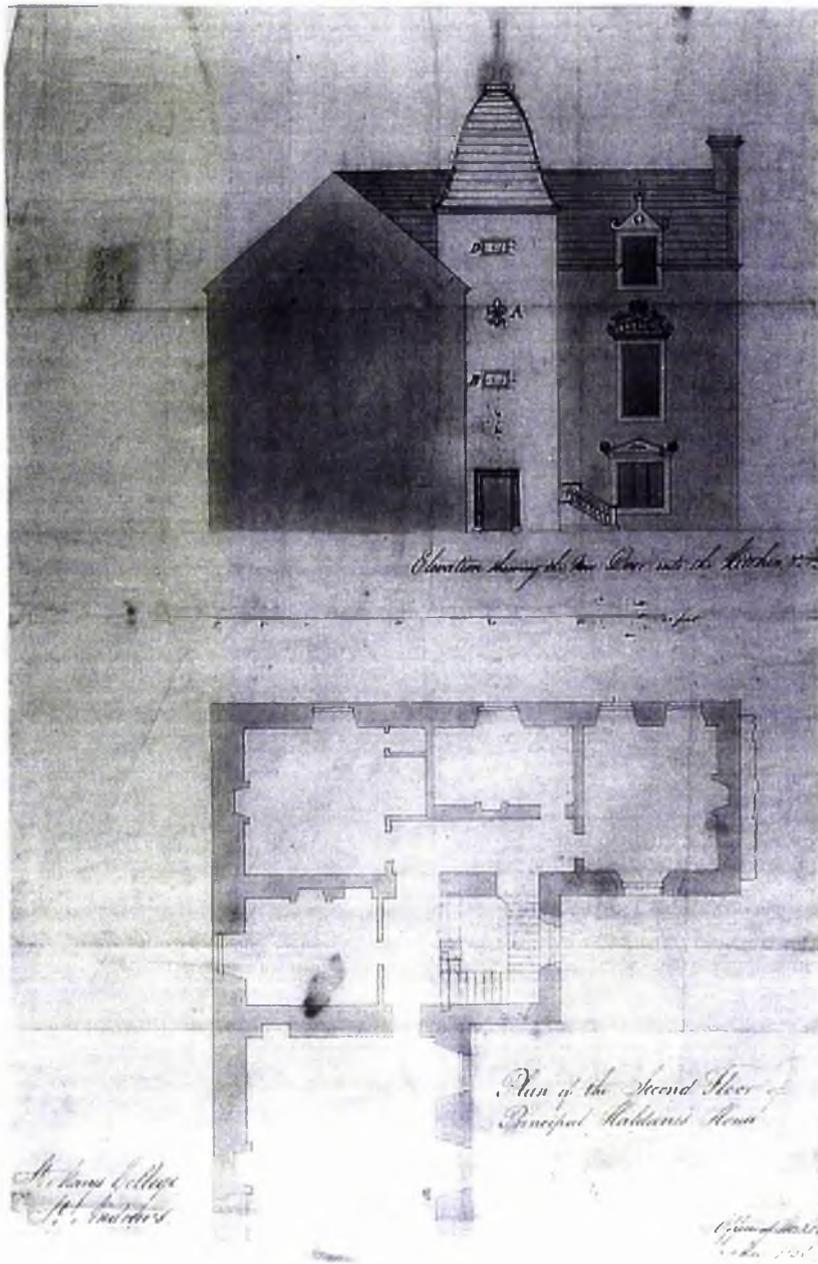


Fig.29 St.Mary's College. Proposed alterations to first floor of Principal's House and south elevation of north wing. R. Reid, April, 1830.



Fig.30 St.Mary's College. Reconstructed east elevation 1829 - 1831.



Fig.31 St.Mary's College. Reconstructed east elevation 1829 - 1831.



Fig.32 St.Mary's College. South Street elevation of Principal's House before alterations were carried out c1850's.



Fig.33 St Mary's College. Existing South Street elevation of Principal's House.



Fig.34 Library Extension. Redesigned interior of the SenateRoom.
Rowand Anderson, 1898 - 1901

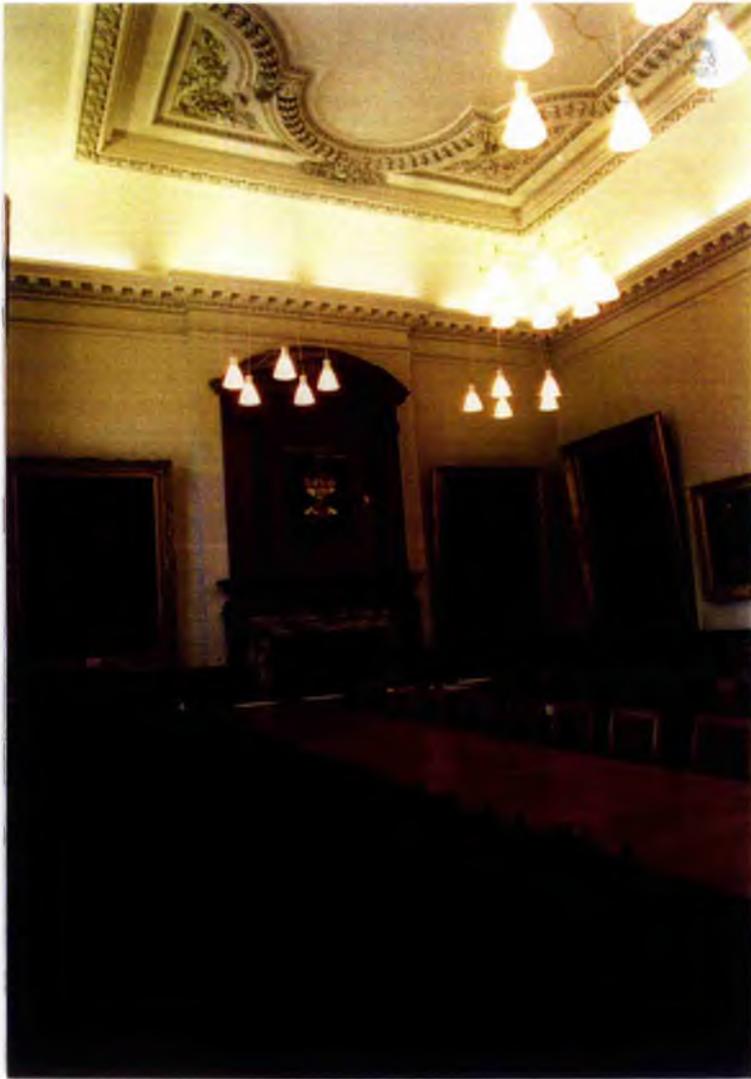


Fig.35 Library Extension. Redesigned interior of the Senate Room.
Rowand Anderson, 1898-1901.

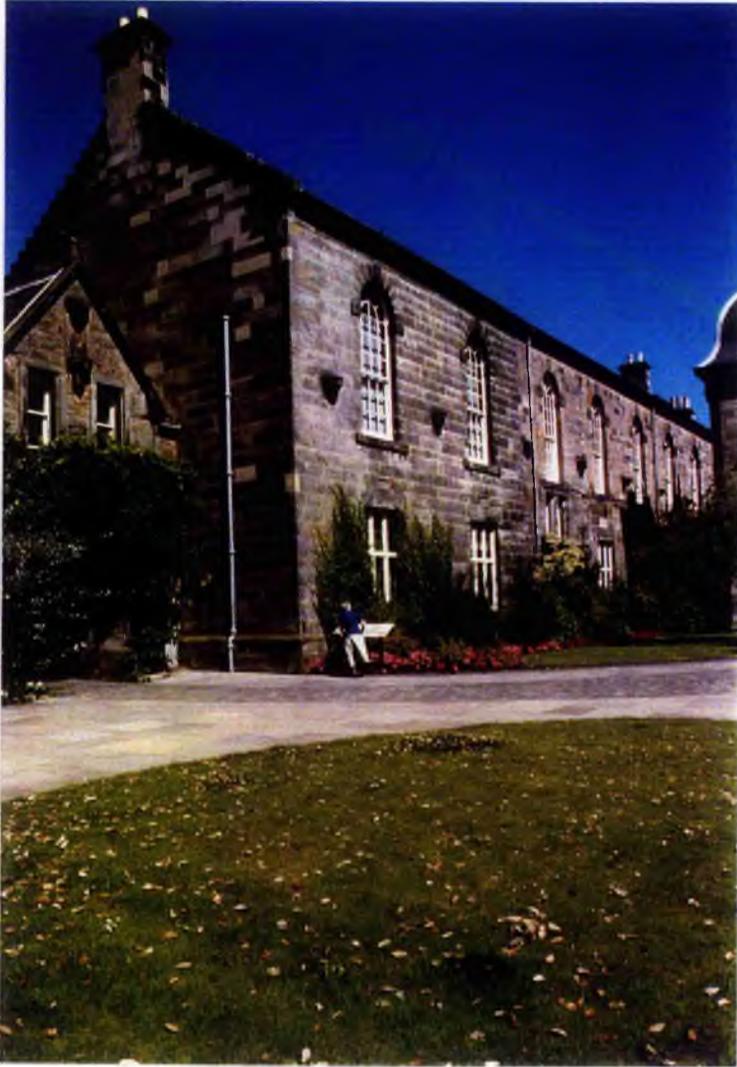


Fig.36 Library Extension. South elevation showing contrasting masonry colour.



Fig.37 Library Extension. South elevation showing toothed jointing, bonding extension to original wall; it also shows the remaining 17th century mullioned two light casement window.



Fig.38 Library extension. Passion emblem incorporated into new wall.
W. W. Robertson, 1890.

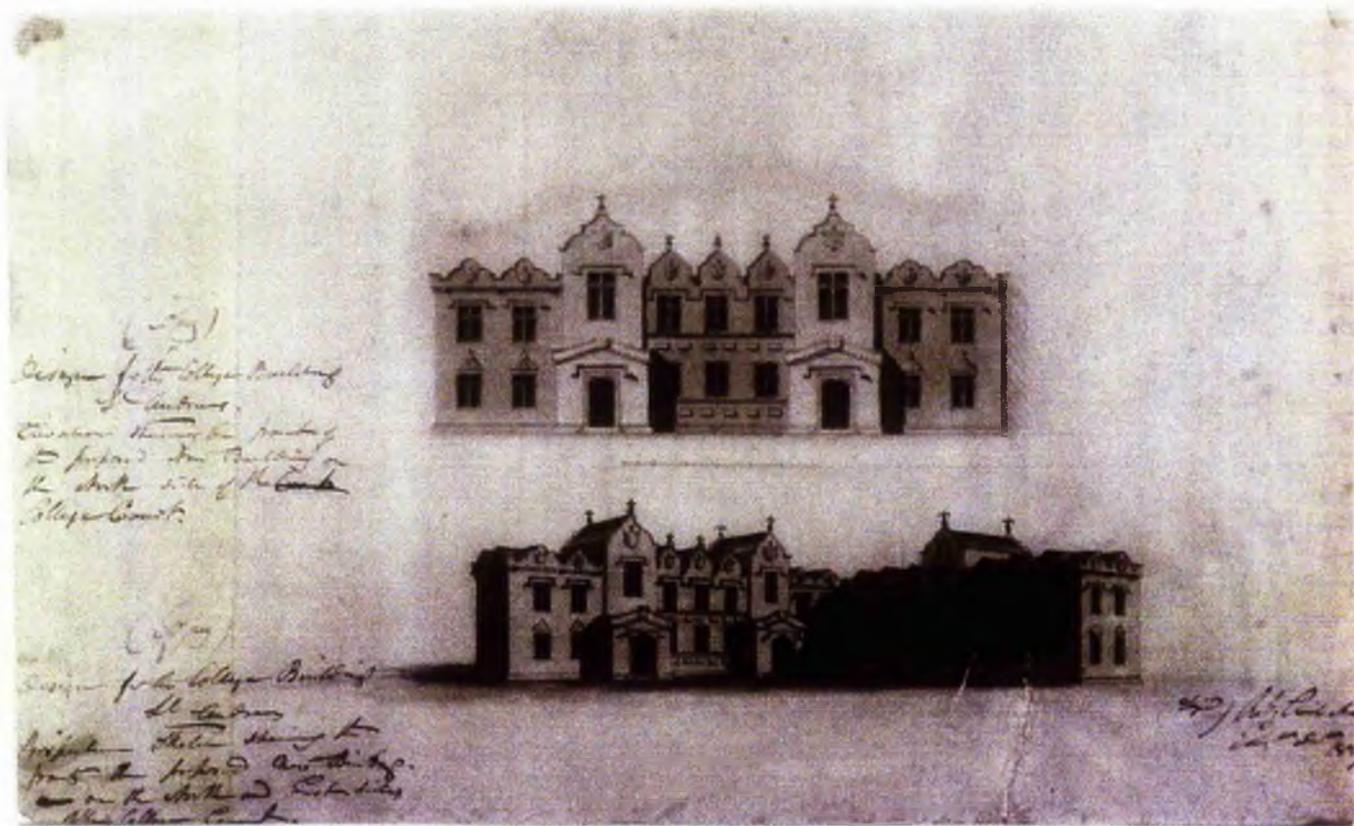


Fig.39 United College. Perspective sketch showing proposed new east and north wings. R. Reid, December, 1827.

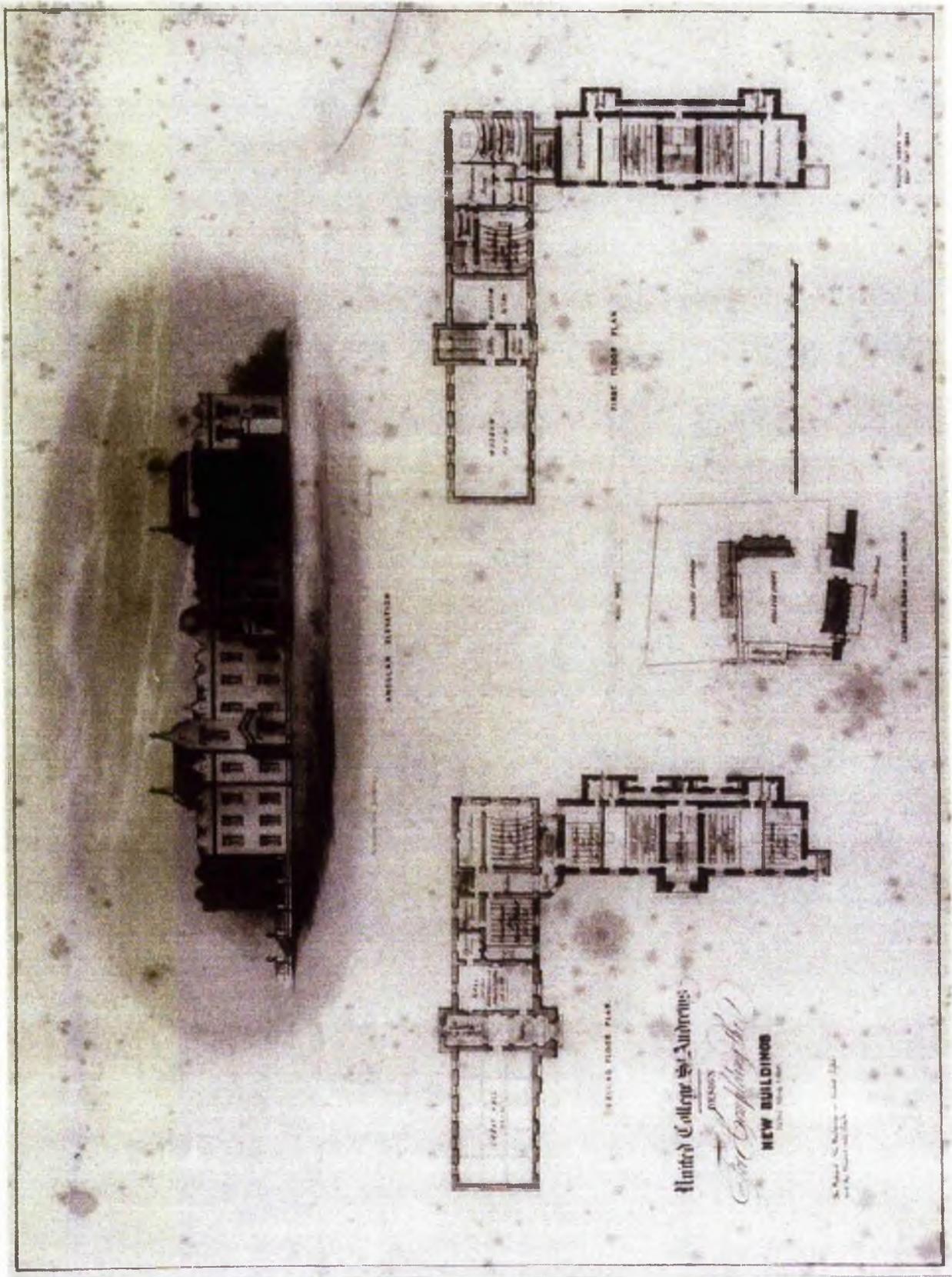


Fig.40 United College. Proposed plans and perspective sketch for the new north wing. W. Nixon February, 1844.



Fig.41 United College. East building as built 1829 -1831.



Fig.42 United College. The junction of Reid's east wing with Nixon's 1845 north building.

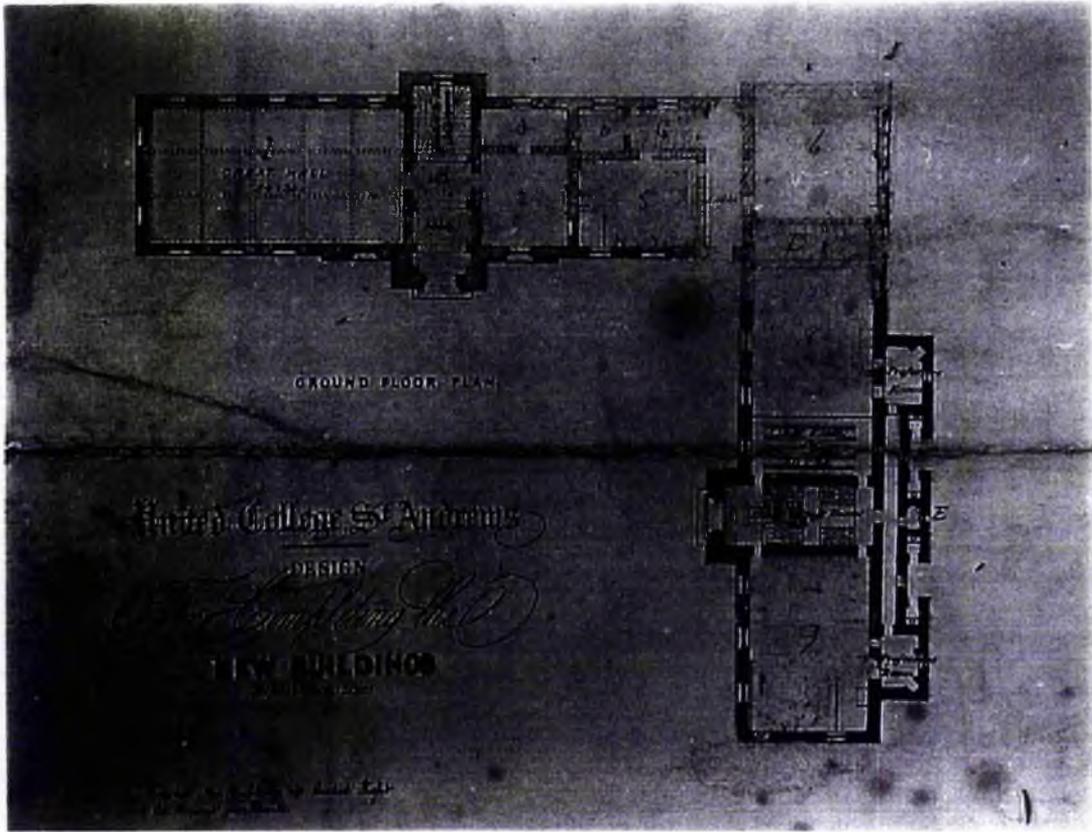


Fig.43 United College. Amended ground floor plan of north building. W. Nixon, February, 1845.

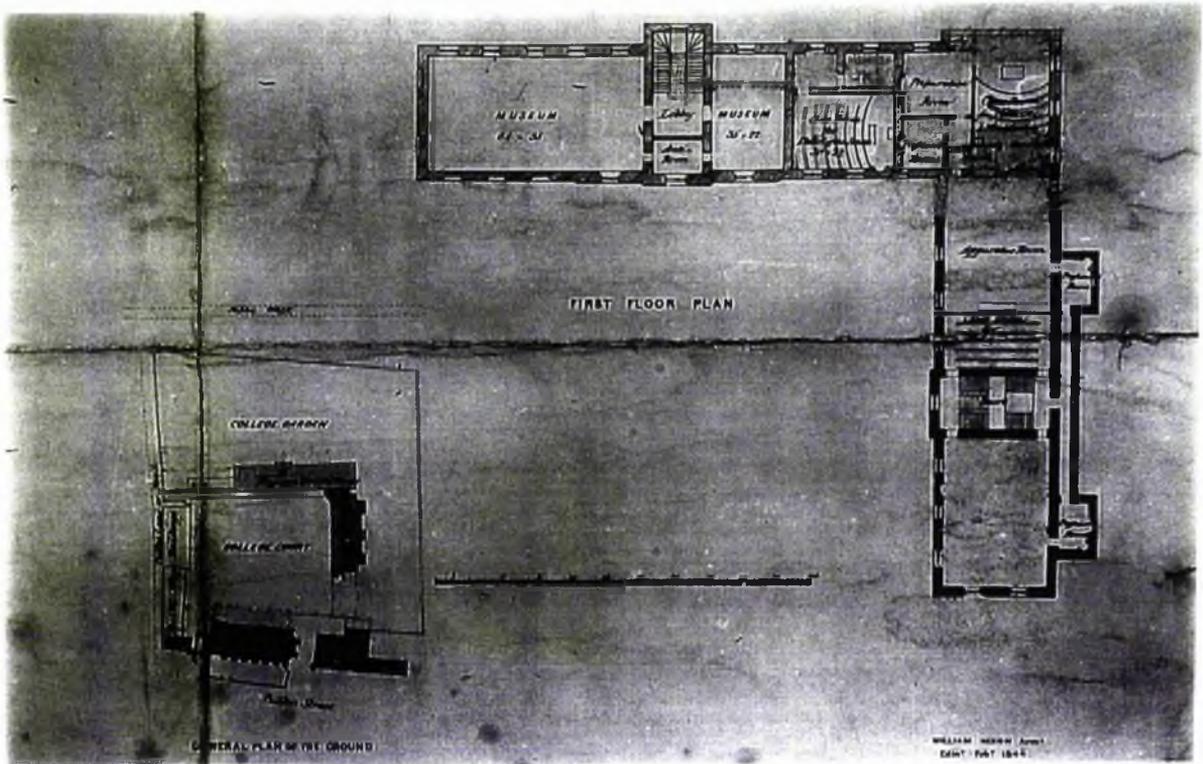


Fig.44 United College. Amended first floor plan of north building. W. Nixon, February, 1845.



Fig.45 United College. South elevation of north building, working drawing No7 signed by contractors. W. Nixon, February, 1845.

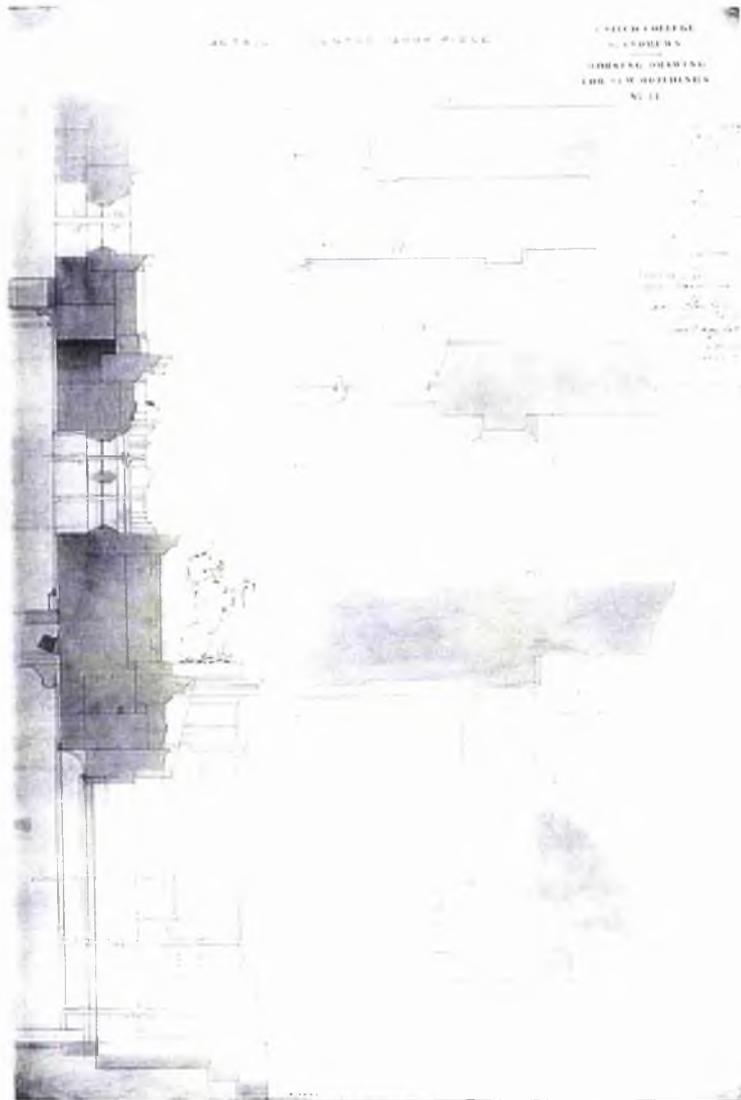


Fig.46 United College. Detail of centre door piece, working drawing No.11
W. Nixon, February, 1845.



Fig.47 United College. South elevation of north building as built.
W. Nixon 1845 -1849.

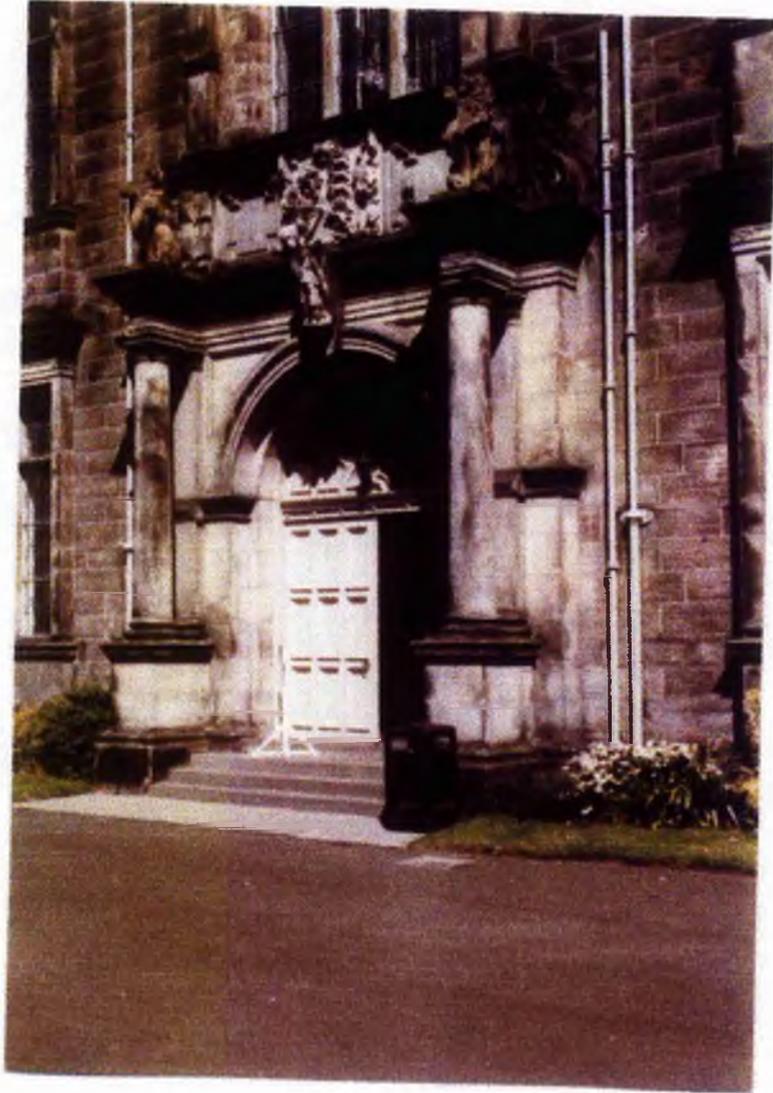


Fig.48 United College. North building main entrance as built. W. Nixon, 1845 -1849.



Fig.49 United College. Sculpted frieze above main entrance of north building as built. W. Nixon, 1845 -1849.



Fig.50 United College. North building main entrance as existing.

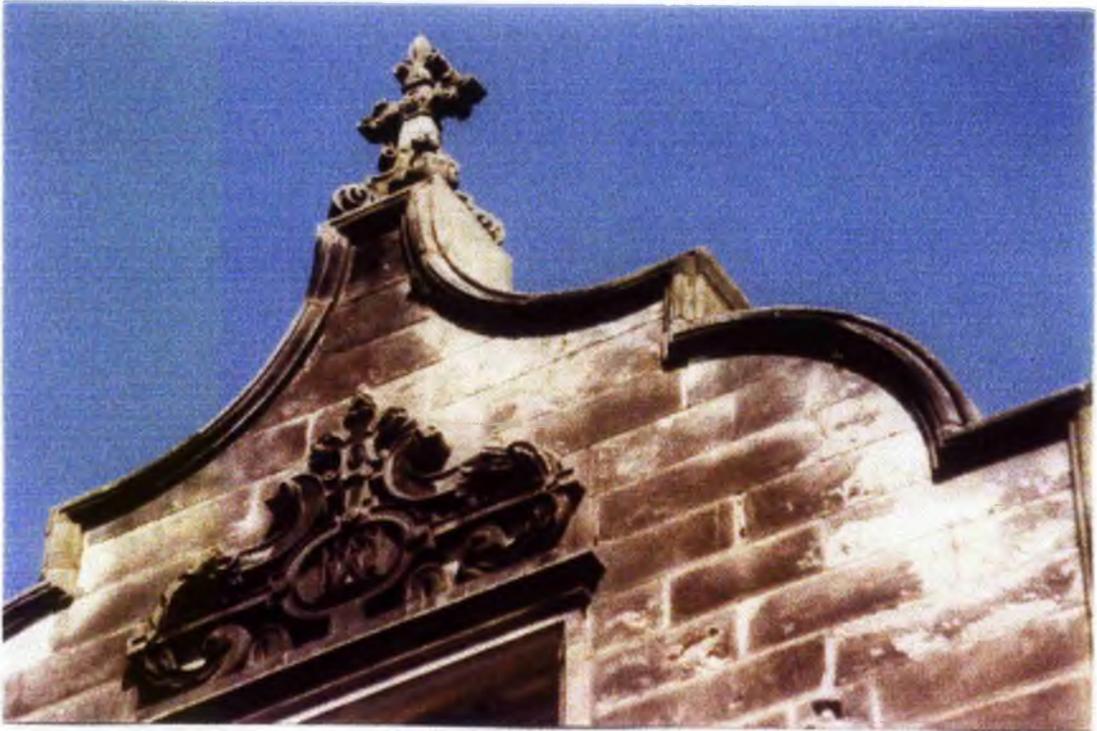


Fig.51 United College. North building detail of strapwork showing Nixon's initials.

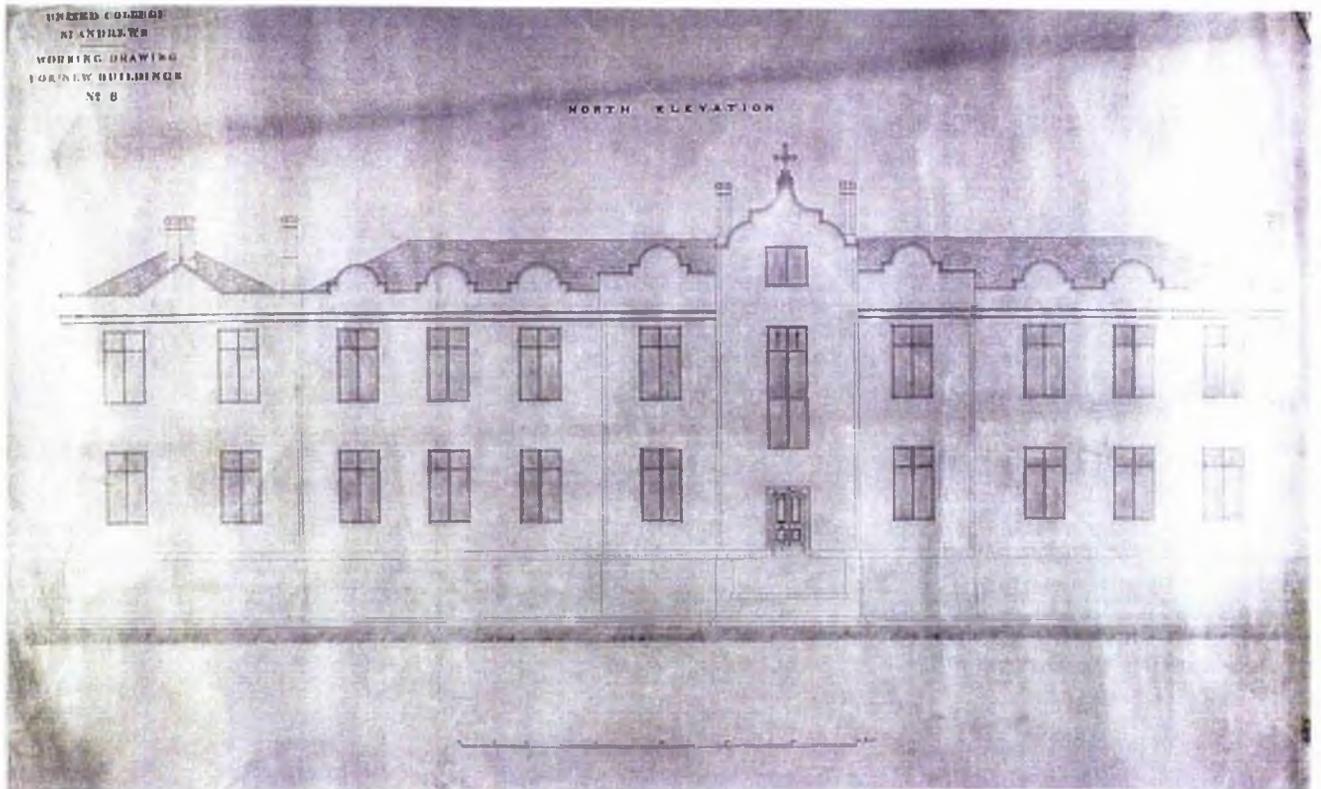


Fig.52 United College. North elevation of north building, working drawing No.8. W. Nixon, February, 1845.

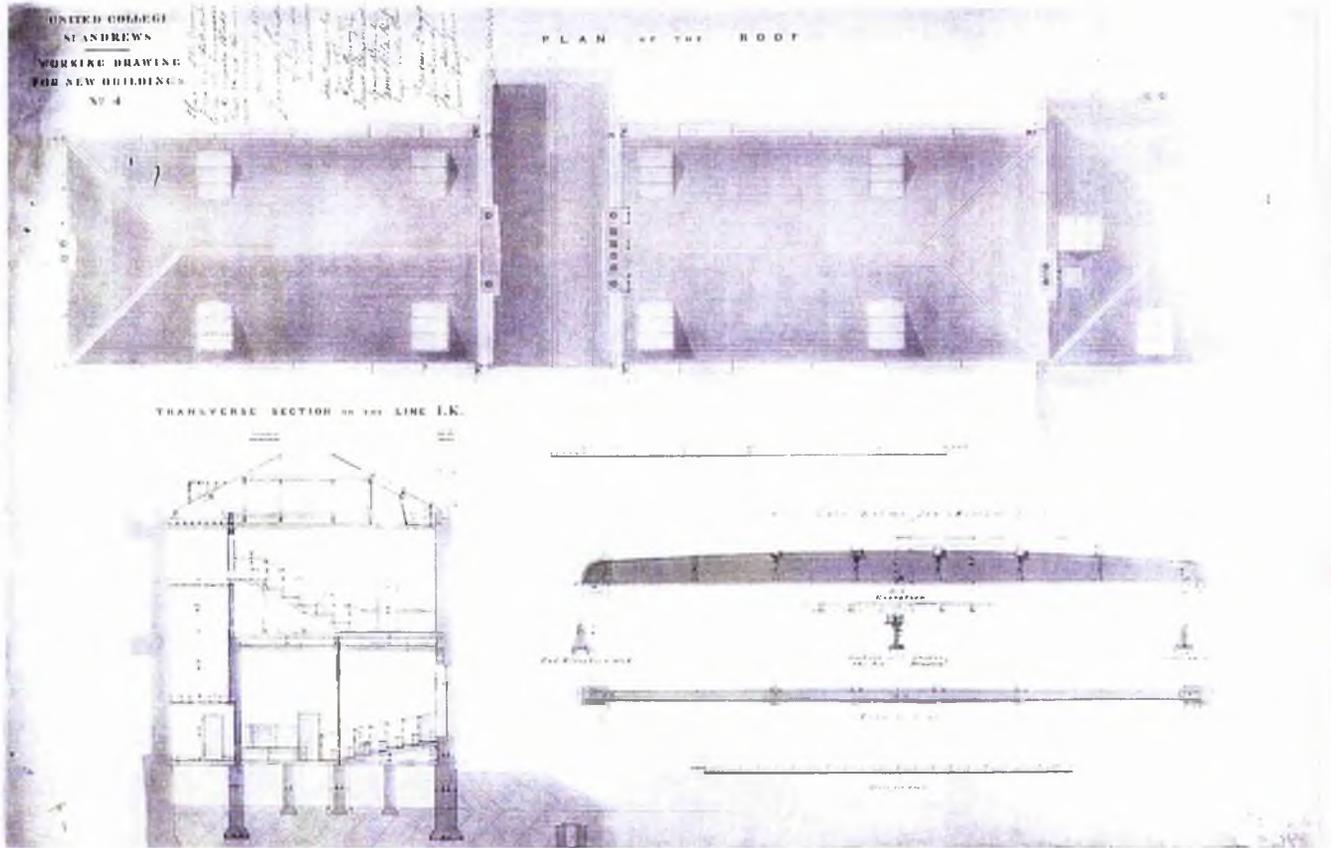


Fig.53 United College. Roof plan, section of north building and detail of cast iron beams, working drawing No4. W. Nixon, February, 1845.

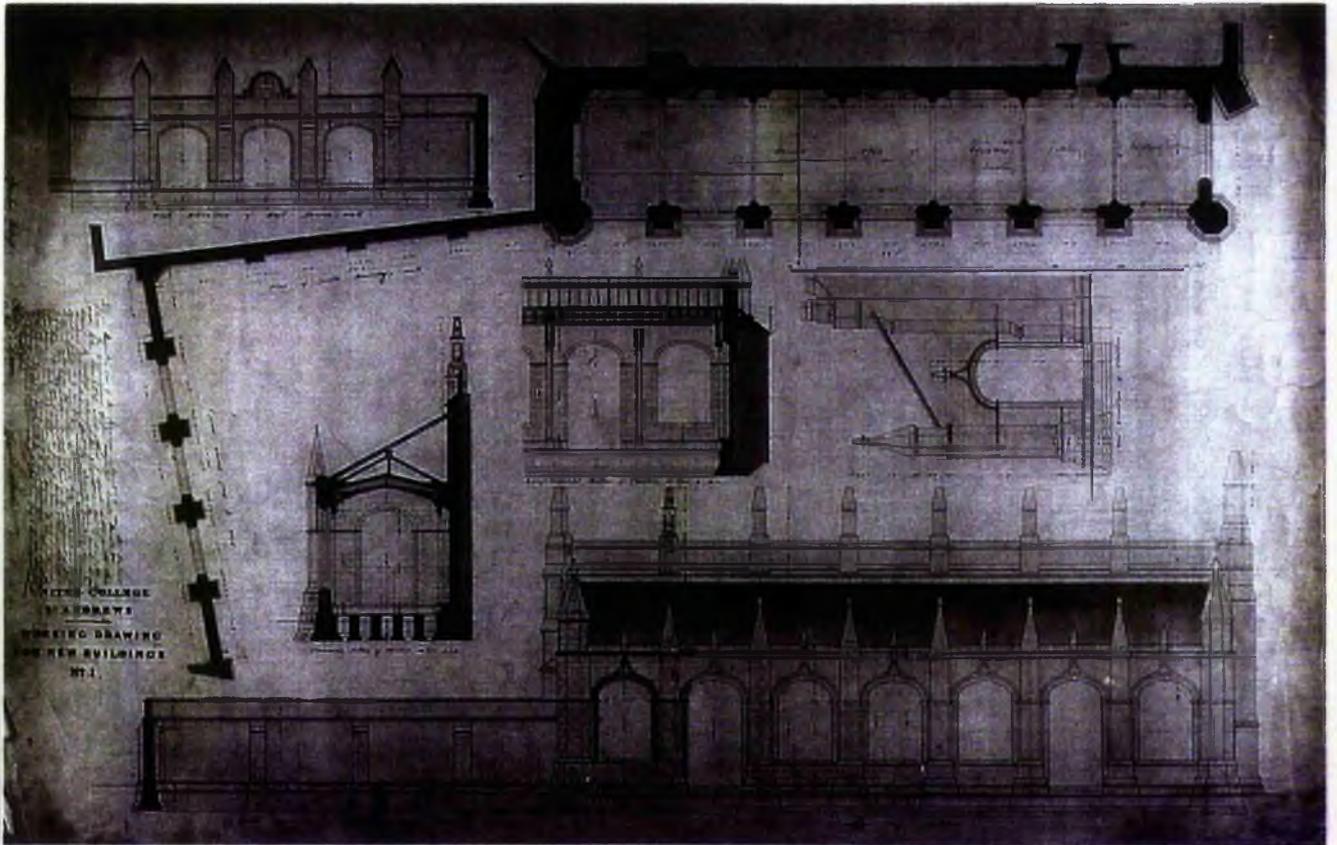


Fig.54 United College. Plan, elevation and section of cloister and screen walls, working drawing No.1. W. Nixon, July, 1847.

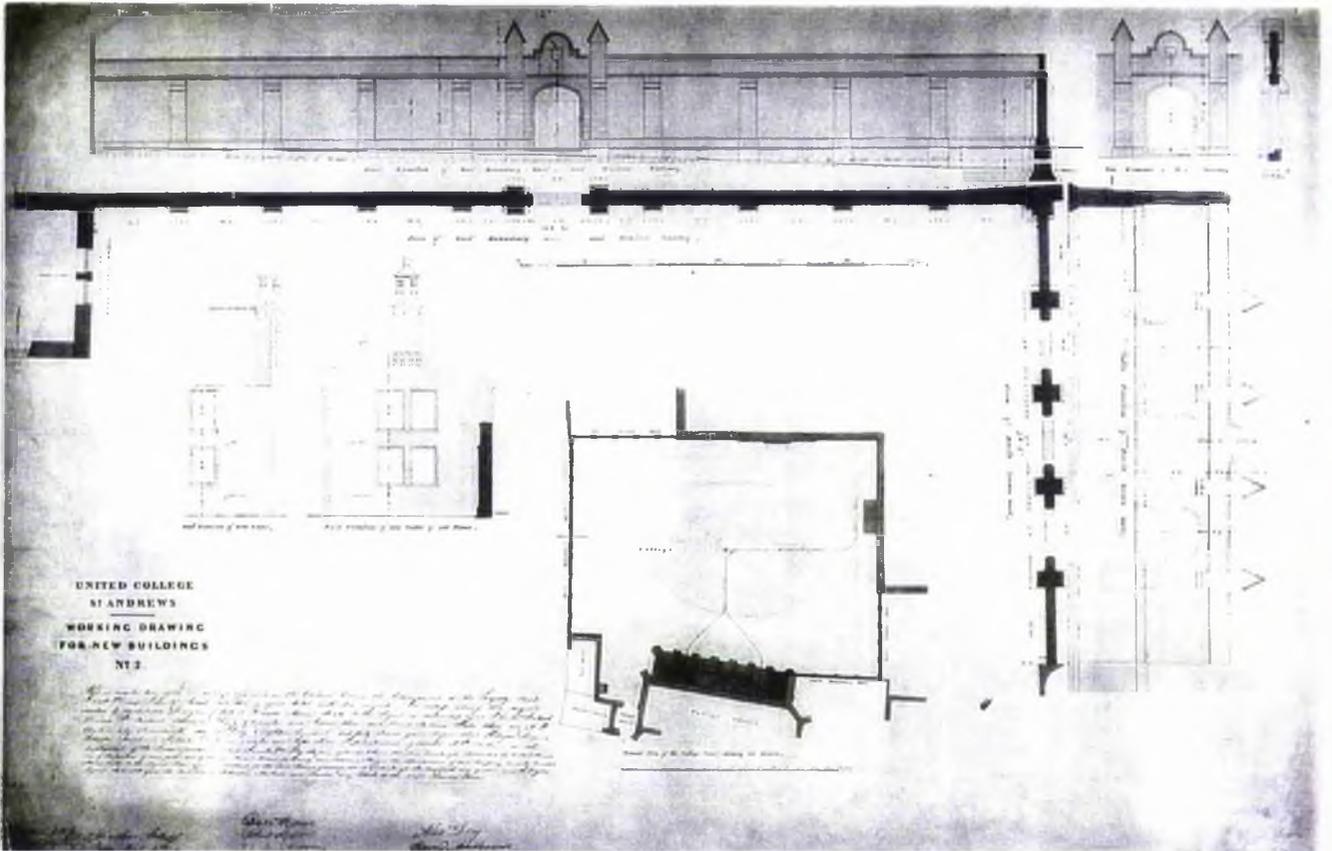


Fig.55 United College. Screen walls working drawing No.2. W. Nixon, July, 1847.

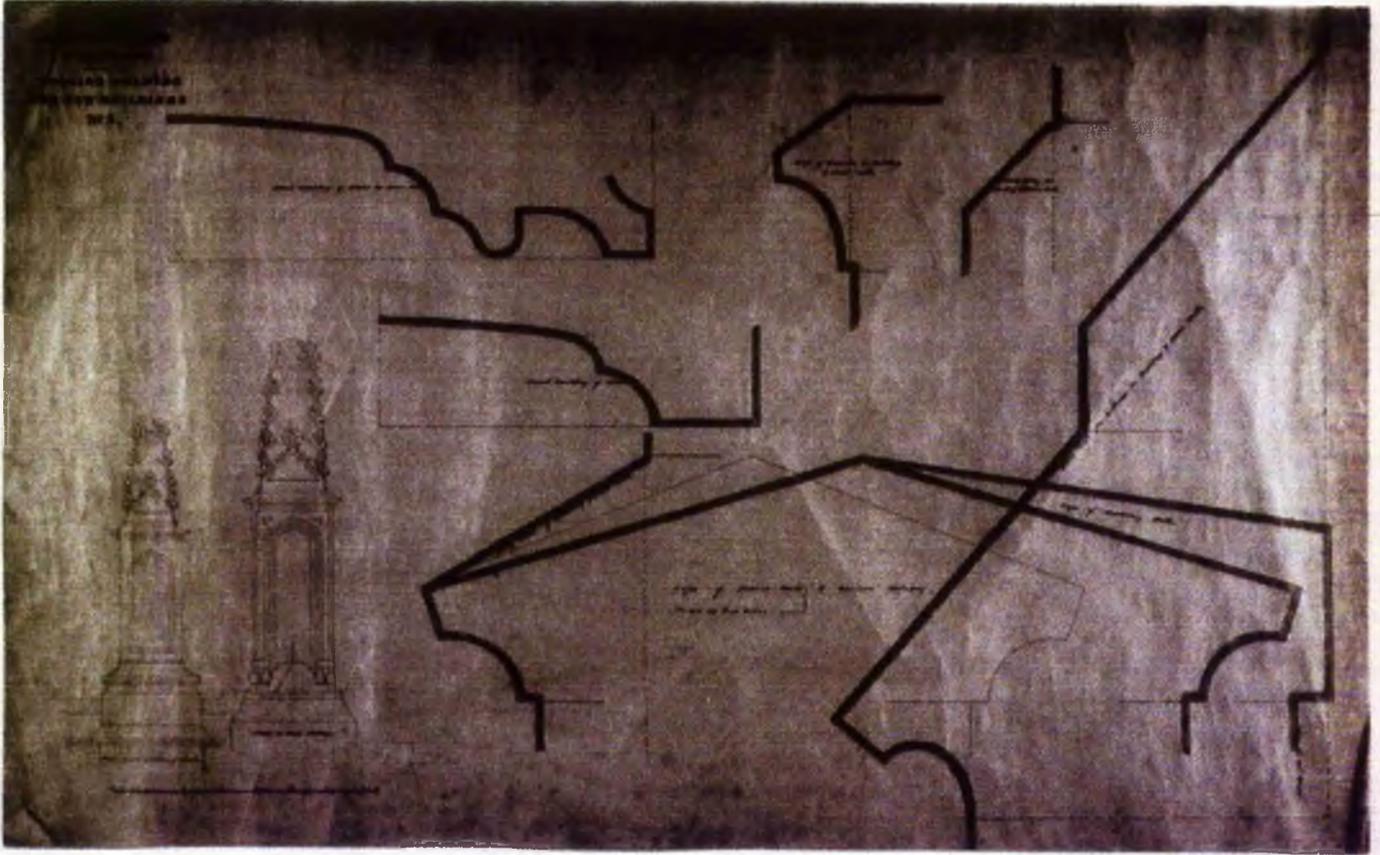


Fig.56 United College. Detail of pinnacles and copes, working drawing No.3.
W. Nixon, July 1847.

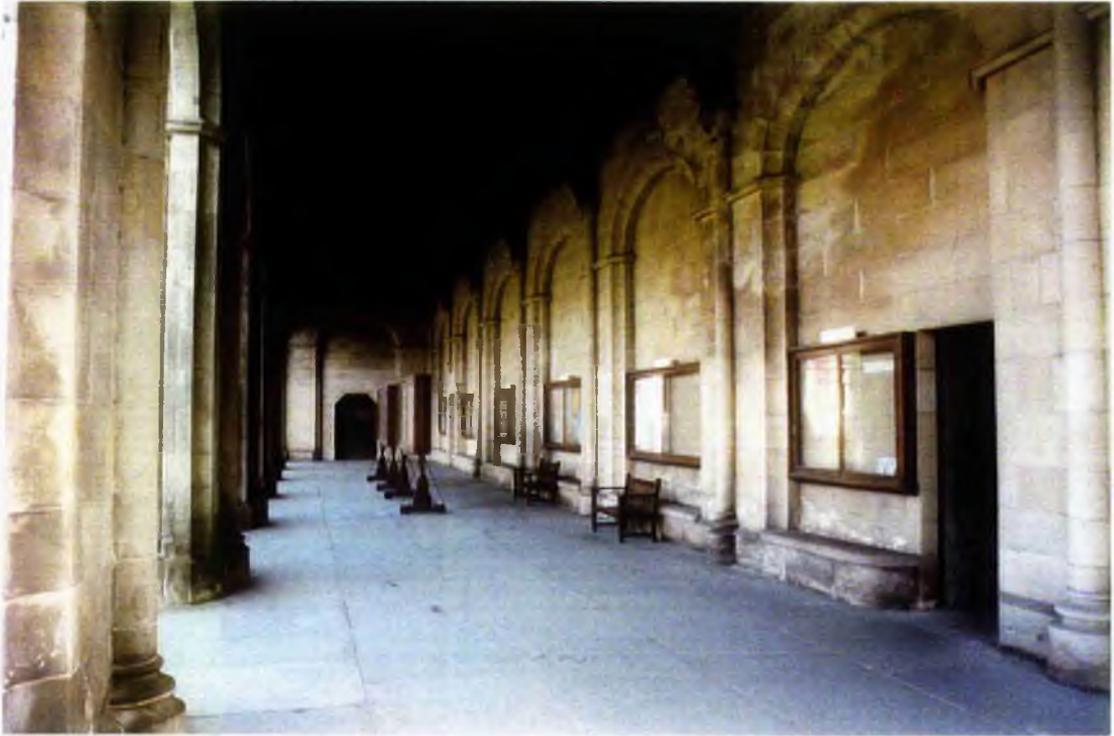


Fig.57 United College. Cloister showing blind arcading on the north and east walls of the Chapel. W. Nixon, July, 1847.



Fig.59 The Cloister as existing.

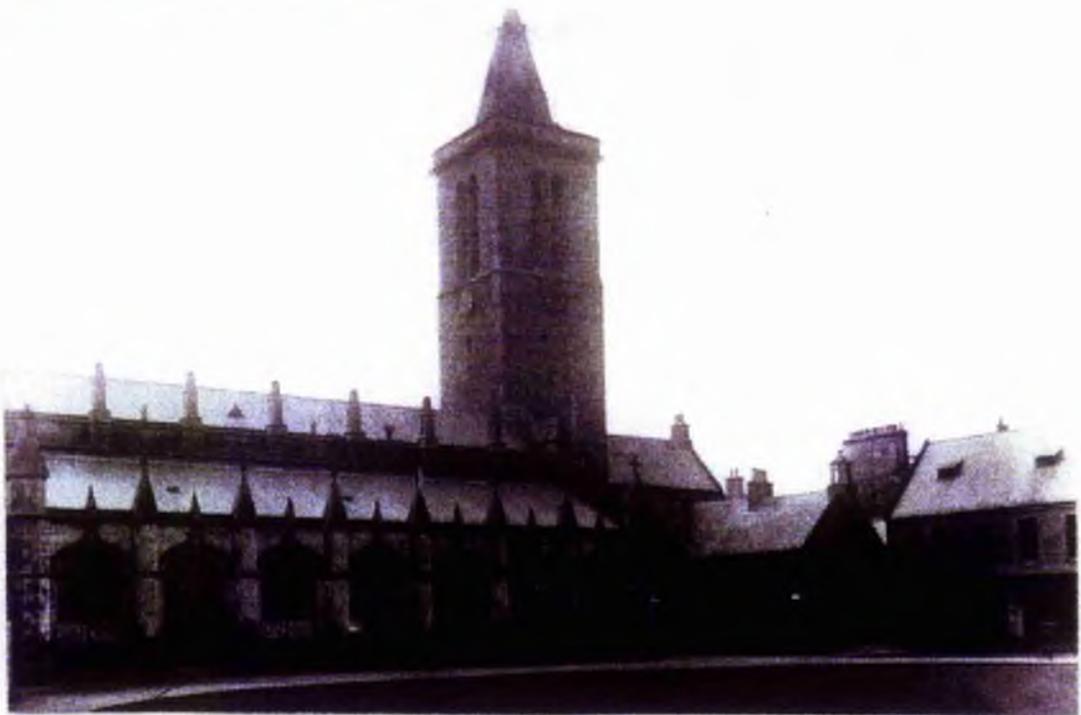


Fig.58 Photograph c.1926 showing Cloister with glazed screens still in position.



Fig.60 The Belfry from the original west building incorporated into new gable.

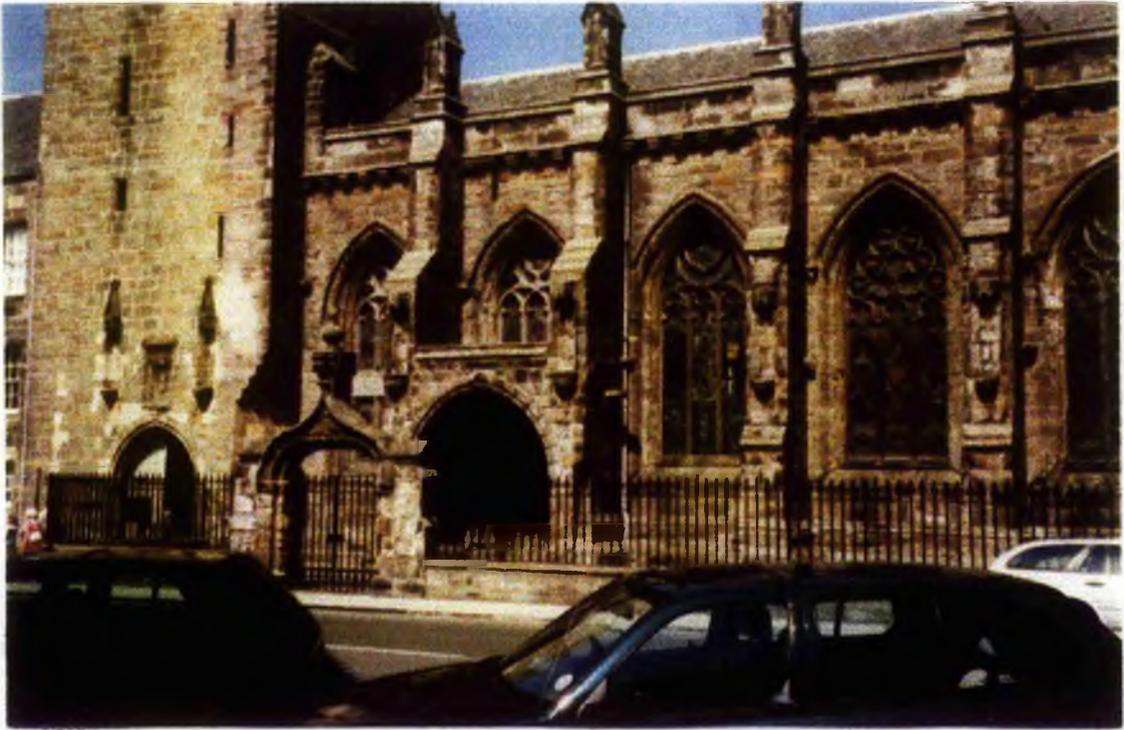


Fig.61 University Chapel. The ancient gateway rebuilt in its present location in 1906.



Fig.62 University Chapel. Early photograph c.1845, showing Chapel without pinnacles and ancient gateway shown in its original position.

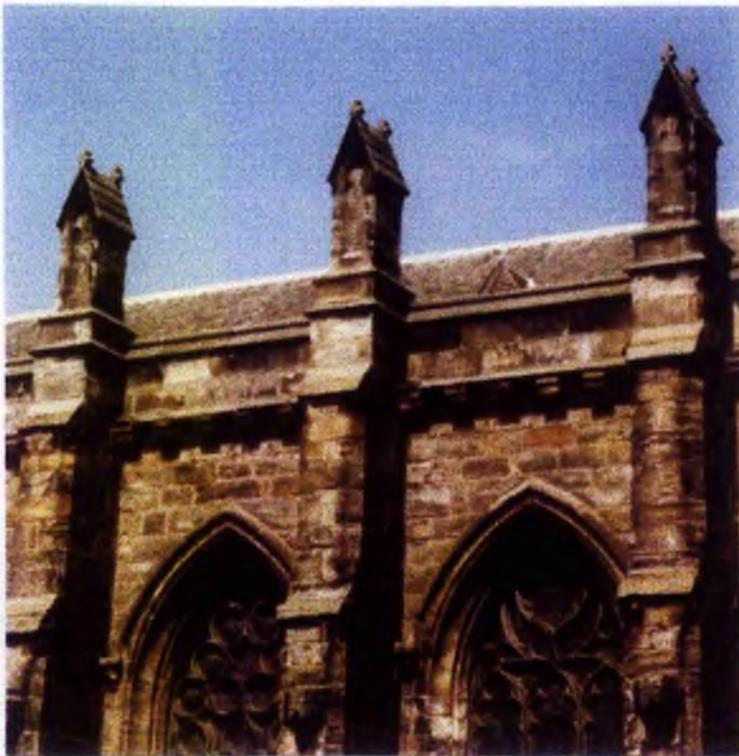
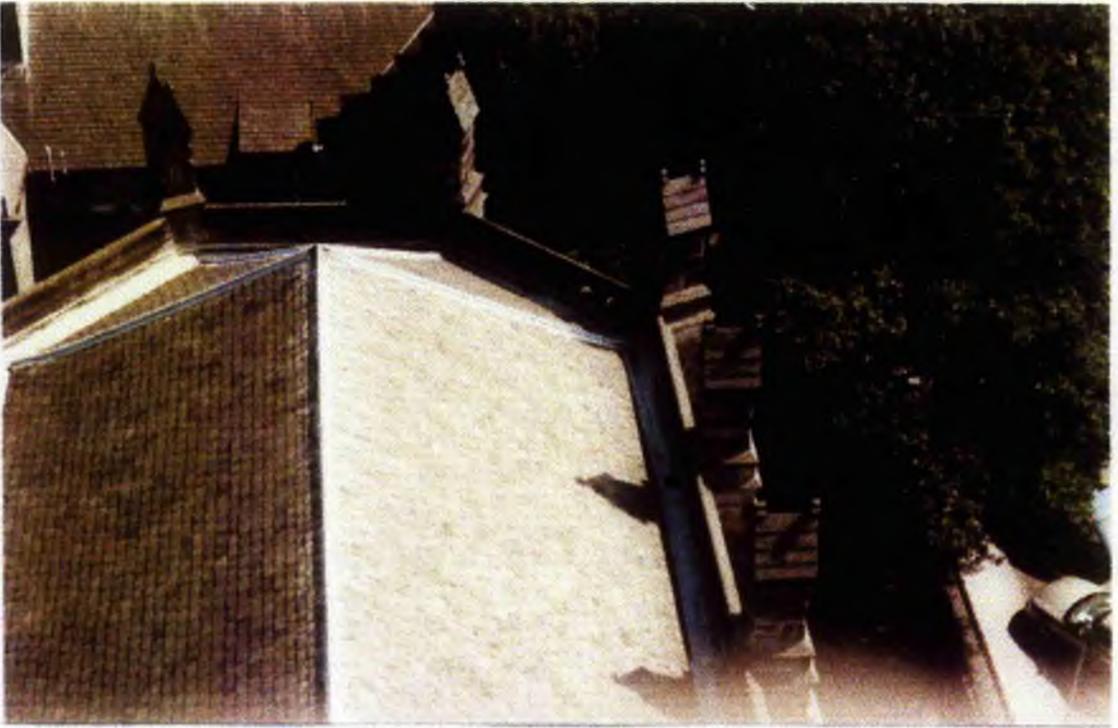


Fig.63 University Chapel. Pinnacles erected on south and east sides of the Chapel.

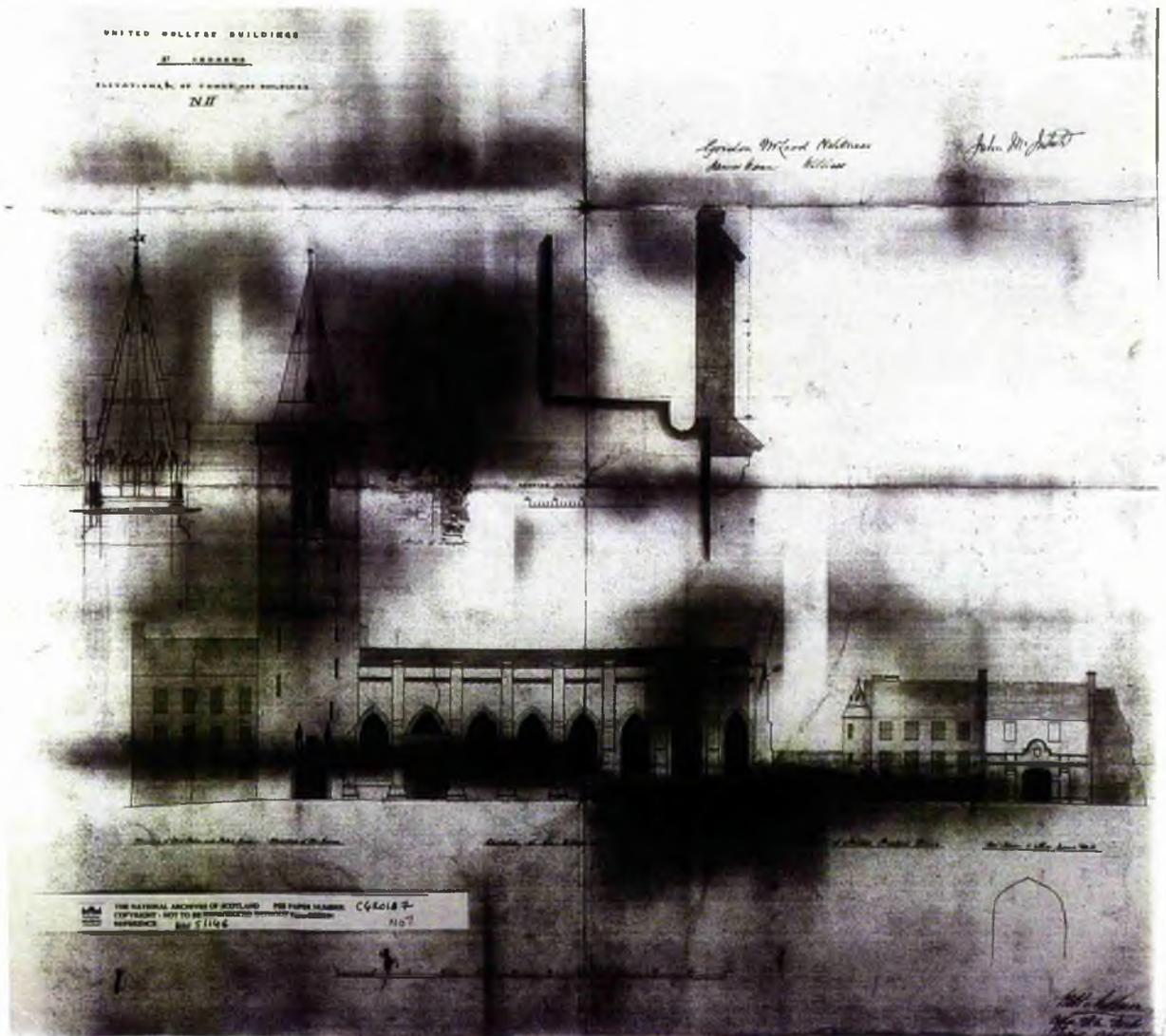


Fig.64 United College. Erection of parapet on College Tower. R. Matheson, April, 1851 - drawing initialled by William Burn.

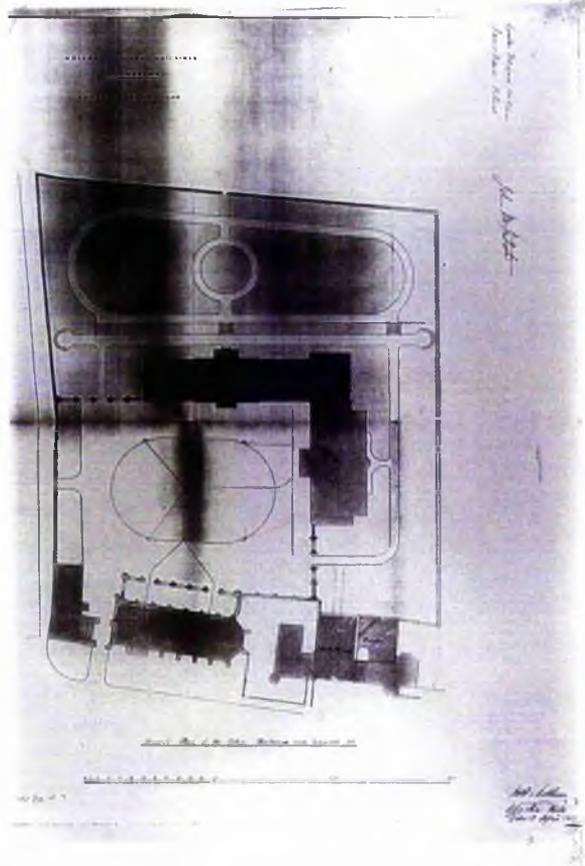


Fig.65 United College. General layout plan showing work still to be completed.
R. Matheson, April, 1851.

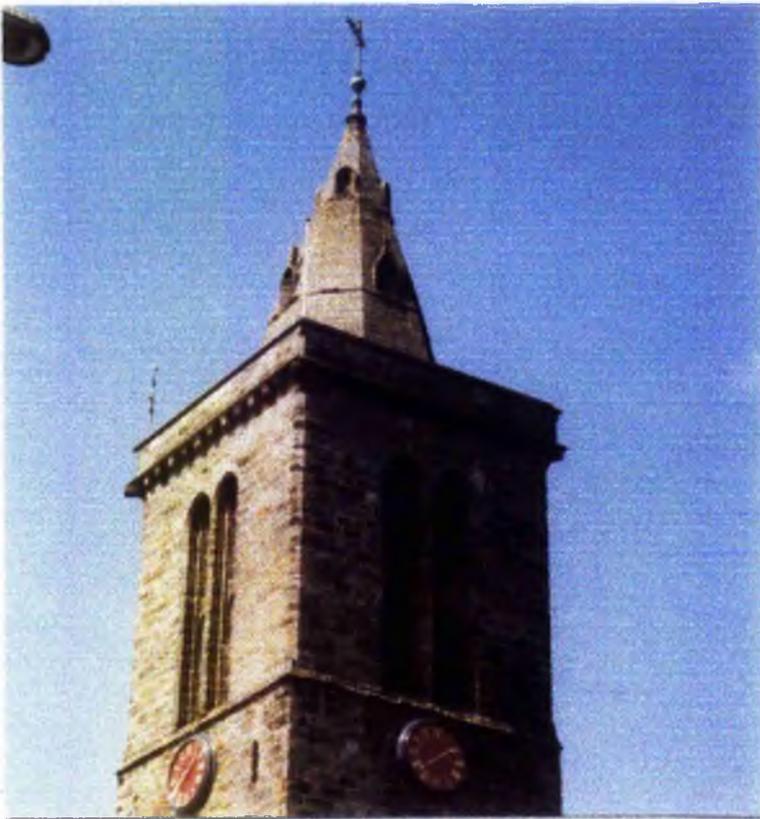


Fig.67 College Chapel Tower with parapet as existing



Fig.66 Photograph c.1851 of College Tower parapet under reconstruction.

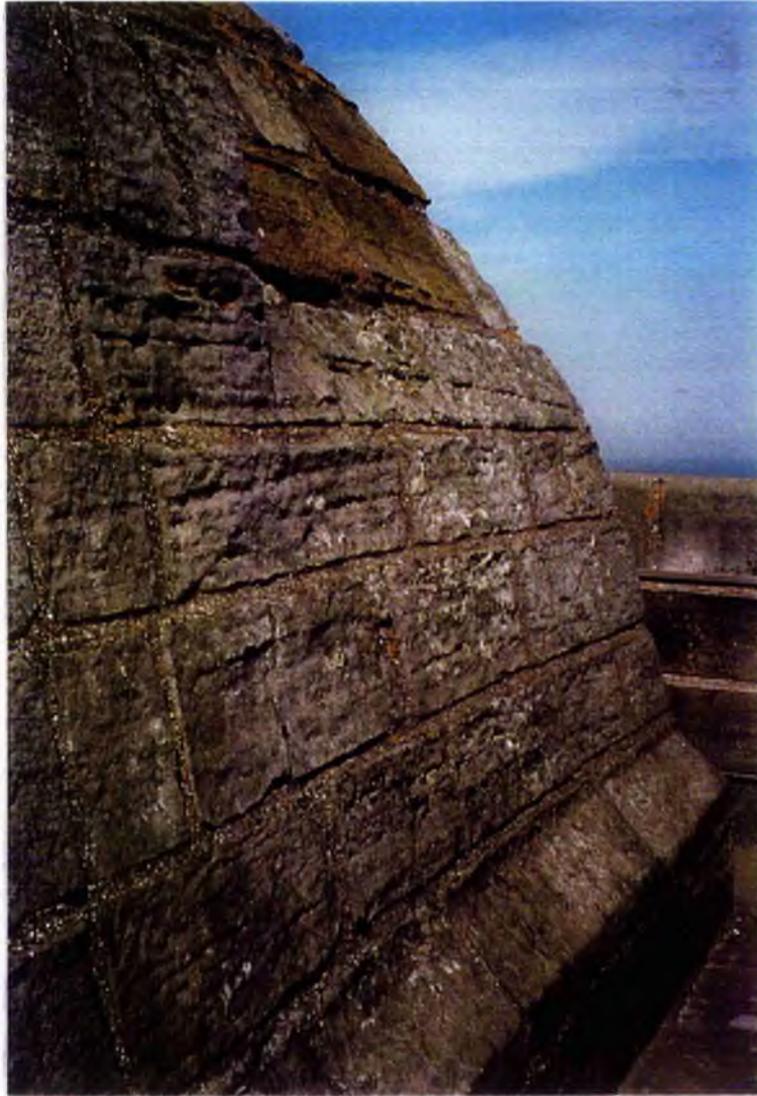


Fig.68 Photograph showing angular chisel marks on the stonework of the parapet of the College Tower are clearly visible.

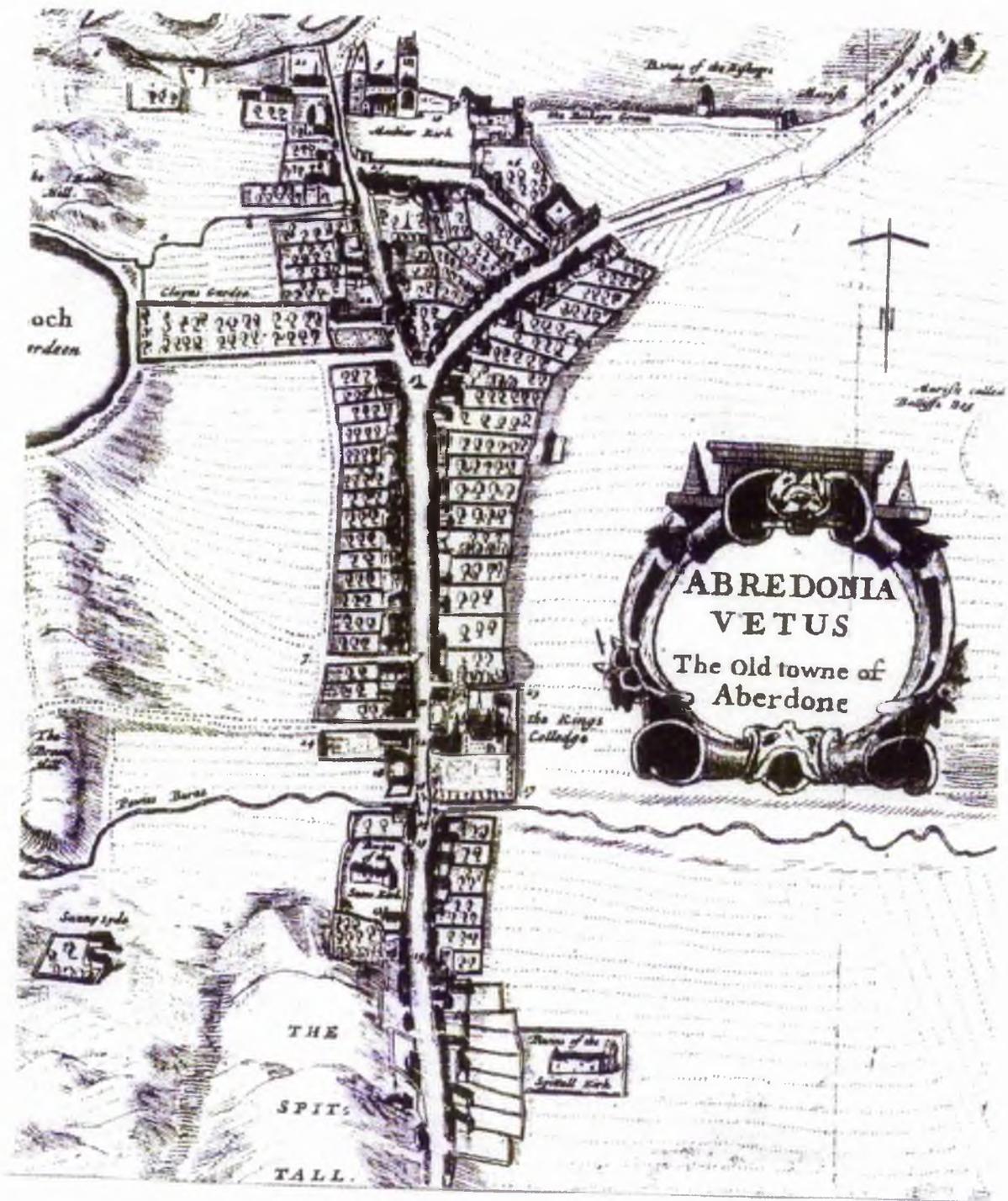


Fig.69 King's College. James Gordon's *Abredonia Novae et Veteris Descriptio* 1661.

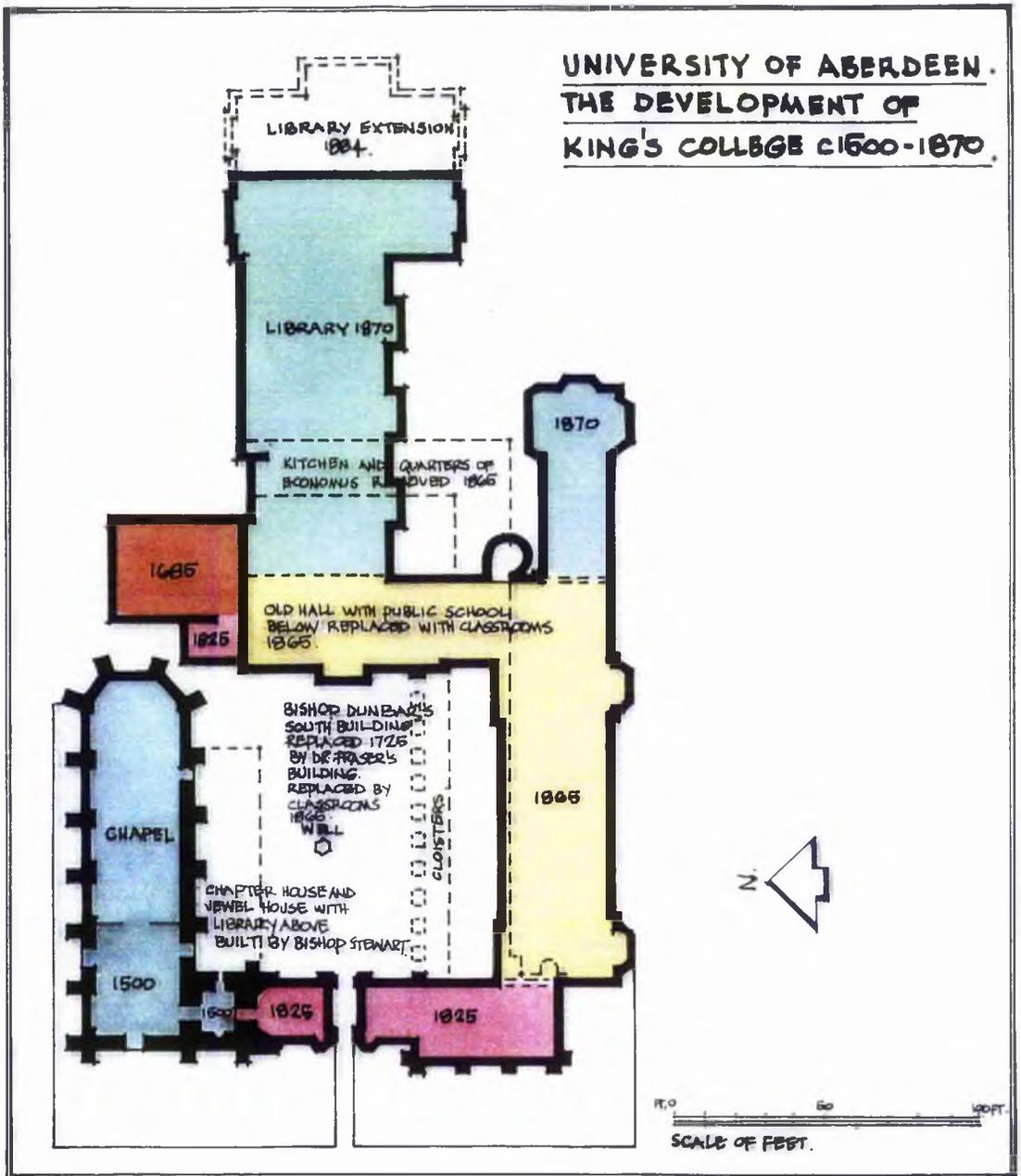


Fig.71 Outline plan showing the development of King's College.



Fig.72 King's College. By an unknown artist c1640.



Fig.73 King's College. The south east or round tower as existing.

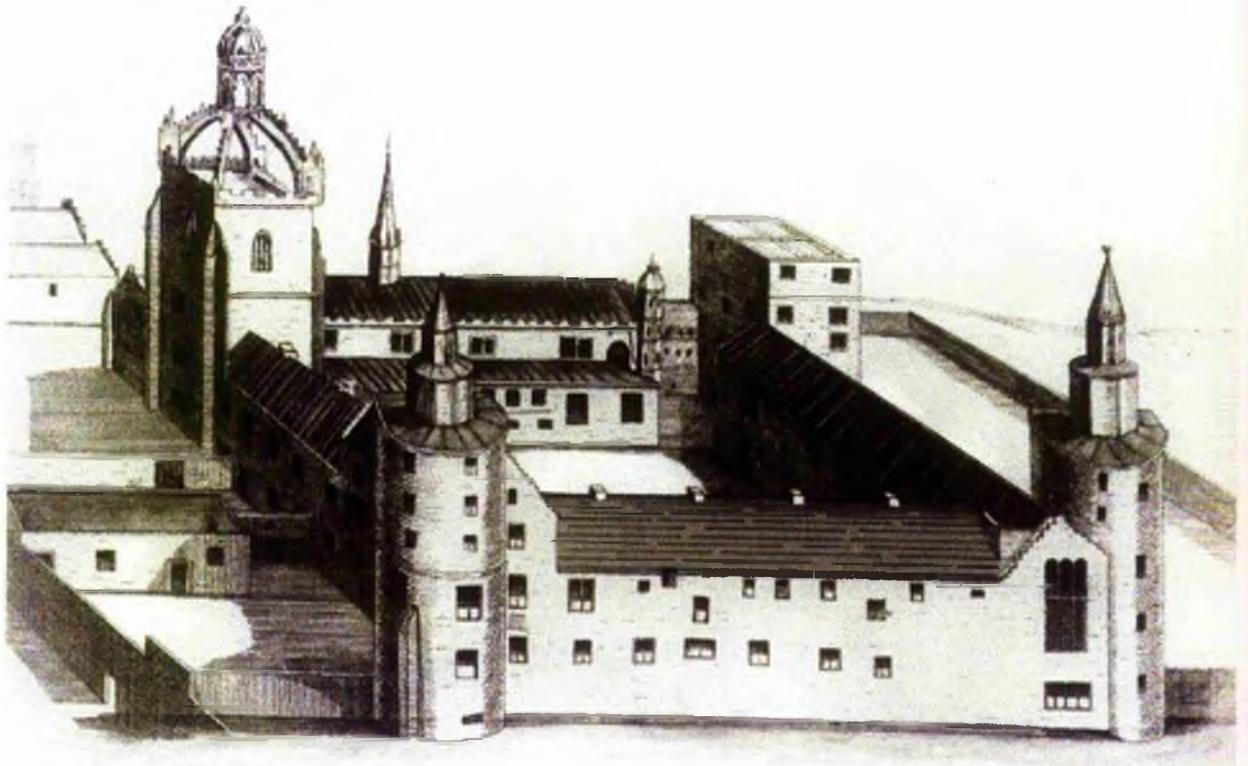


Fig.74 King's College. By James Gordon c1660.

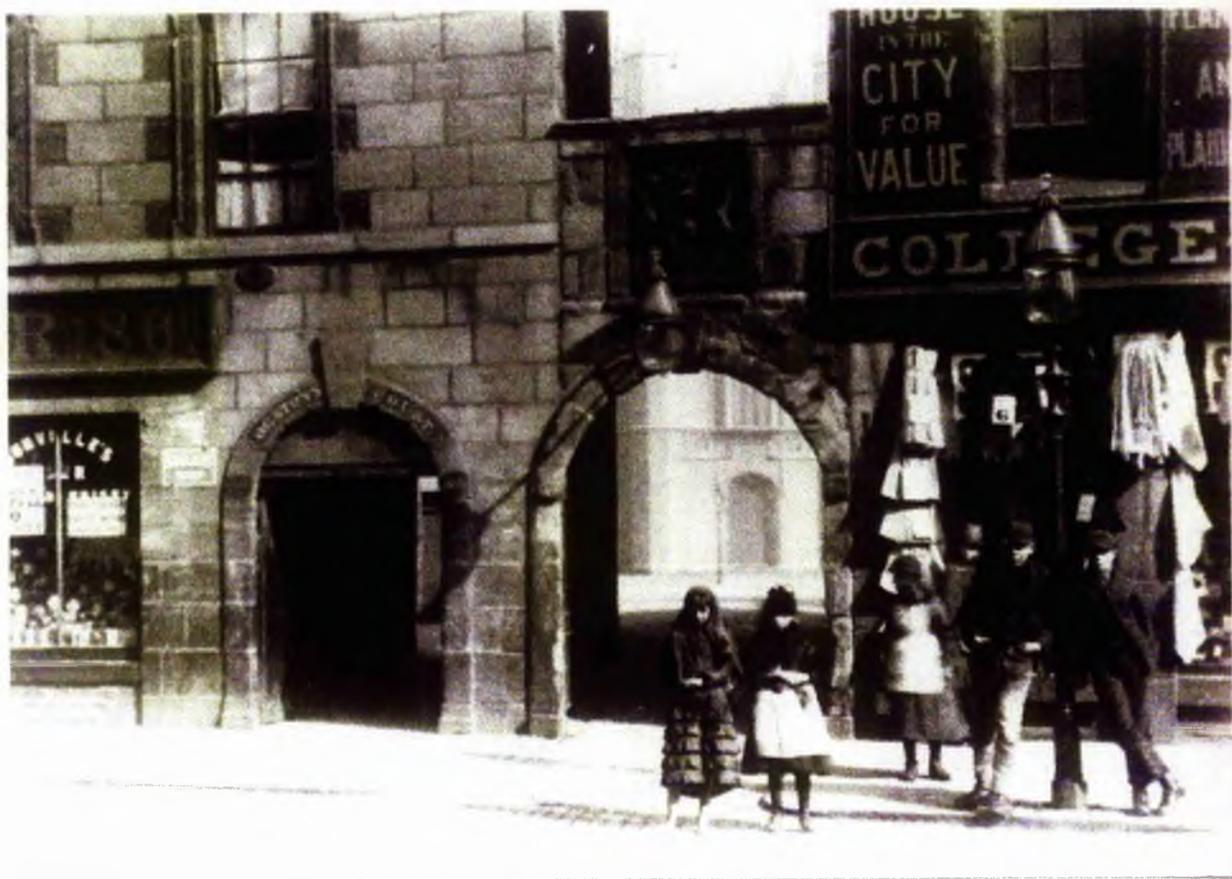


Fig.77 Marischal College. Entrance from the Broadgait c1890.

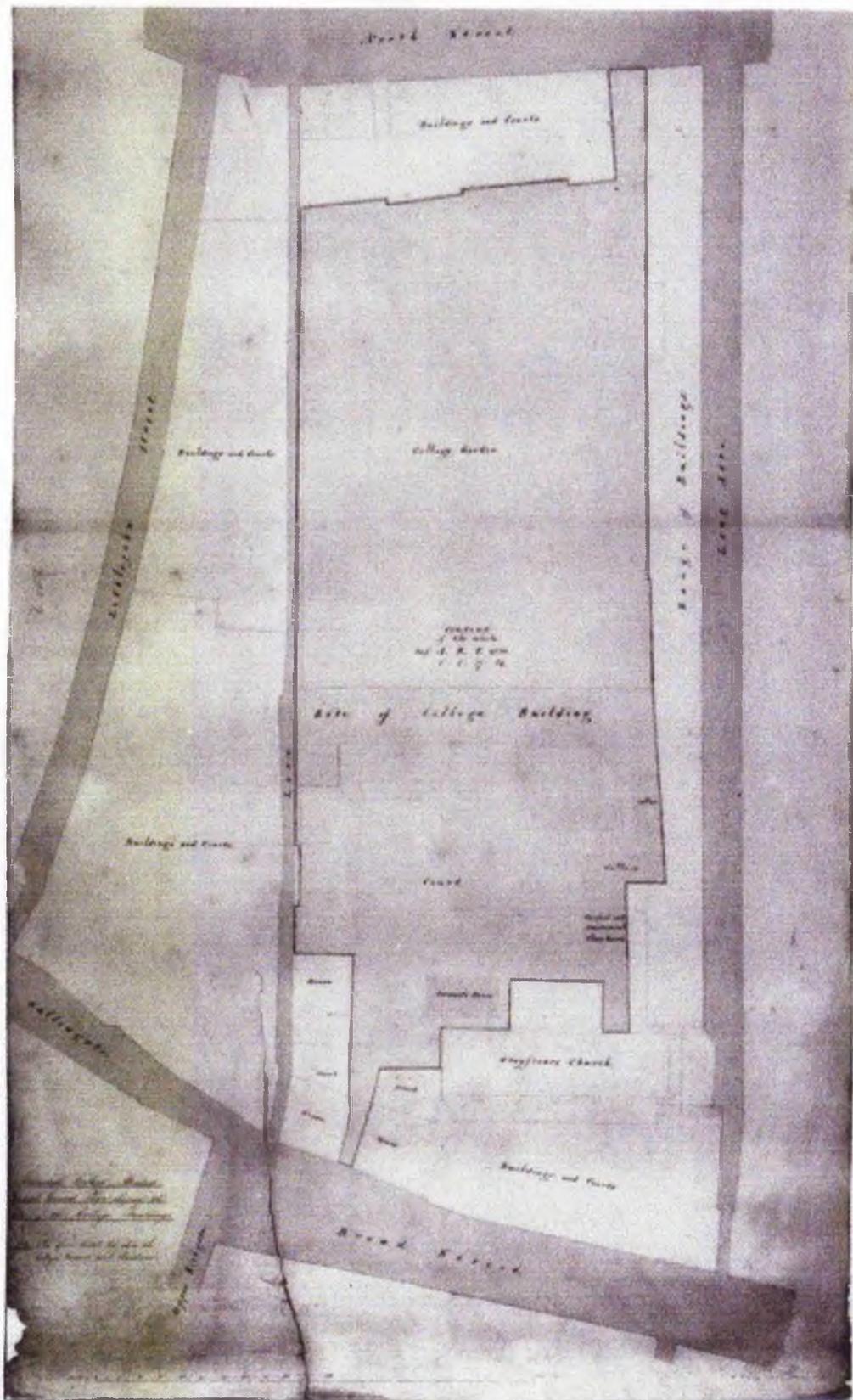


Fig. 78 Marischal College. Existing site survey. R. Reid, 1834.

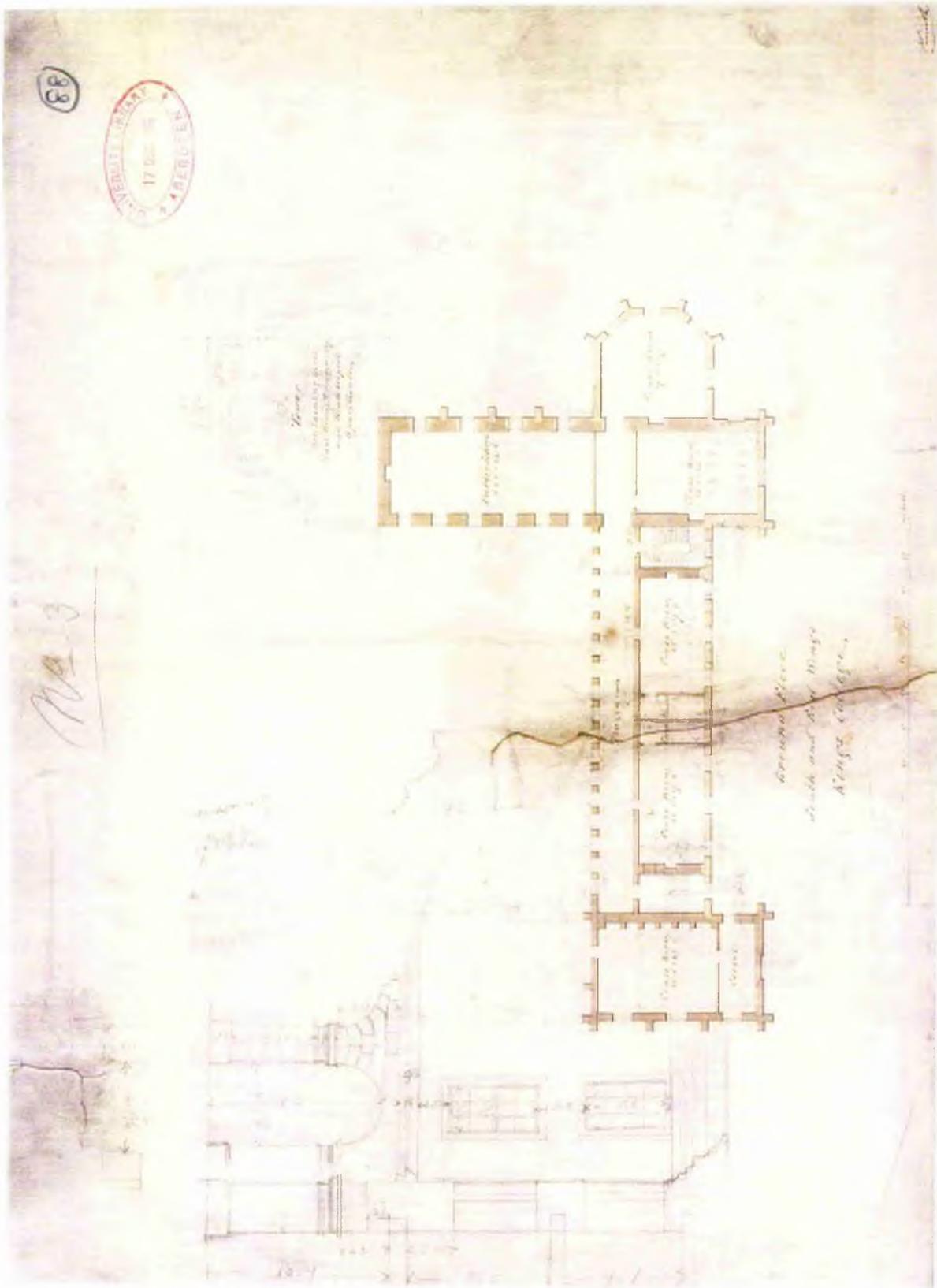


Fig.79 King's College. Ground floor plan. J. Smith, 1822.

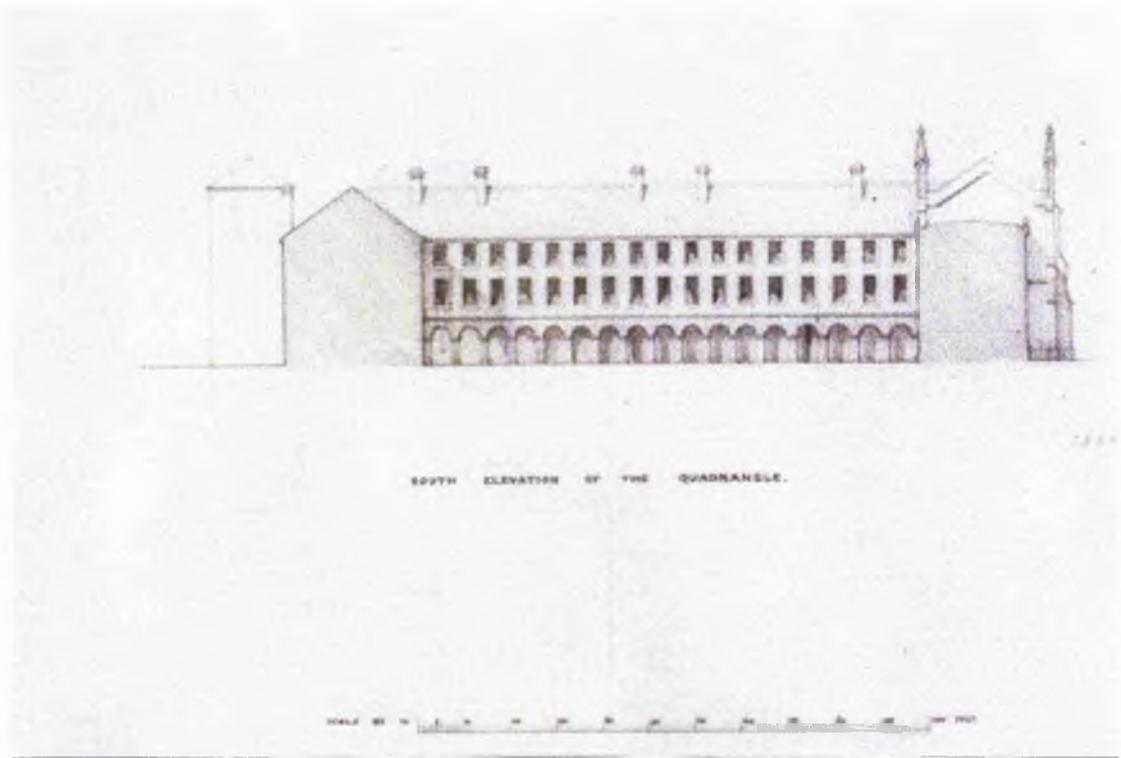


Fig.80 King's College. Survey of quadrangle elevation of Dr. Fraser's building. R. Matheson, 1855.

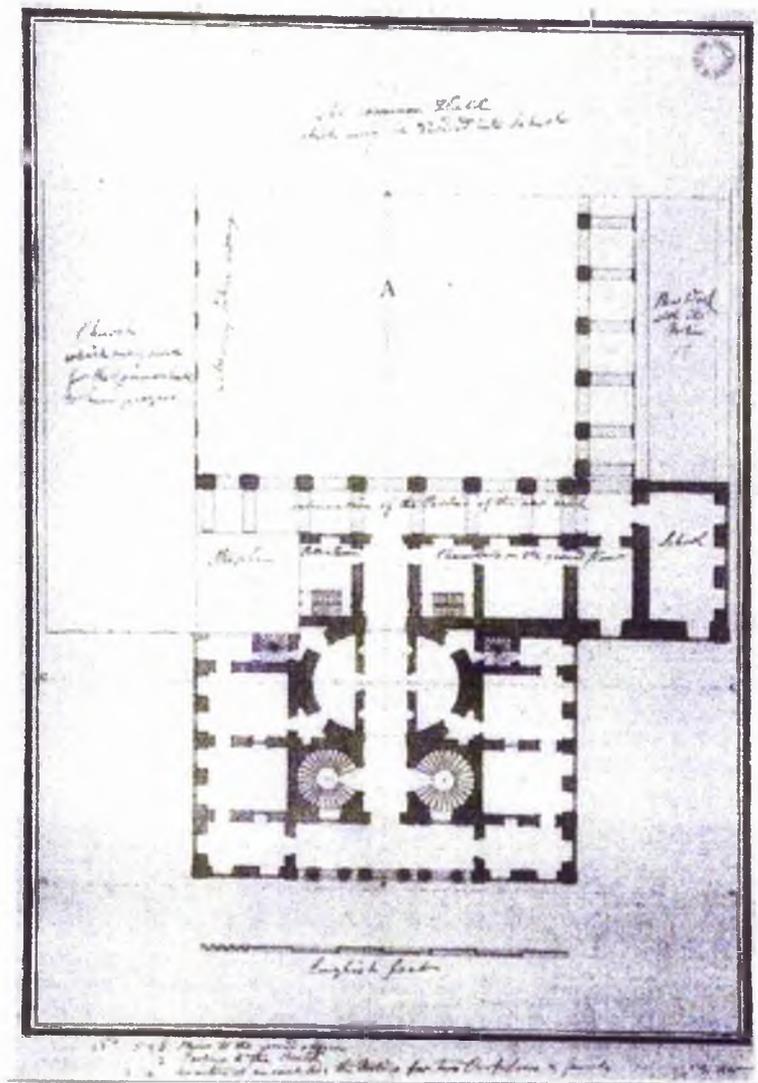


Fig. 81 King's College. Proposed plan of new building. J. Byres, 1785.

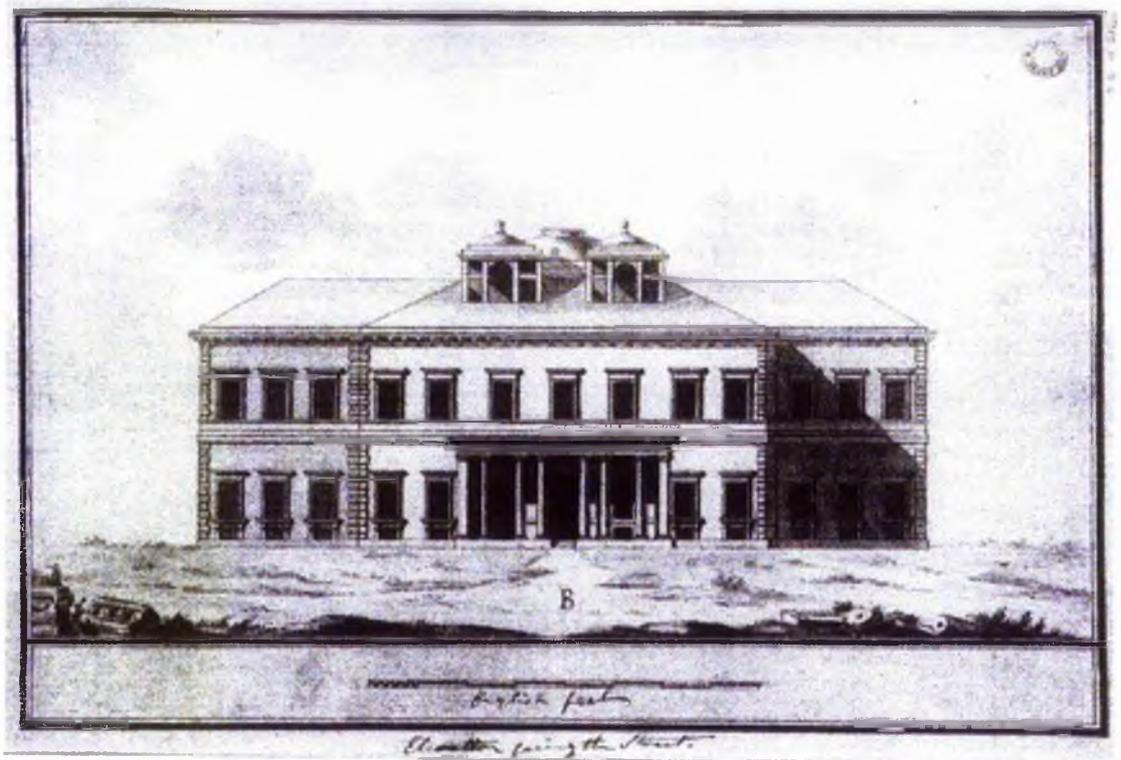


Fig.82 King's College. Proposed west elevation including refronting the chapel and Dr. Fraser's building. J. Byres, 1785.

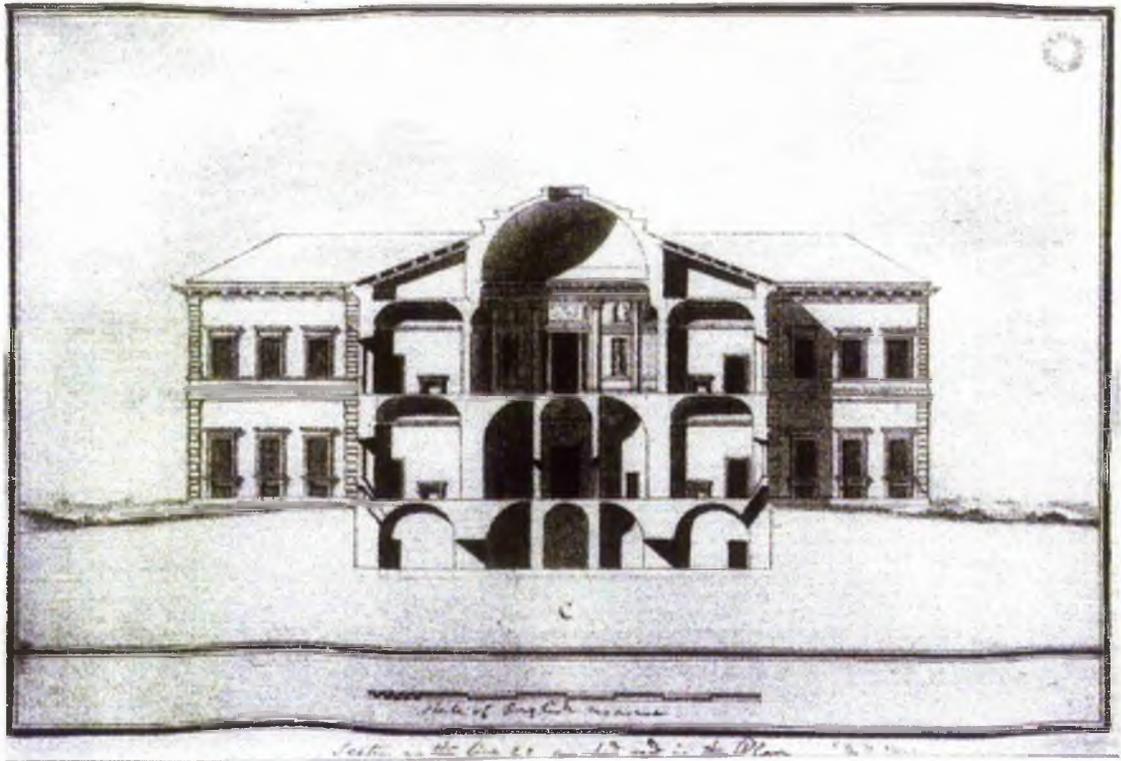


Fig.83 King's College. North-south section through central rotunda. J. Byres, 1785.

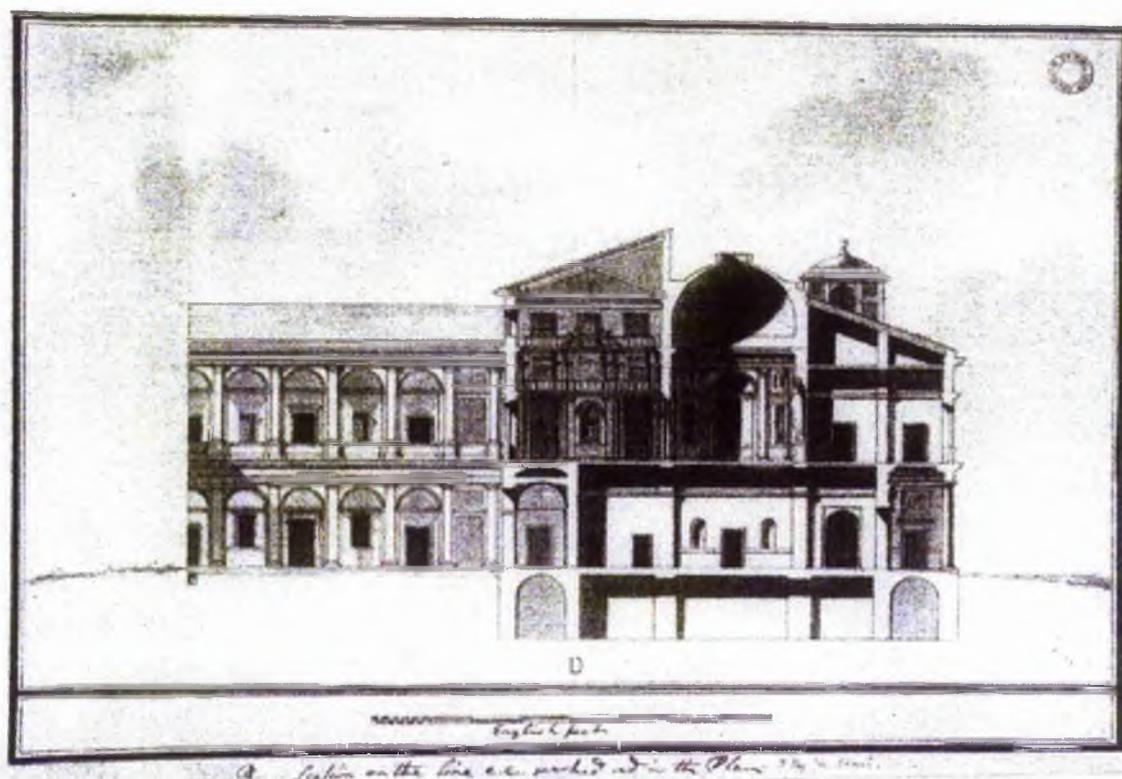


Fig.84 King's College. East-west section and the refronting of Dr Fraser's south wing. J. Byres, 1785.

Elevation of the College of Olden, New Jersey.

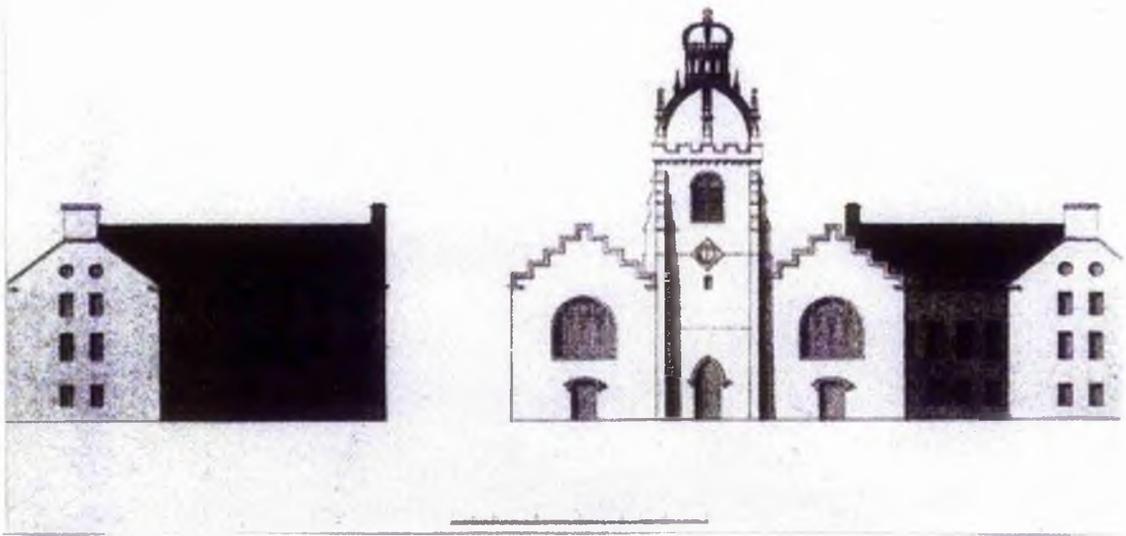


Fig. 85 King's College. Proposed west elevation. J. Adam, 1773.

PLAN OF THE GROUND STORY
OF THE COLLEGE OF OLD ABERDEEN.



Fig. 86 King's College. Ground floor plan showing alterations to Chapel, Dr Fraser's building and new manses. J. Adam, 1773.

Section of the Library & of the Schools below.

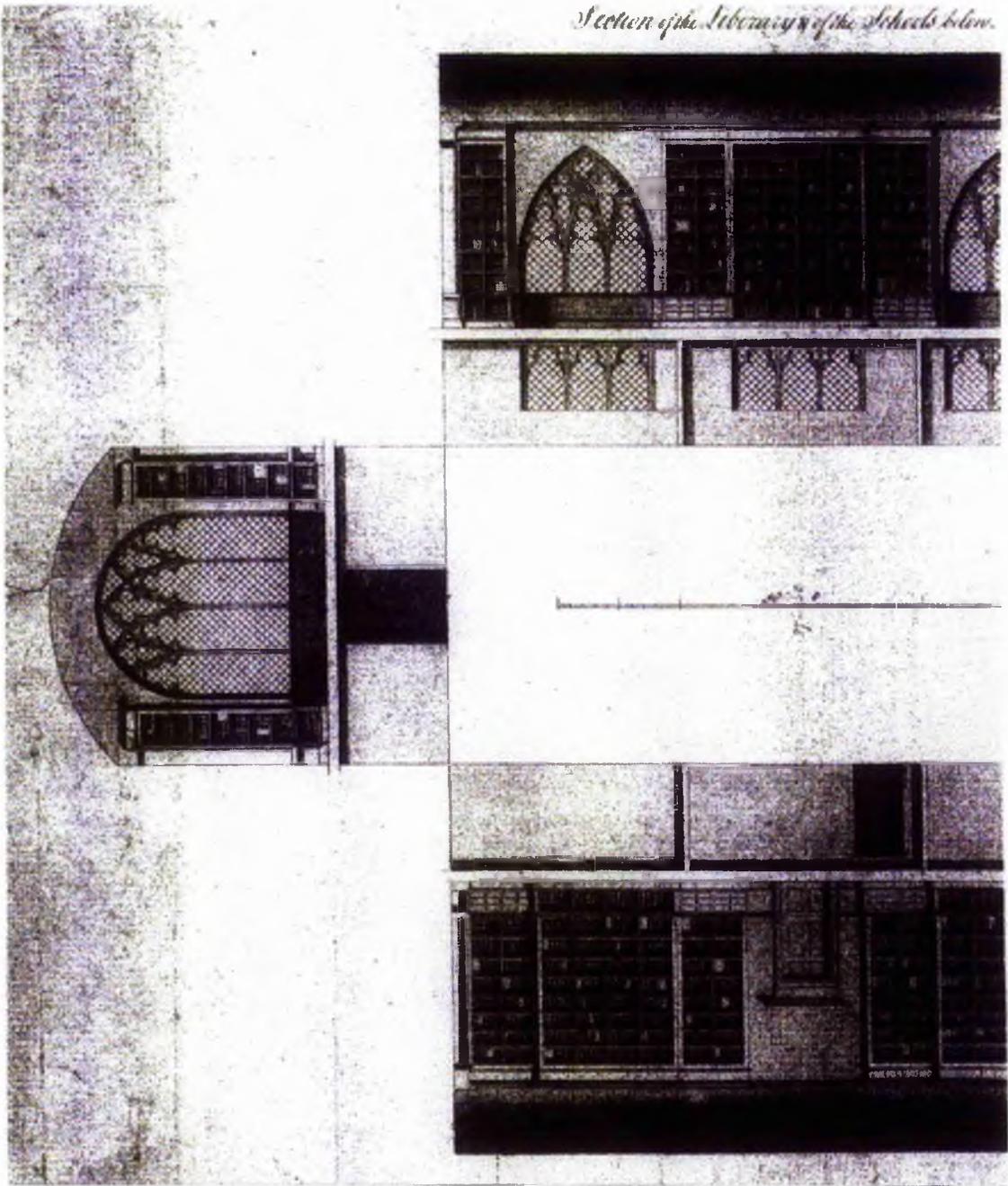


Fig.87 King's College. Proposals for the conversion of the western end of the chapel to provide Library and classrooms. J. Adam, 1773.

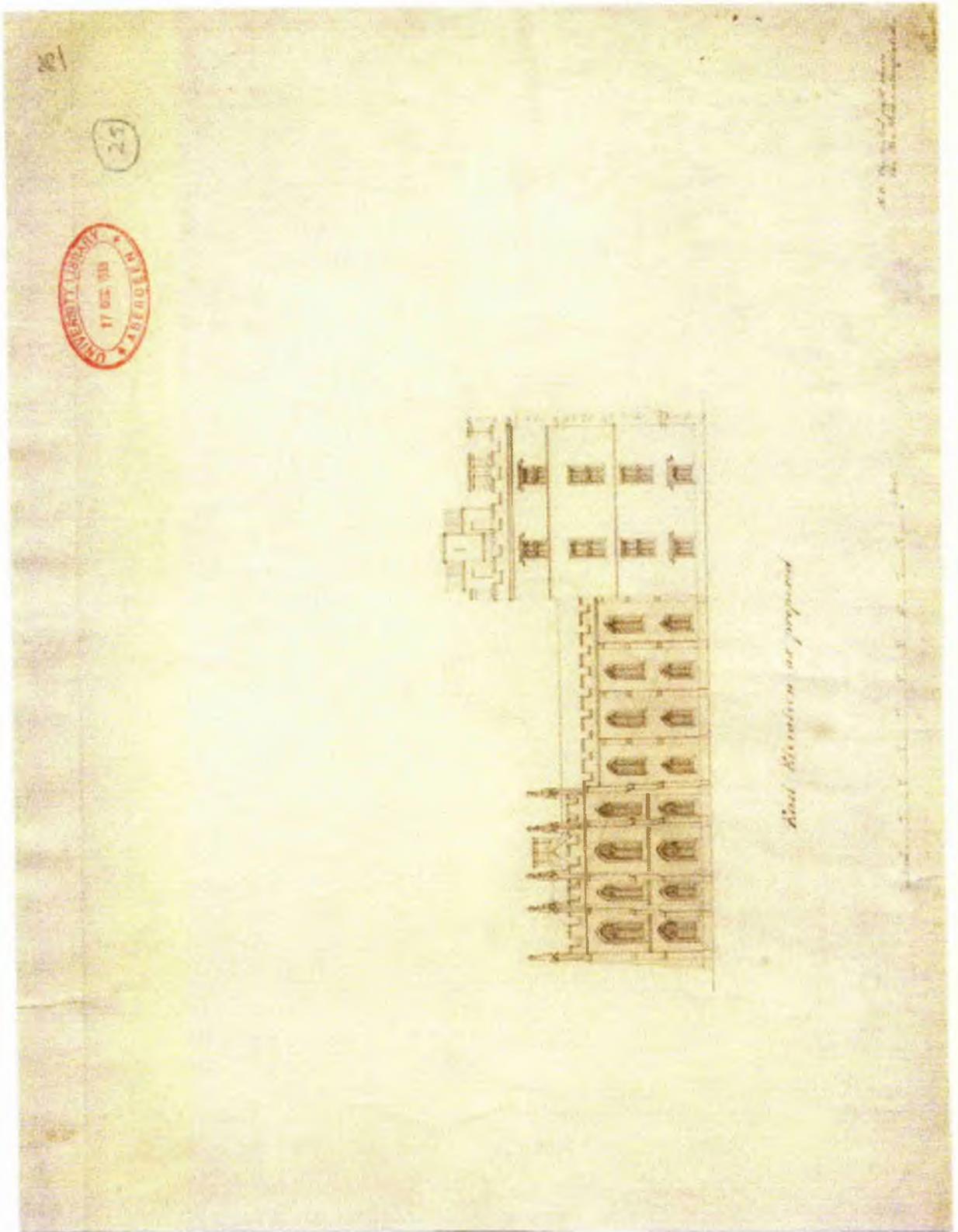
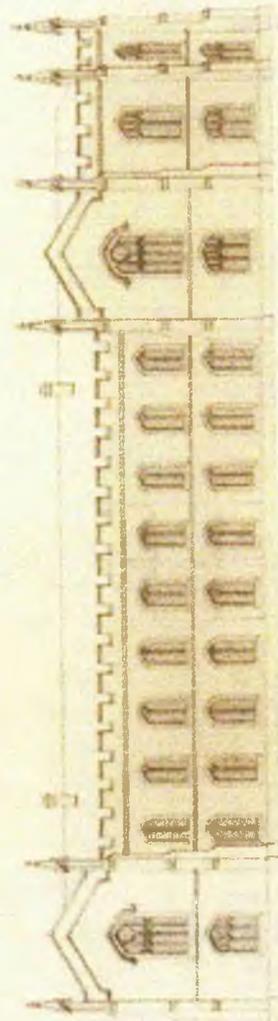


Fig.88 King's College. East elevation refronting east wing and reconstruction of Cromwell Tower. J. Smith, 1822.



Fig.89 King's College. Cromwell Tower showing outline of original windows

(31)



South Elevation as proposed.

1822
J. Smith

Fig.90 King's College. South elevation showing proposed reconstruction of Dr. Fraser's building to form Library and Classrooms. J. Smith, 1822.

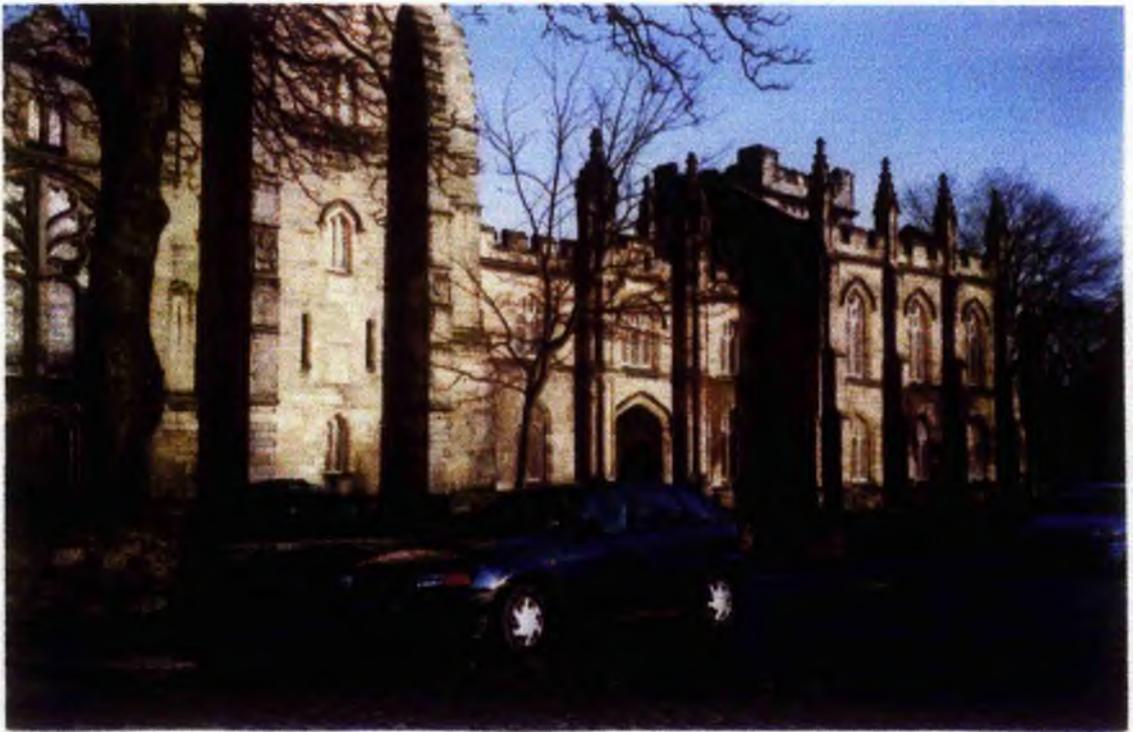
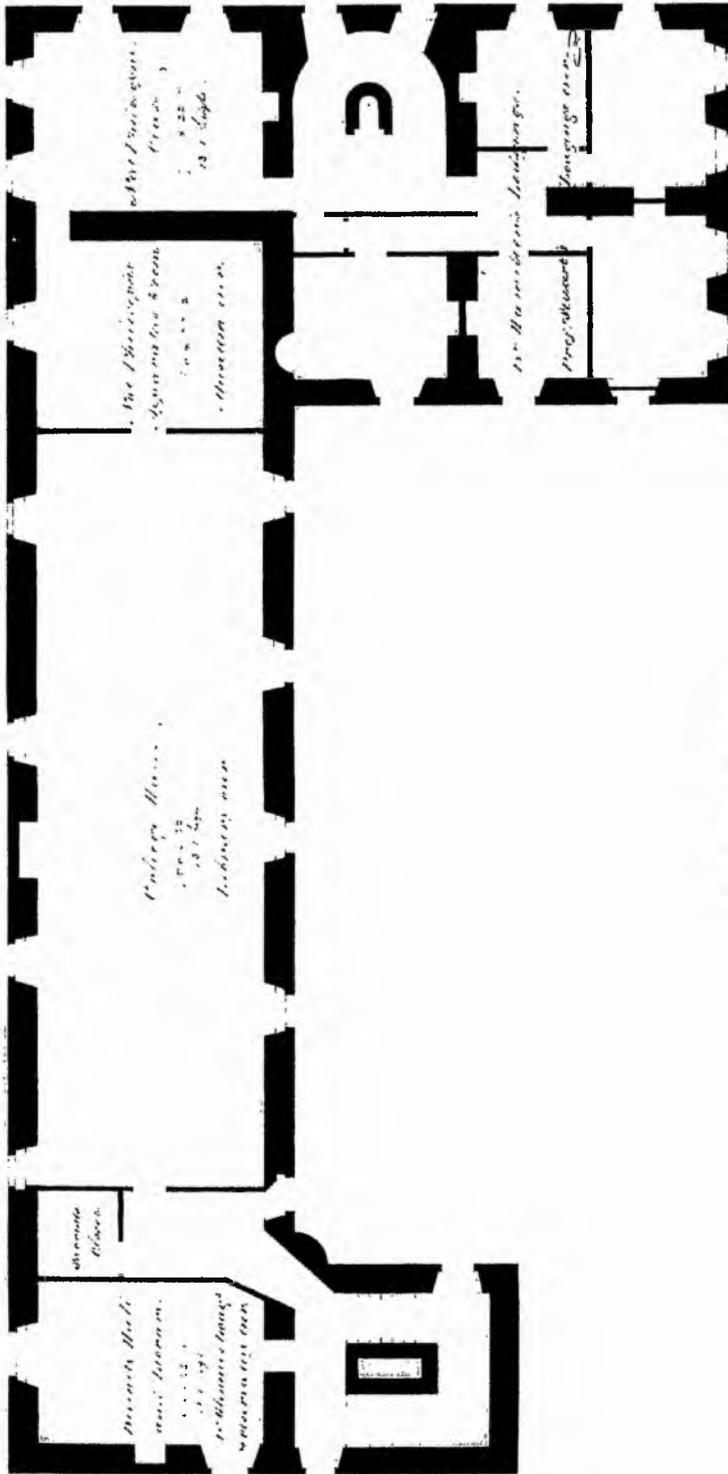


Fig.91 King's College. West elevation as built. J. Smith, 1822.



W. & J. ADAM

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Fig.92 Marischal College. Undated survey drawing of first floor as amended by W. and J. Adam.

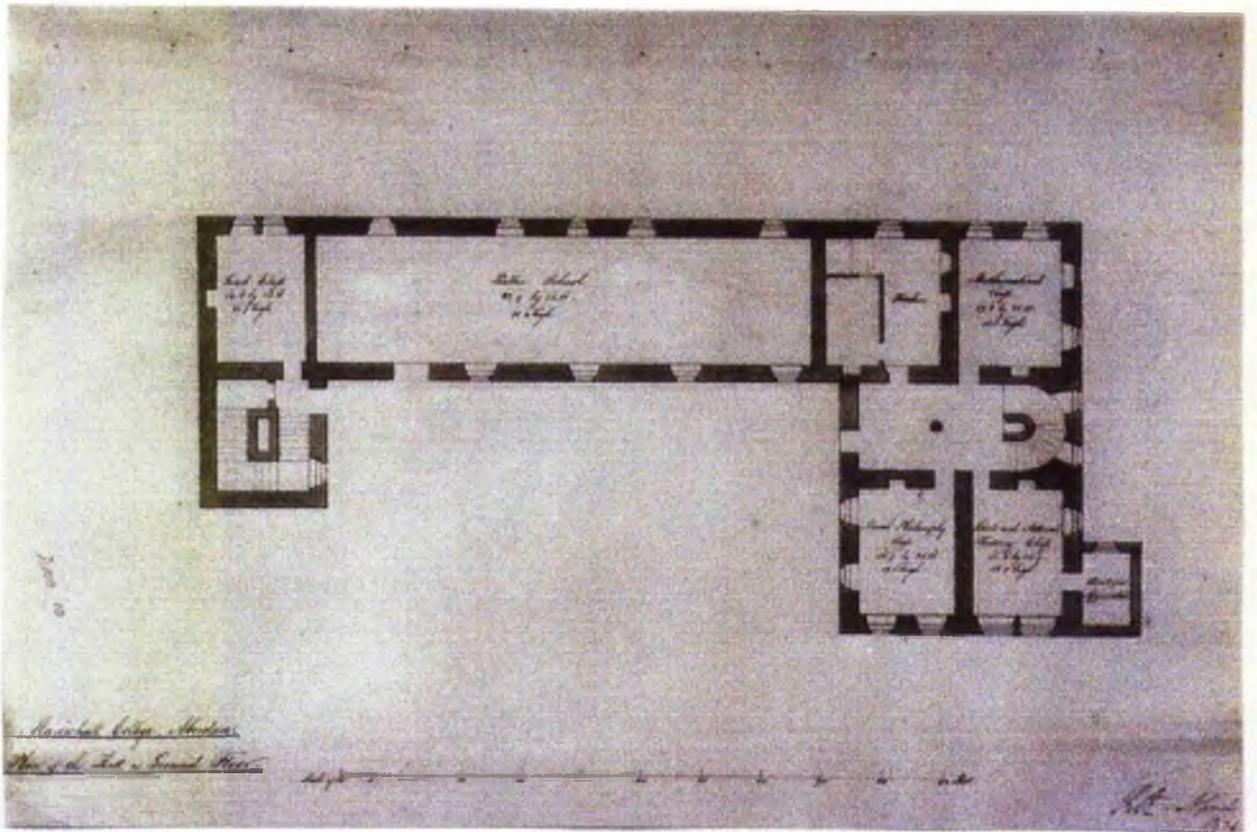


Fig.93 Marischal College. Survey of existing ground floor. R. Reid, 1834.

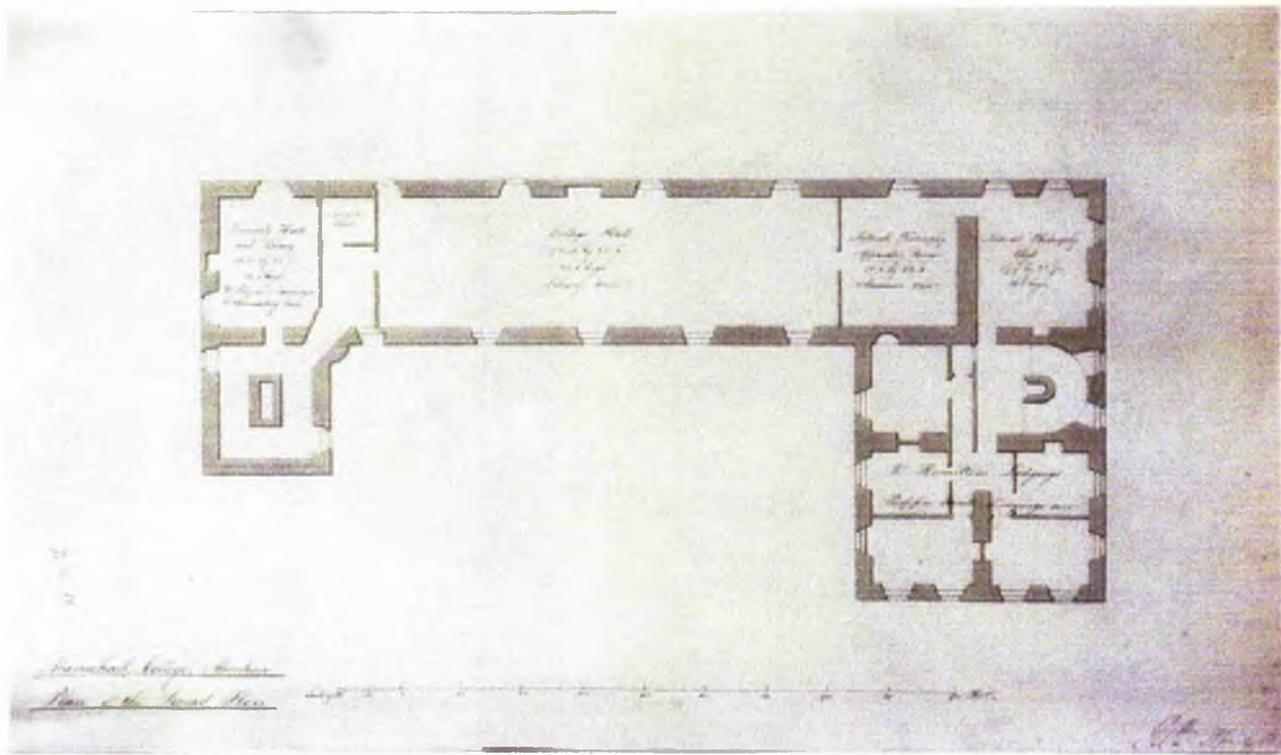


Fig.94 Marischal College. Survey of existing first floor. R. Reid, 1834.

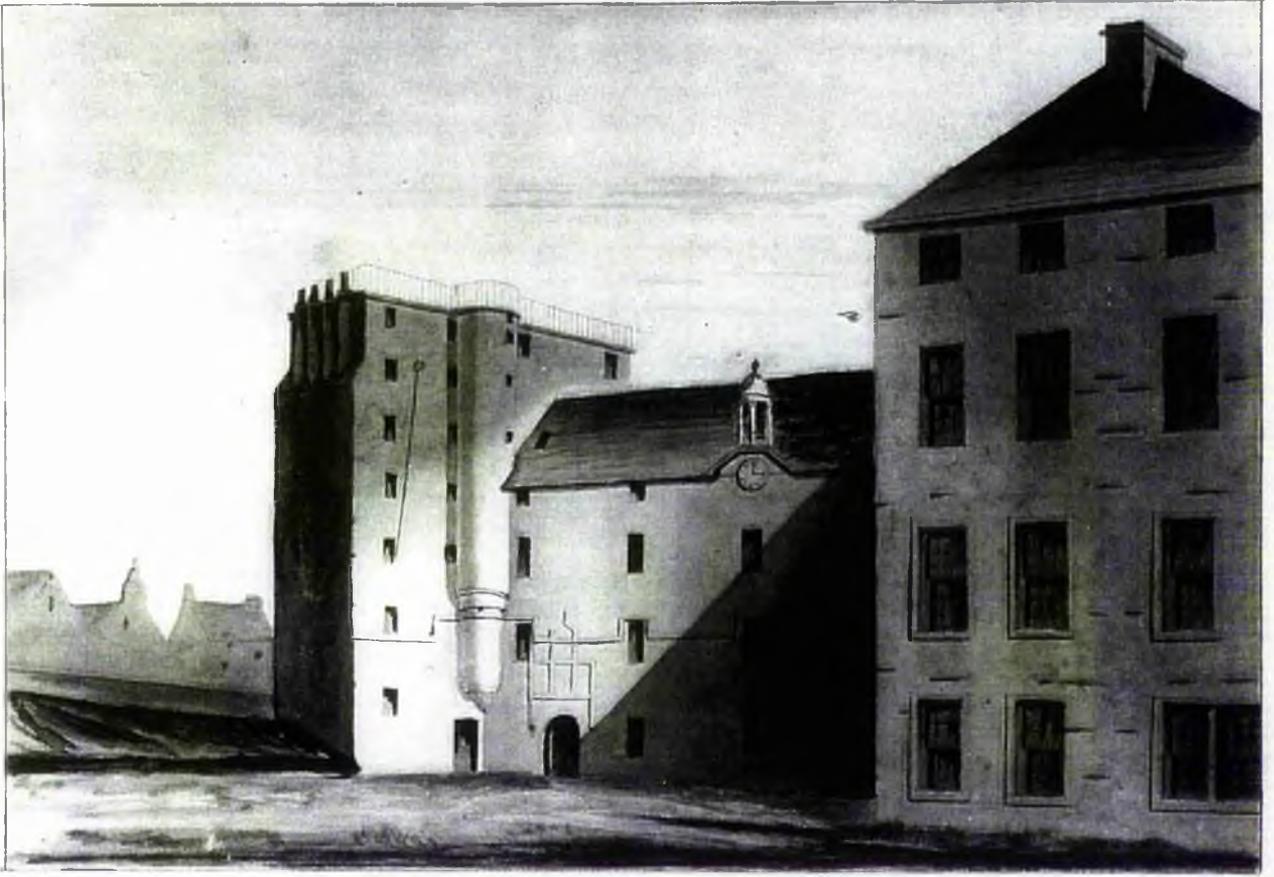


Fig.95 Marischal College. Perspective sketch of existing building.
R. Reid, 1834.

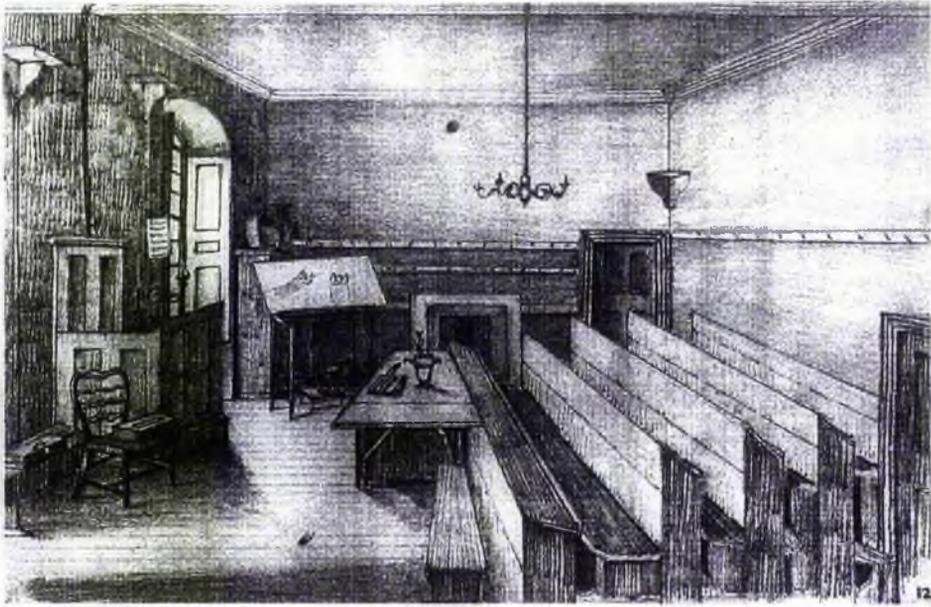


Fig.96 Marischal College. Sketch of classroom. Alexander Stuart c1830.

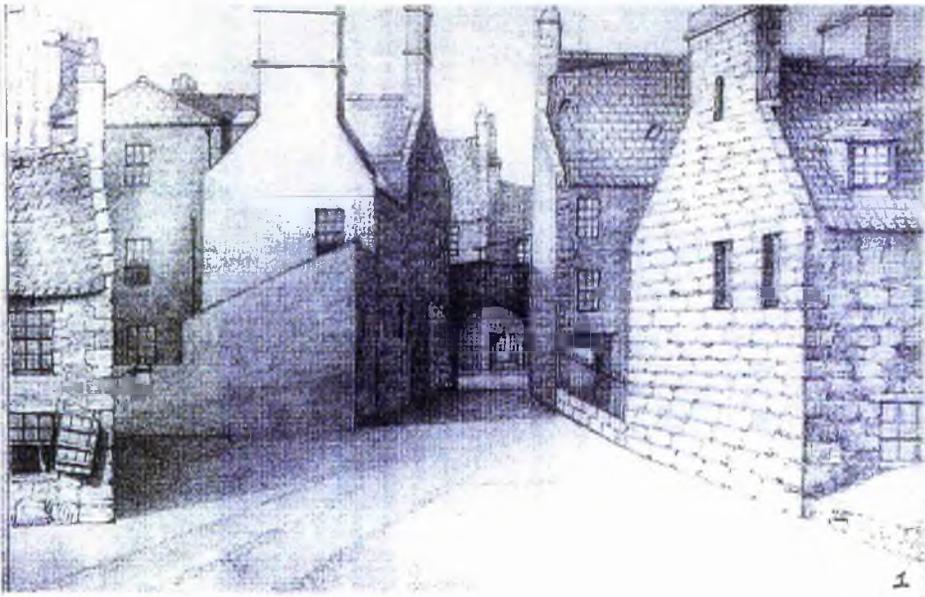


Fig.97 Marischal College. Sketch of College entrance from Broad Street. Alexander Stuart c1830.

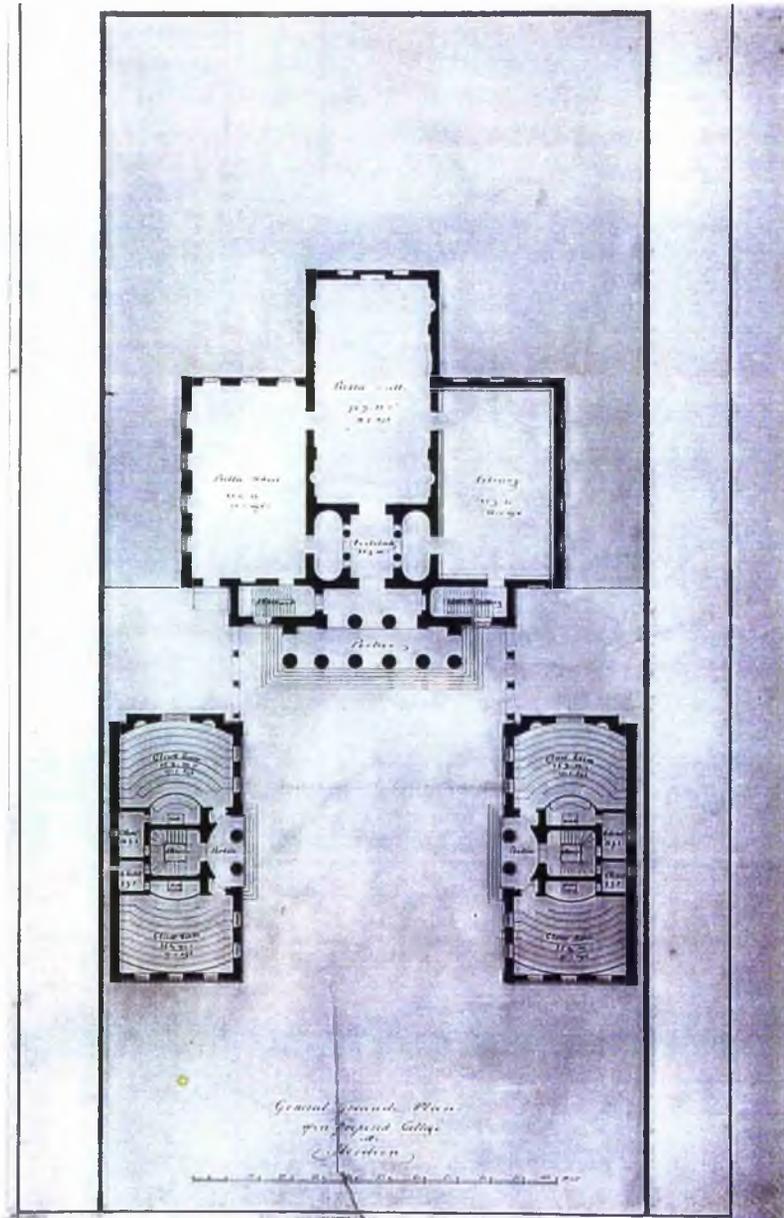


Fig.98 Undated and unsigned ground floor plan of a proposed college at Aberdeen.

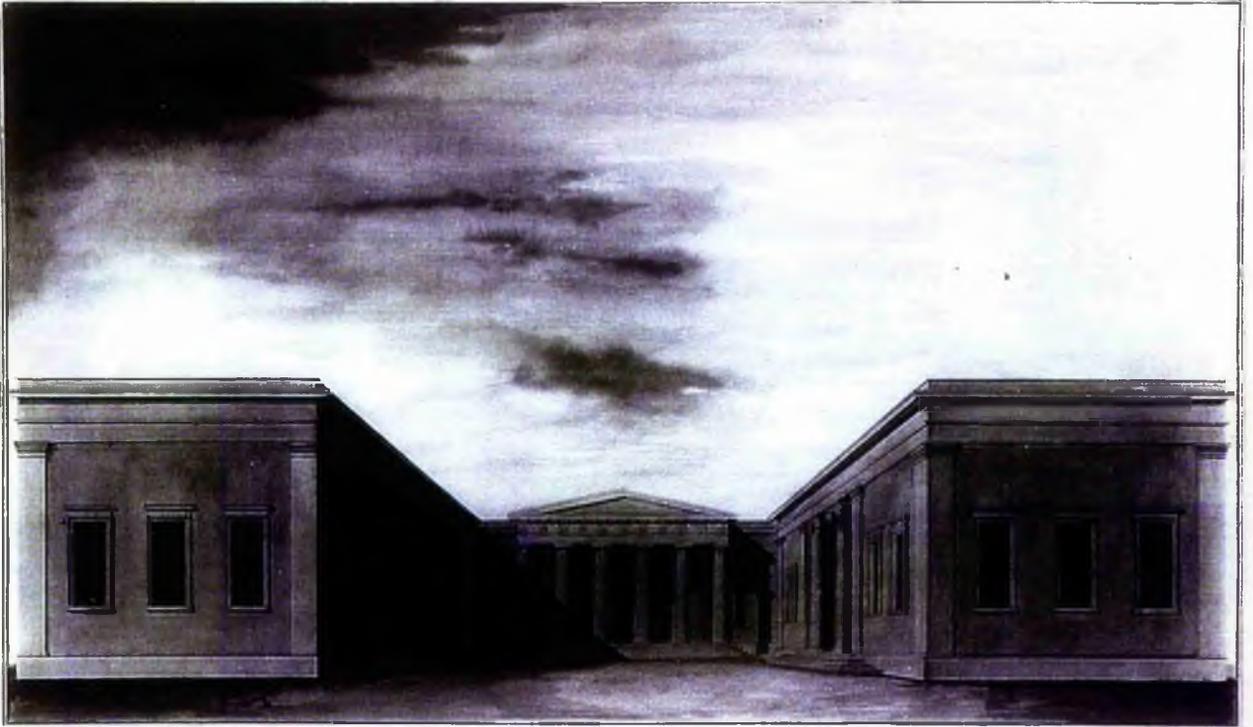


Fig.99 Undated and unsigned perspective of a proposed college at Aberdeen.

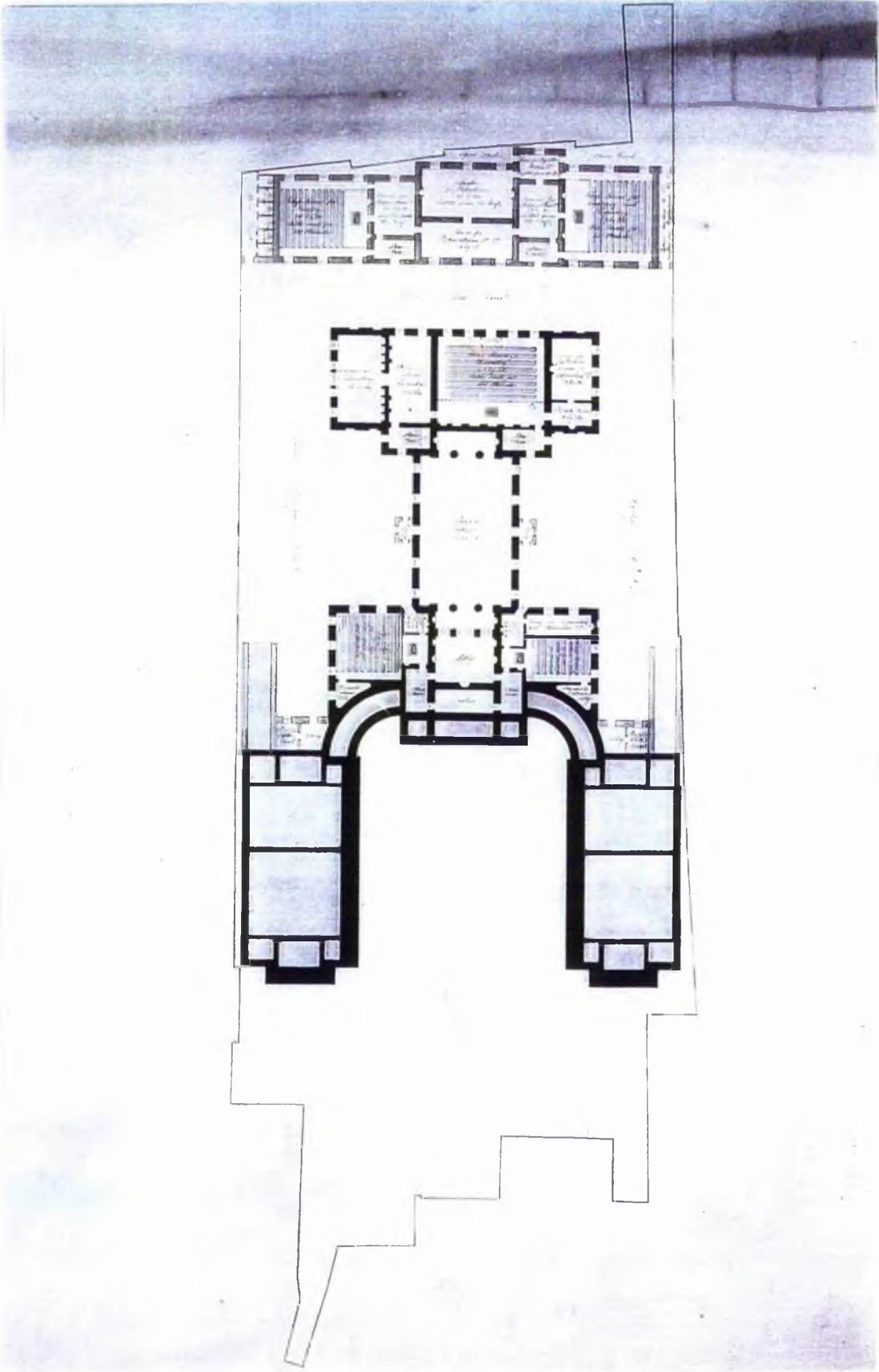


Fig.100 Marischal College. Lower ground floor plan. R. Reid, 1834.

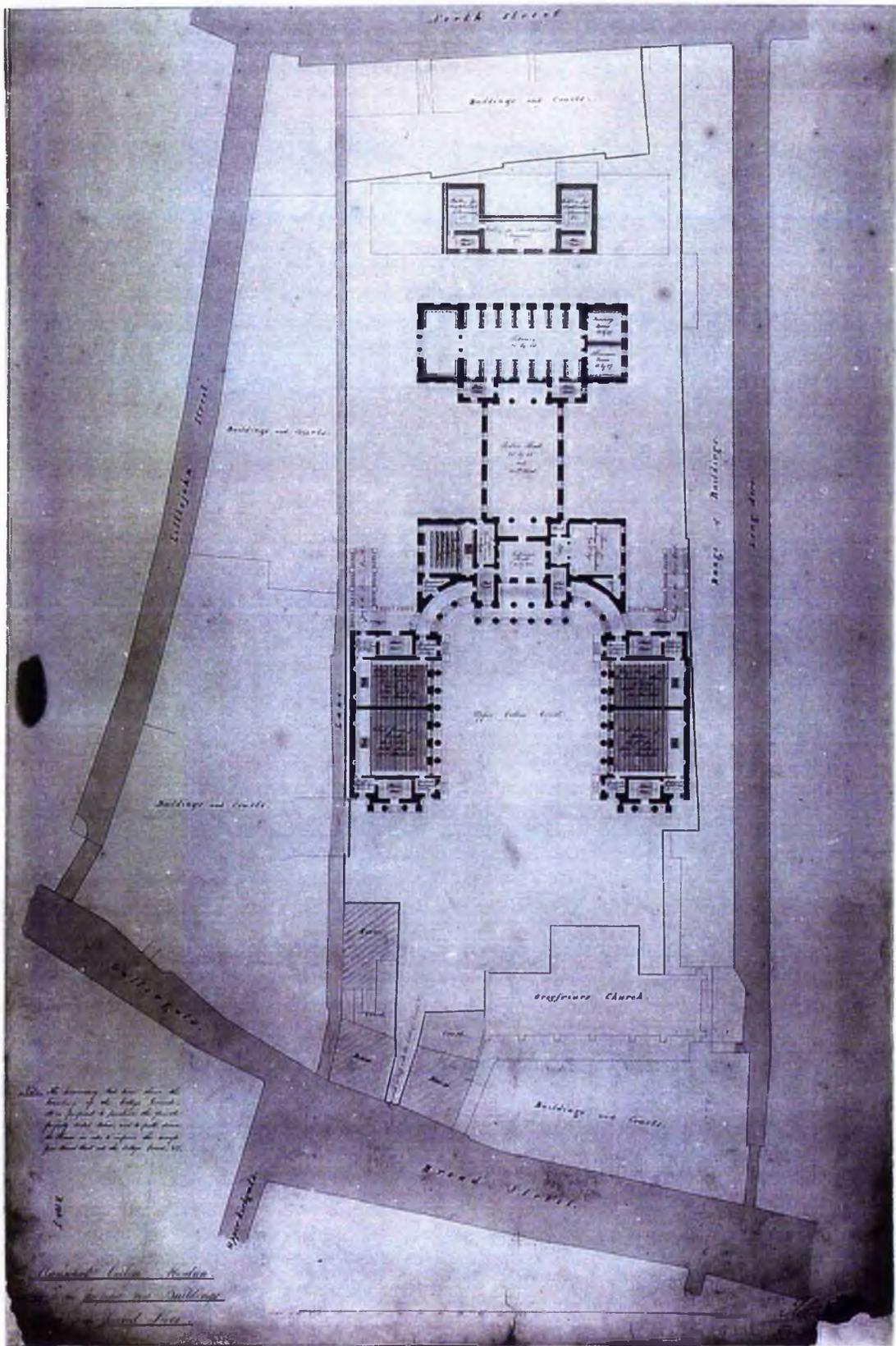


Fig.101 Marischal College. Ground floor plan. R. Reid,1834.

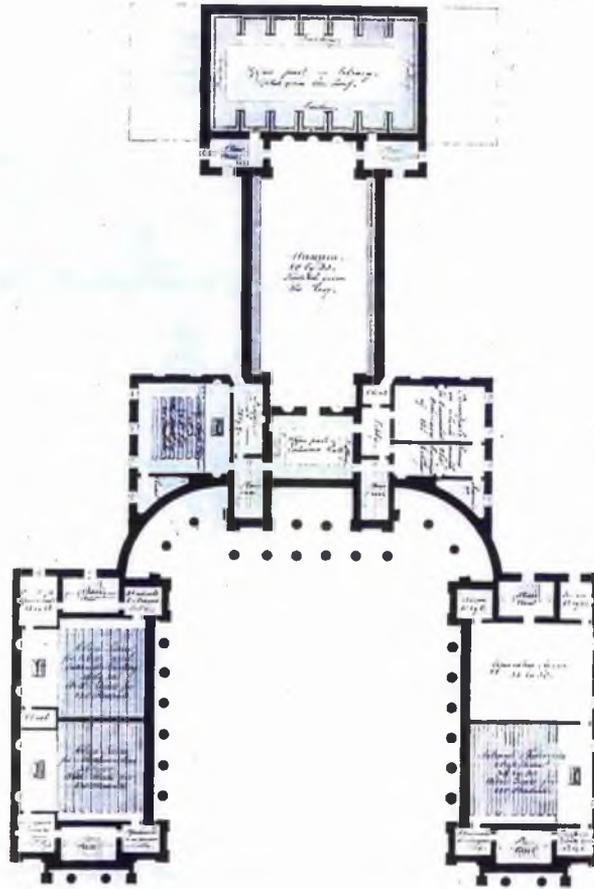


Fig.102 Marischal College. Principal floor plan. R. Reid, 1834.

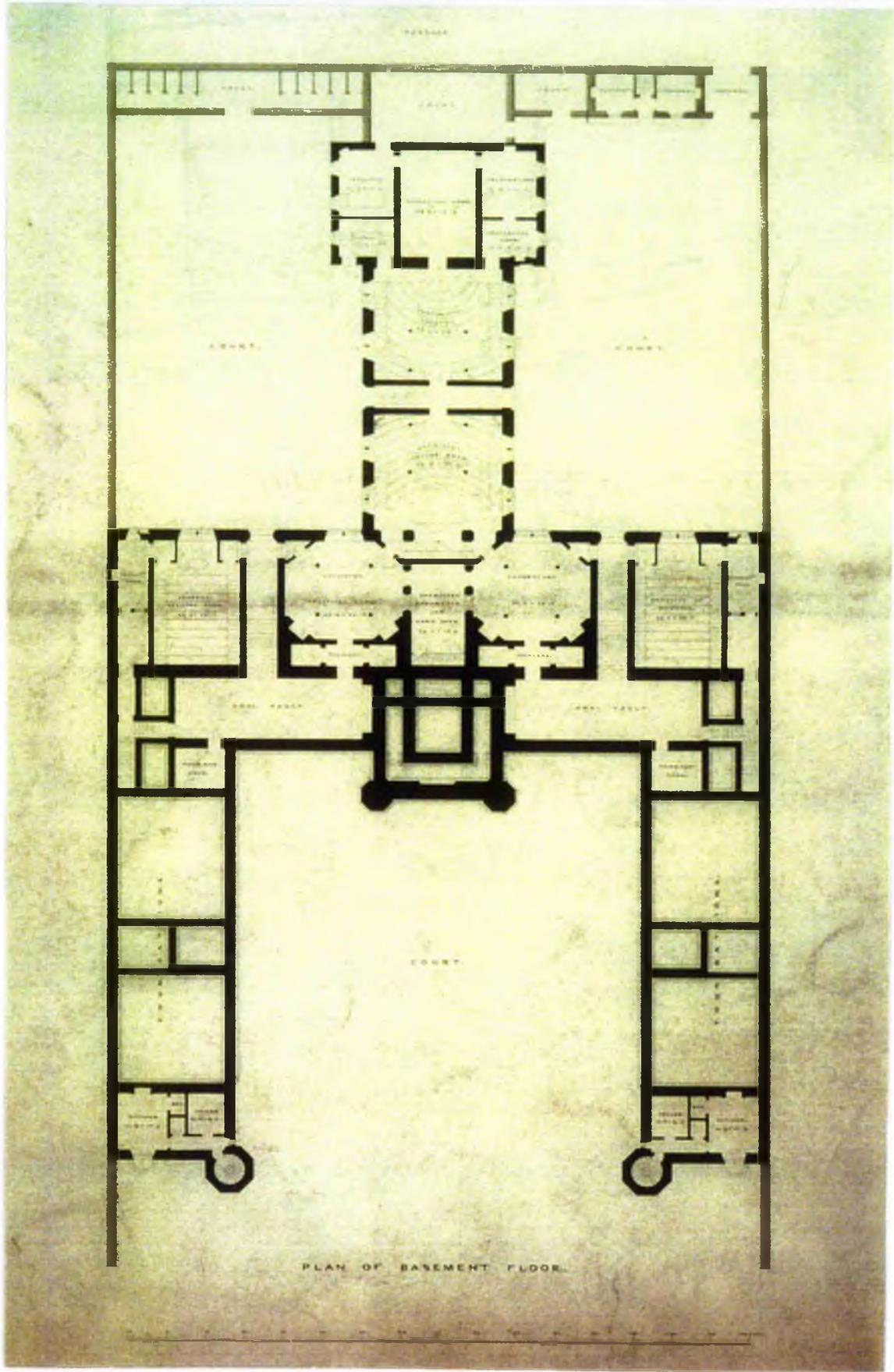


Fig.103 Marischal College. Lower ground floor plan. A. Simpson, June, 1836.

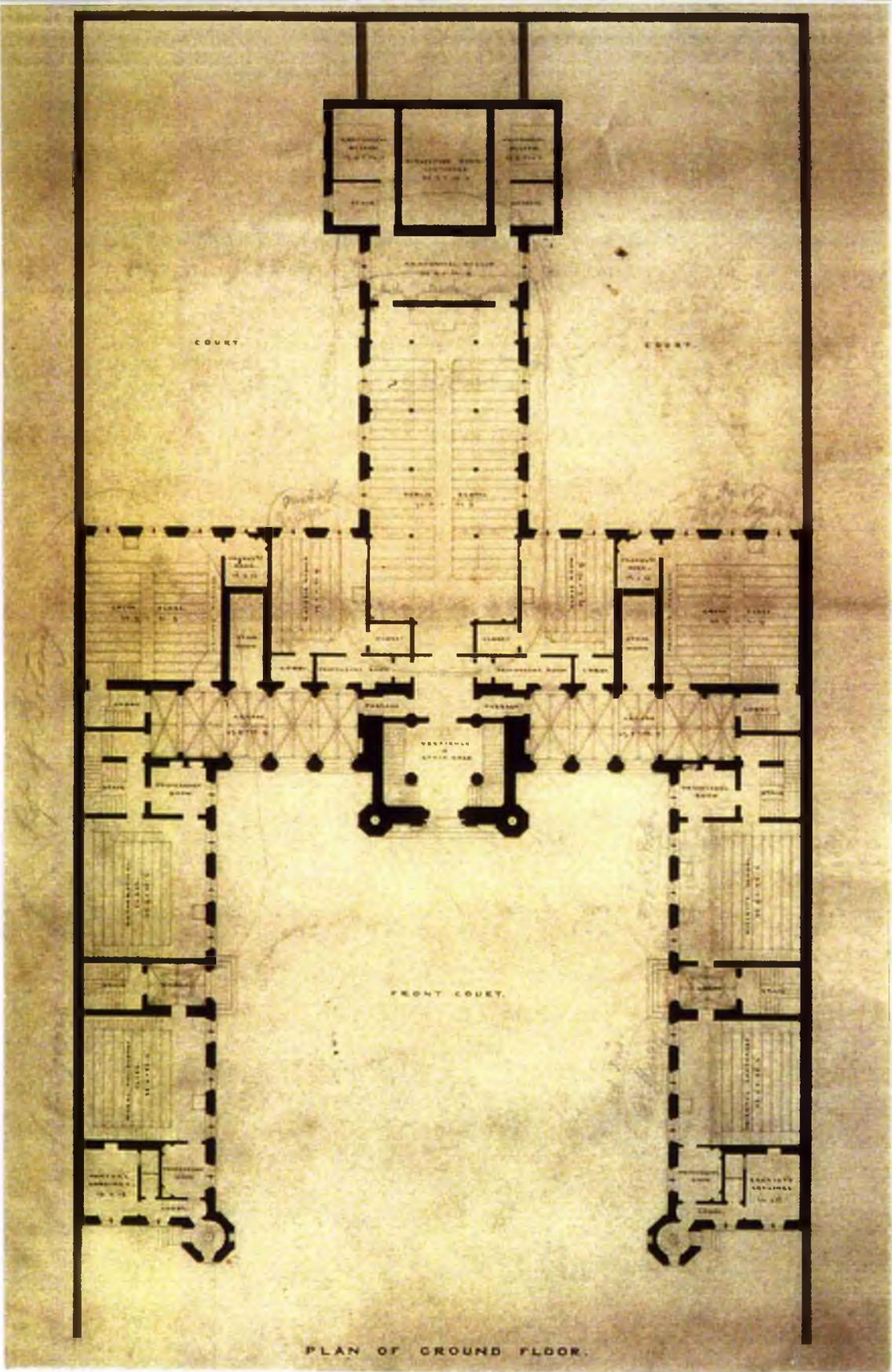


Fig.104 Marischal College. Ground floor plan. A. Simpson, June, 1836.

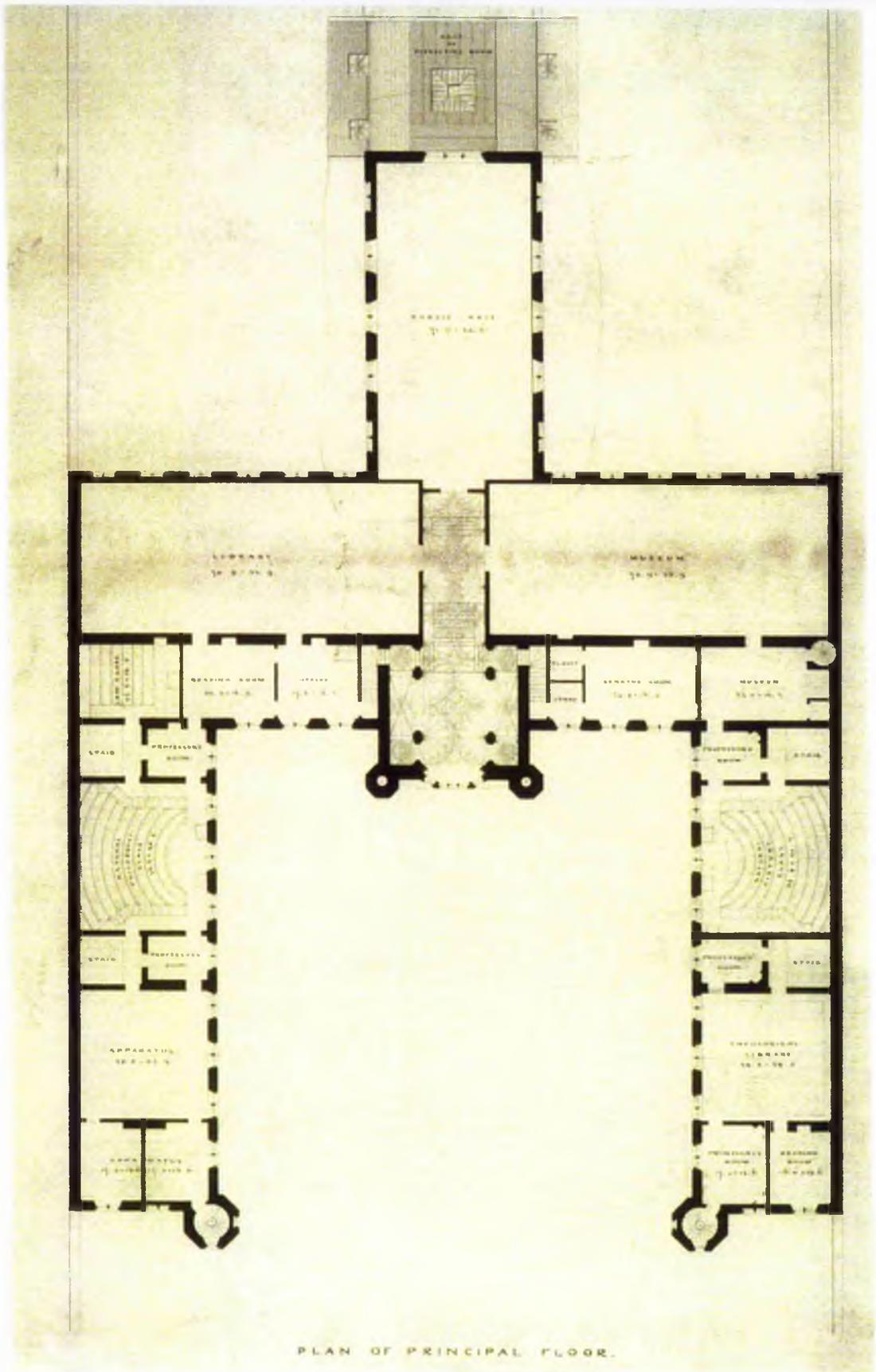


Fig.105 Marischal College. Principal floor plan. A. Simpson, June, 1836.

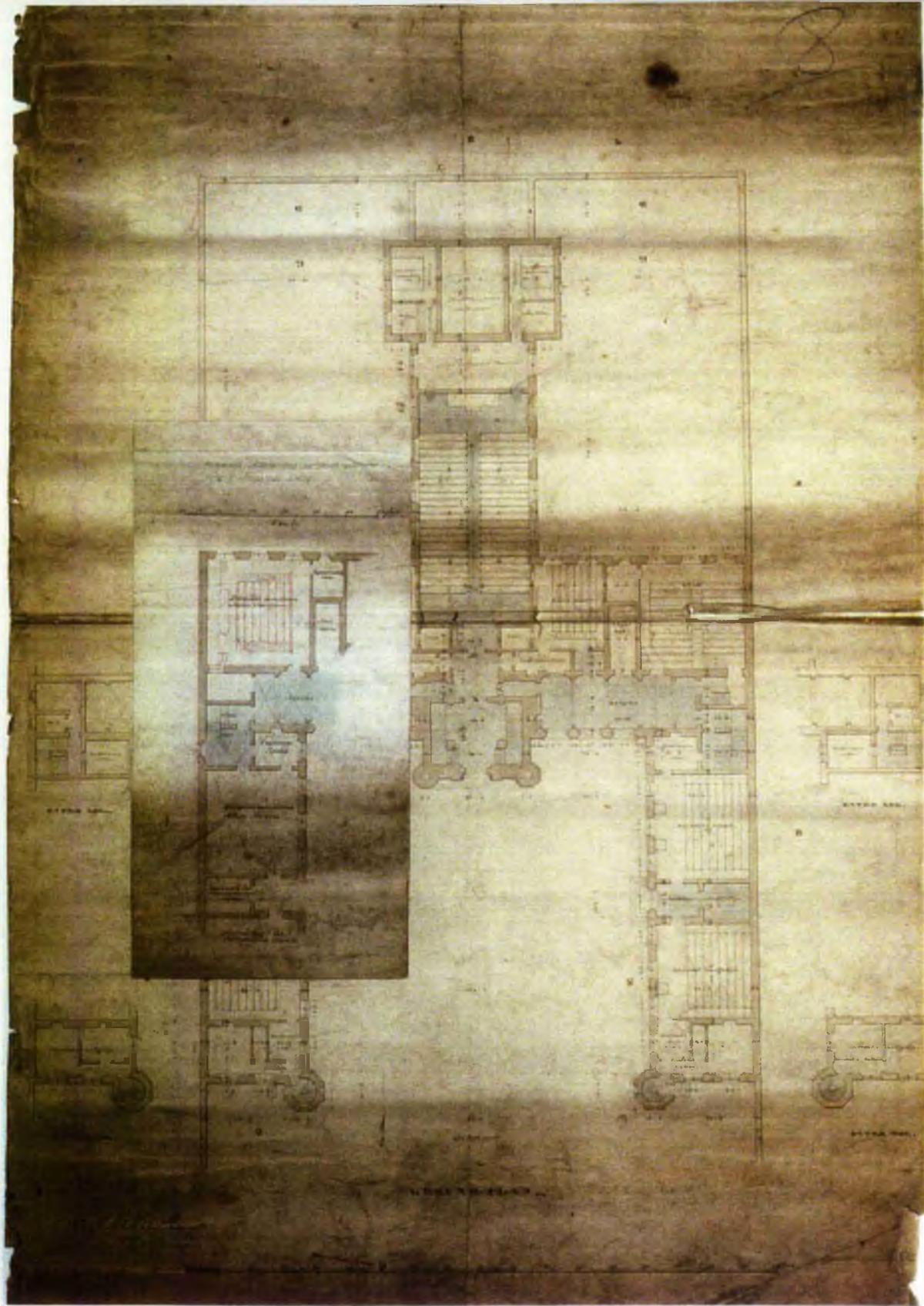


Fig.106 Marischal College. Amended ground floor plan. A. Simpson, June, 1836.

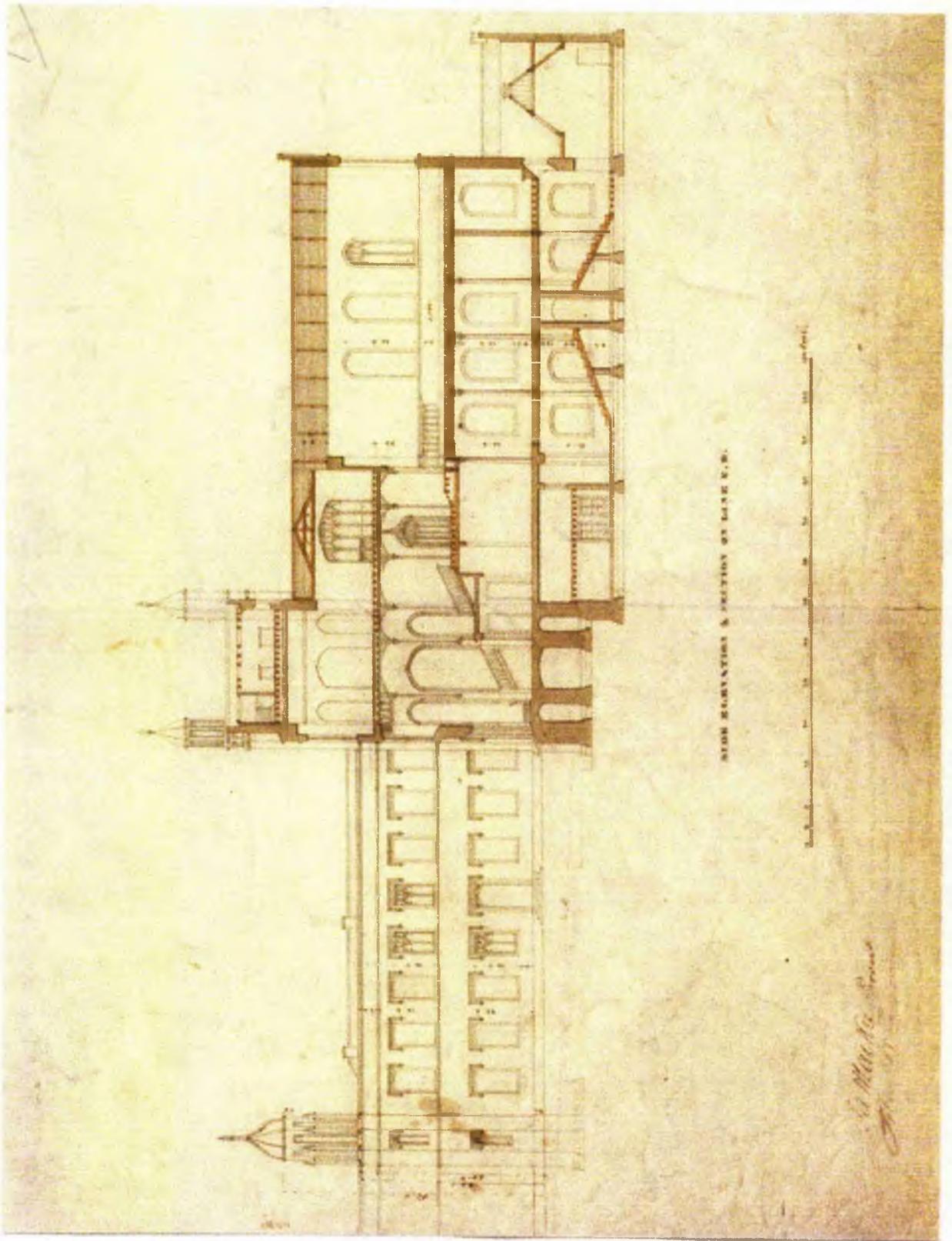


Fig.107 Marischal College. Side elevation and section C-D. A. Simpson, June, 1836.

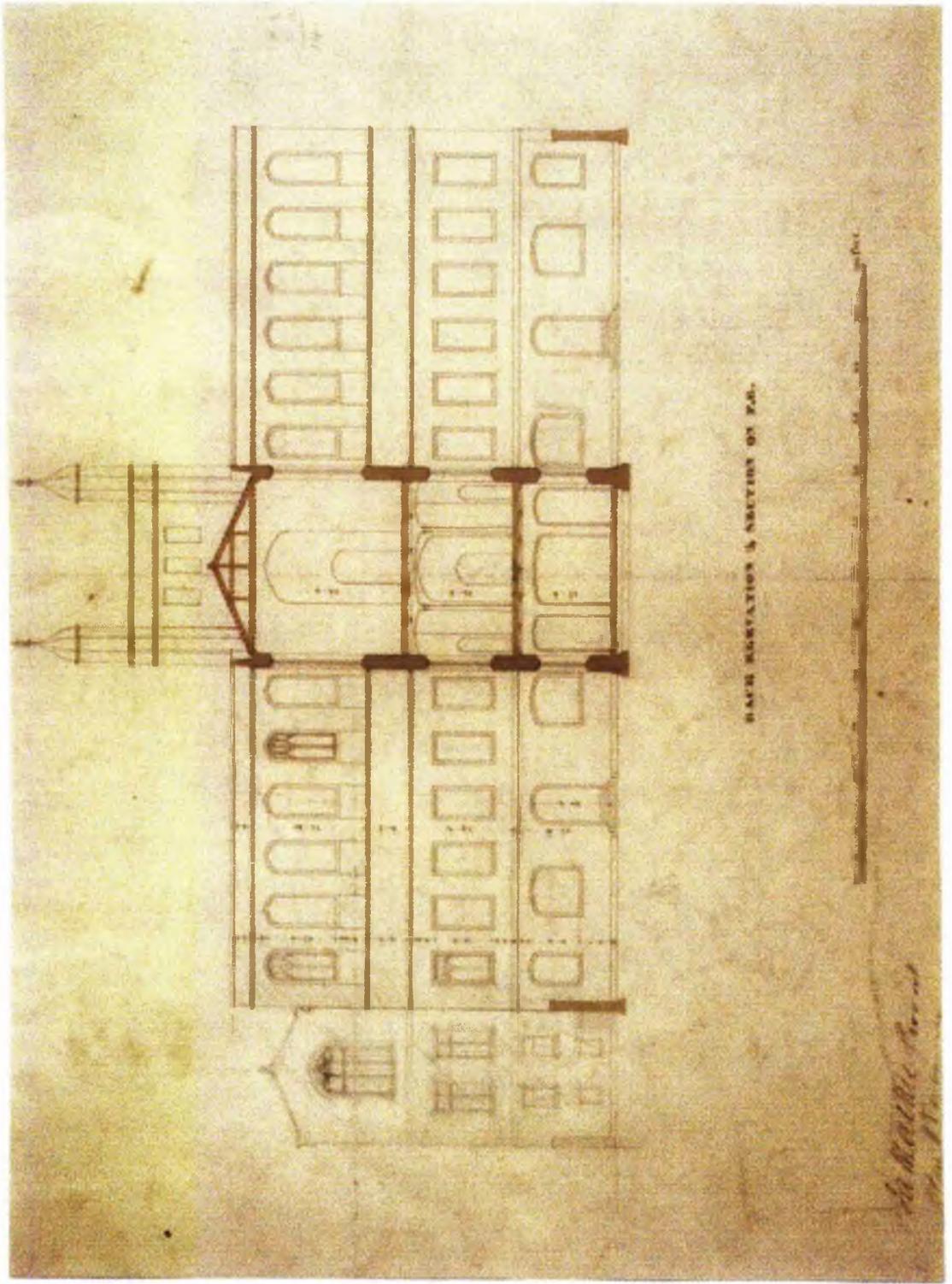


Fig.108 Marischal College. Back elevation and section F-G. A.Simpson, June,1836.

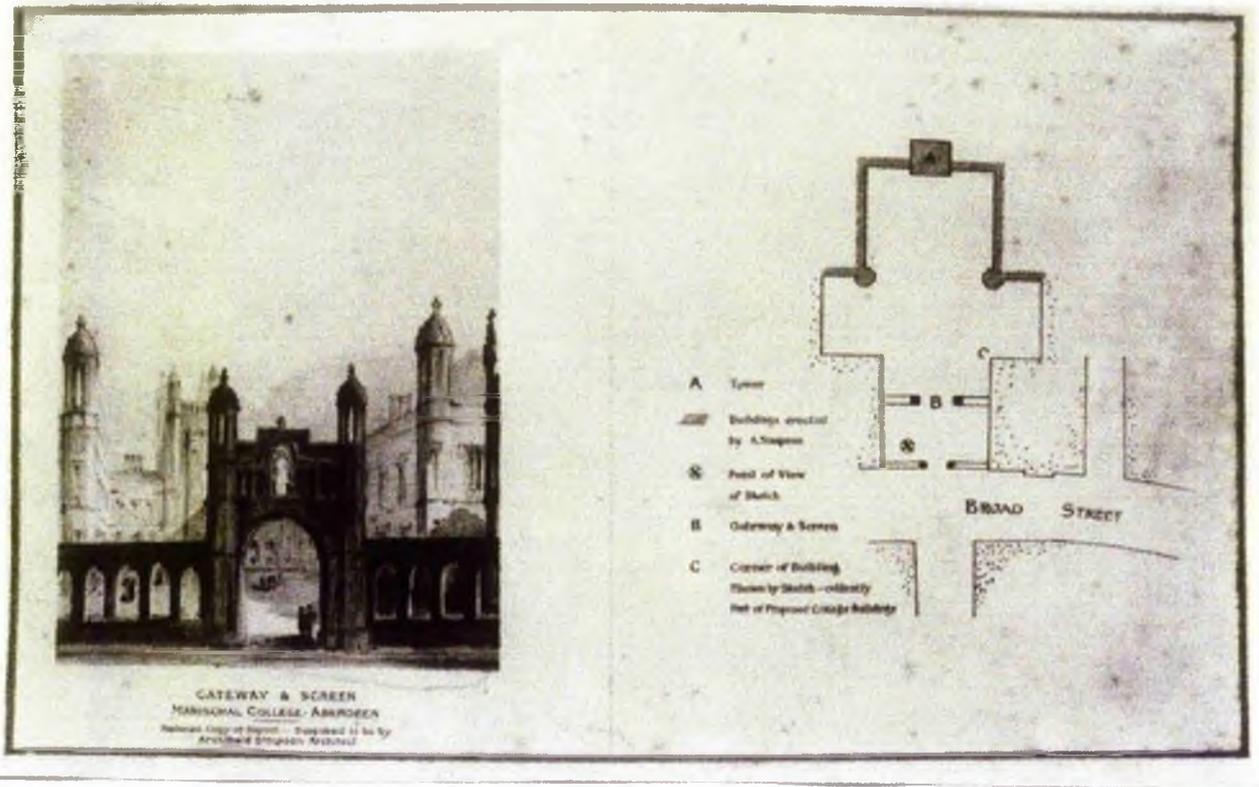
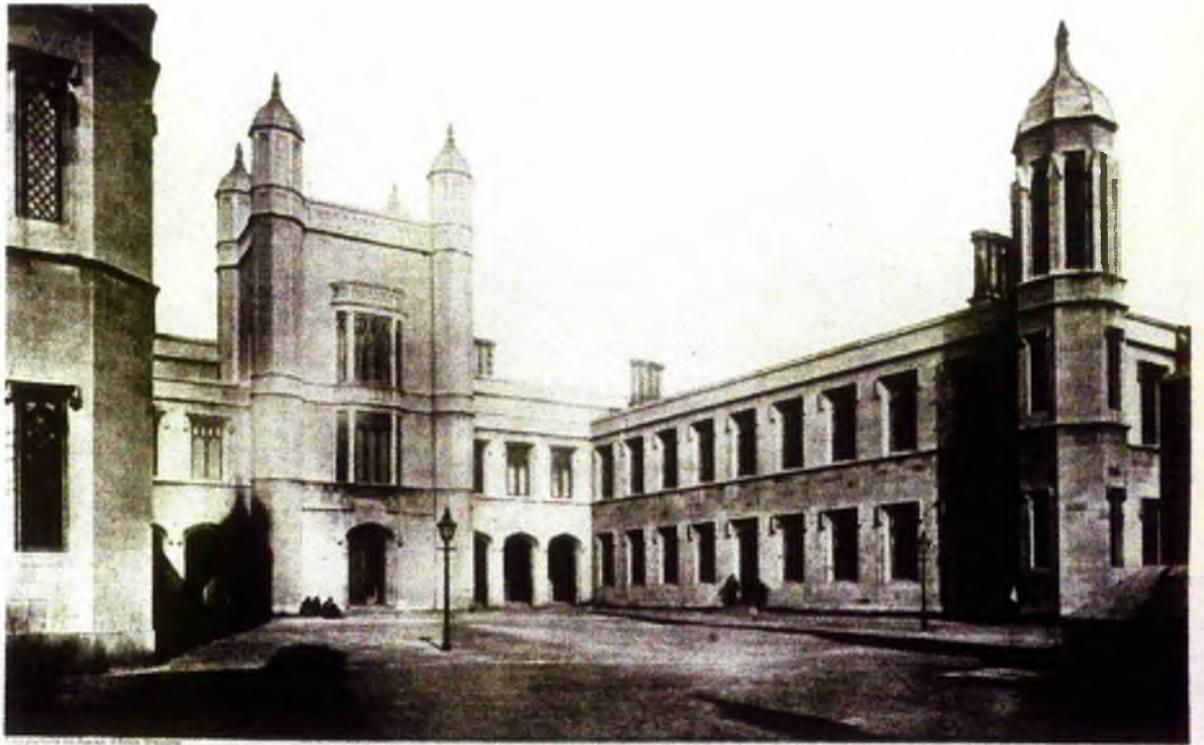
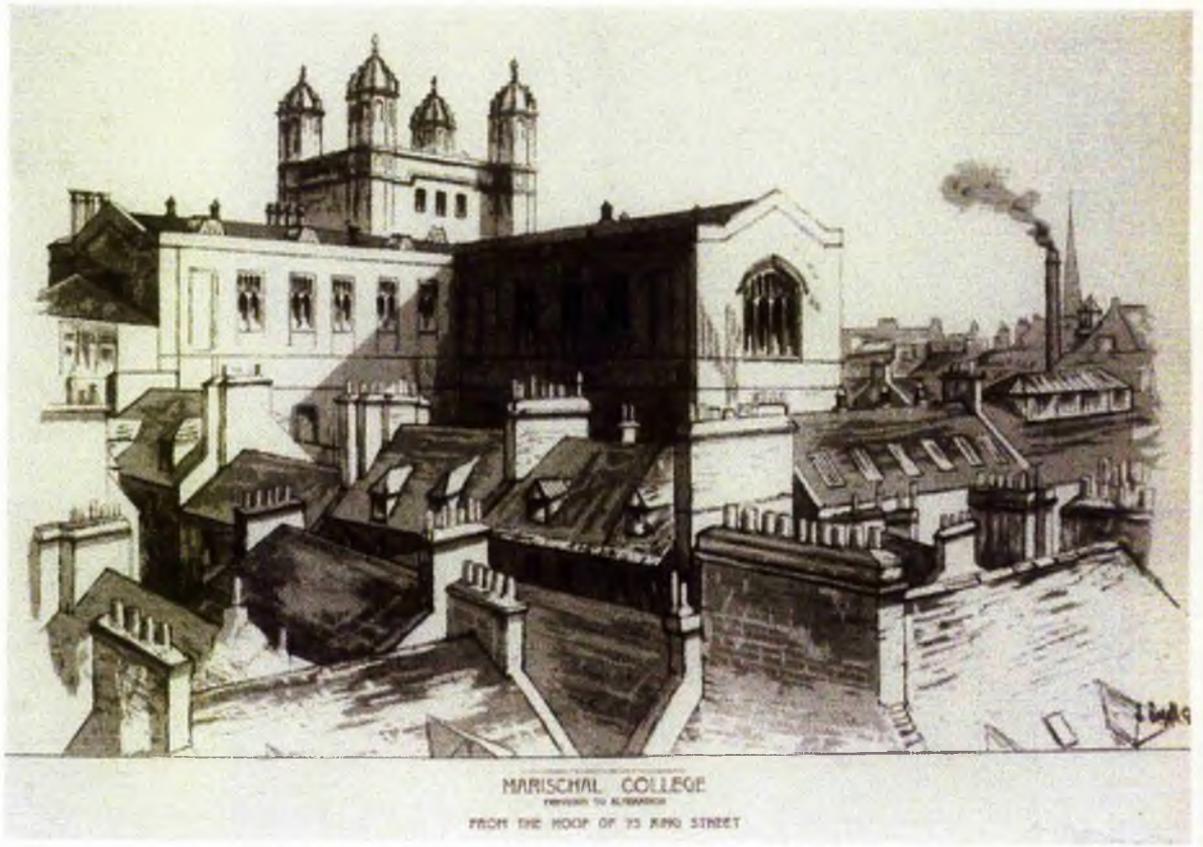


Fig.109 Marischal College. Proposed gateway and screen. A. Simpson.



MARISCHAL COLLEGE. 1840-43.

Fig.110 Marischal College. Front and rear elevations as executed. A. Simpson, 1844.



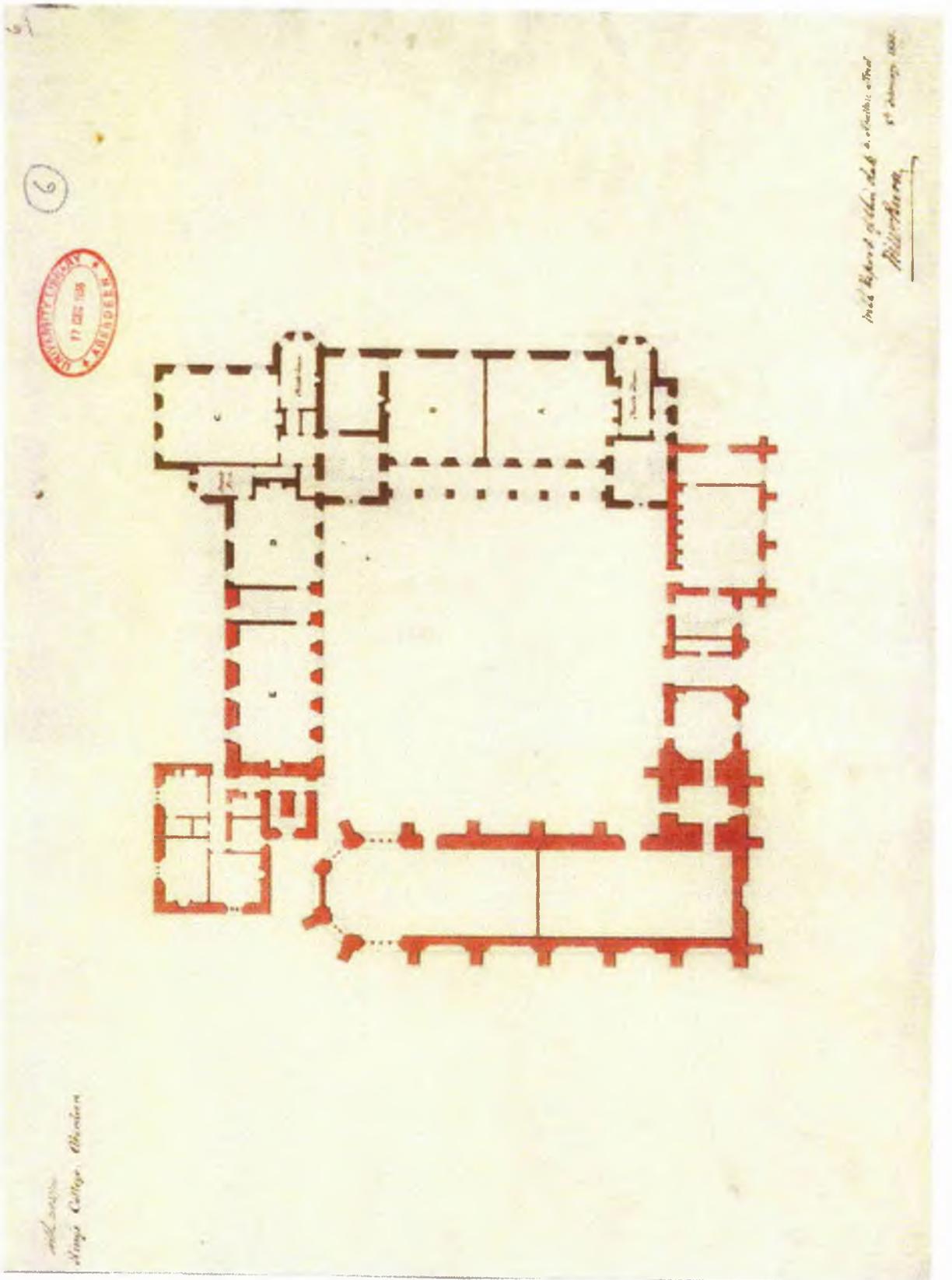


Fig.111 King's College. Ground floor plan. W. Burn 8th February, 1855.

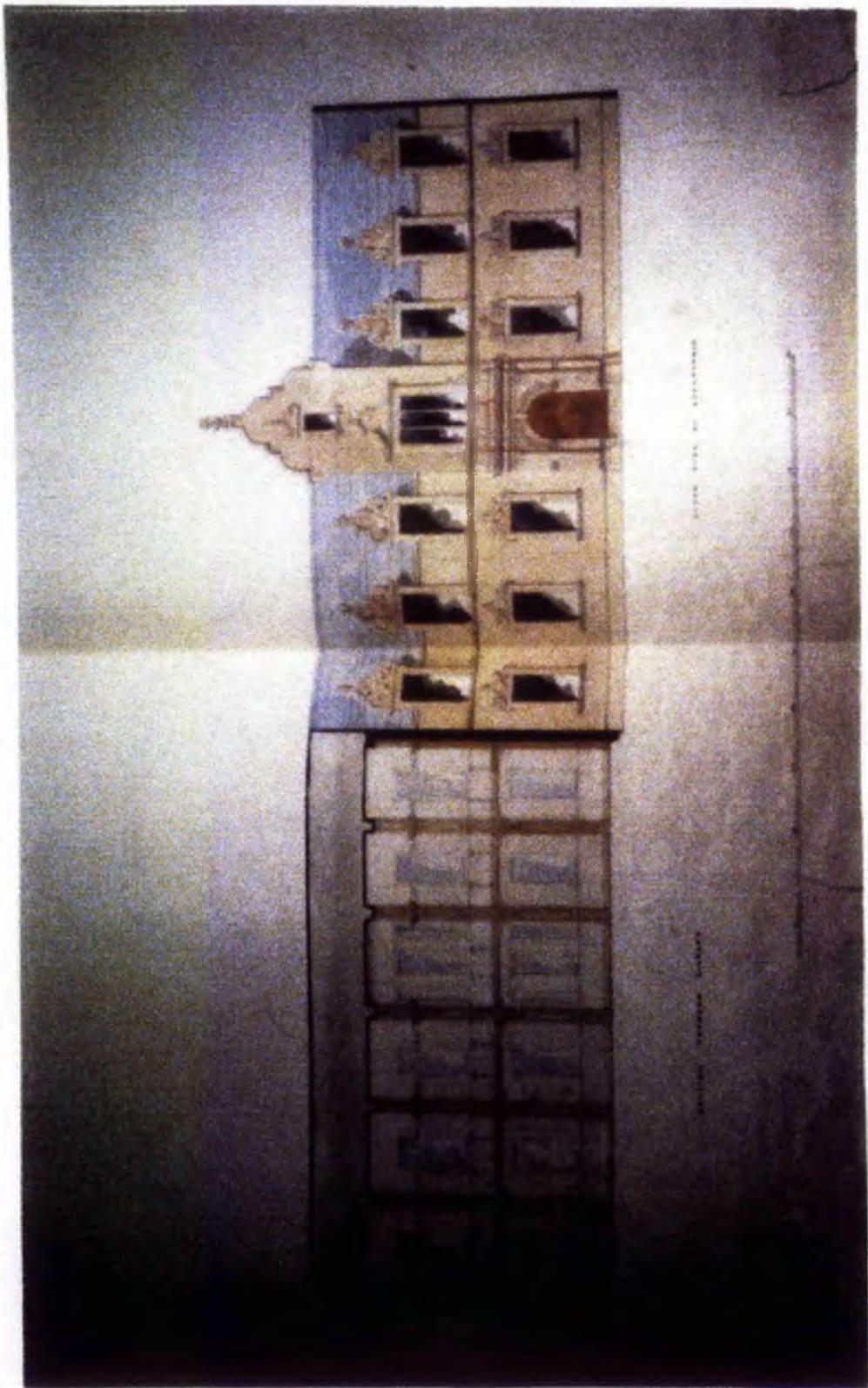


Fig.112 King's College. Neo Jacobean elevation of south side of quadrangle and section through Library. R. Matheson, 1855.

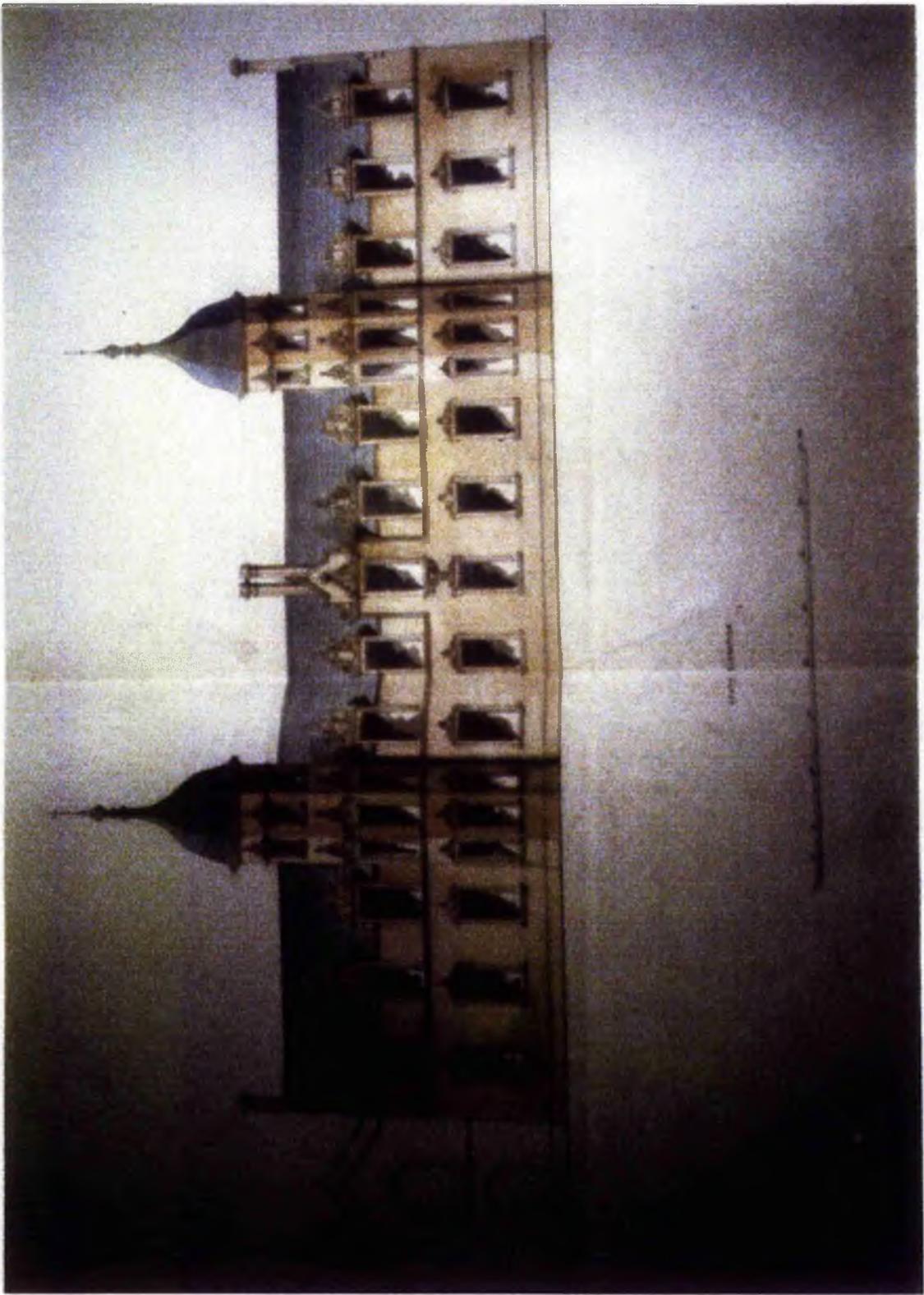


Fig.113 King's College. Neo Jacobean south elevation replacing Dr Fraser's building. R. Matheson, 1855.

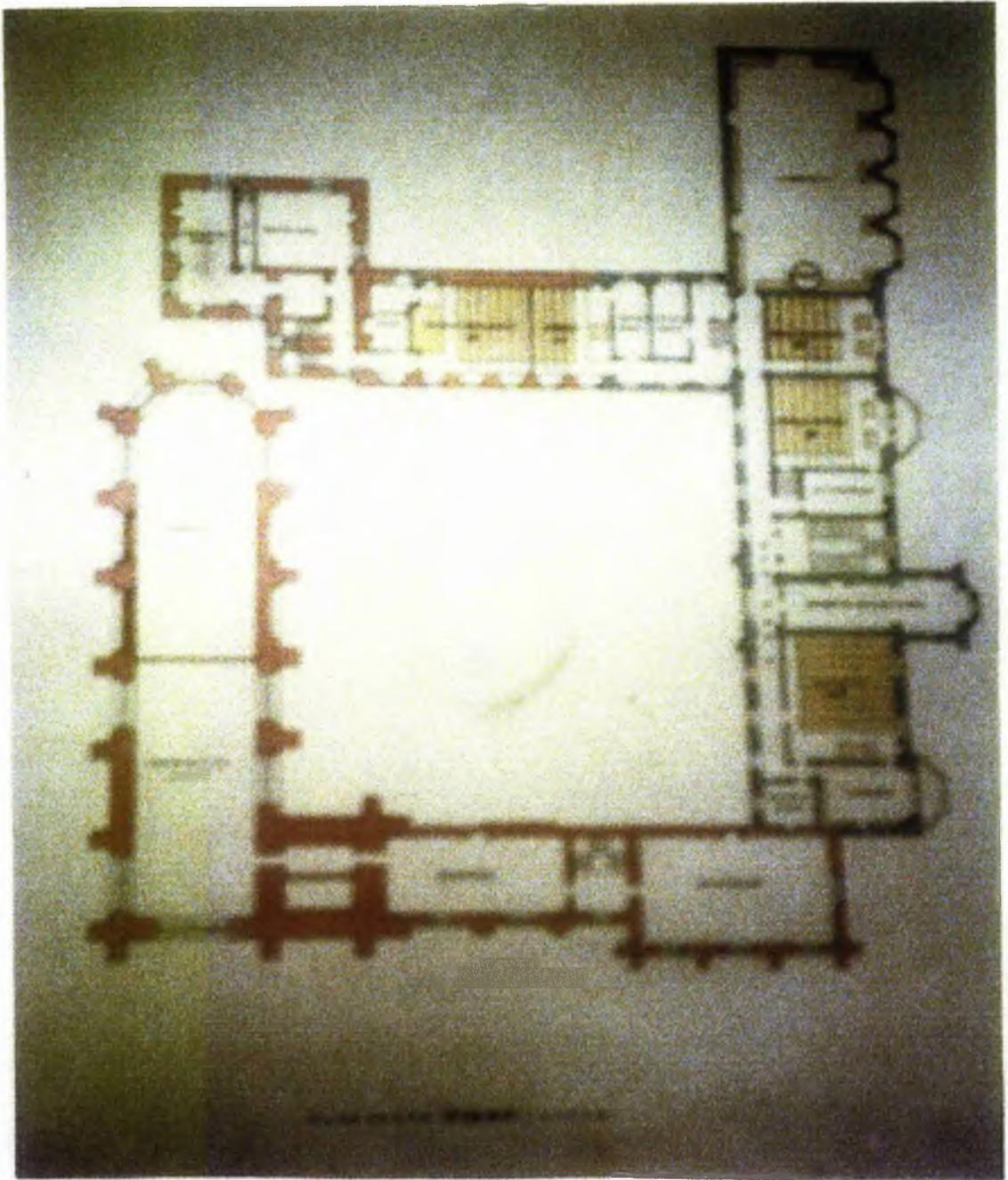


Fig.114 King's College. Ground floor plan of alterations and additions approved by the Senate. R. Matheson August, 1855.



Fig.115 King's College. Principal entrance from quadrangle.

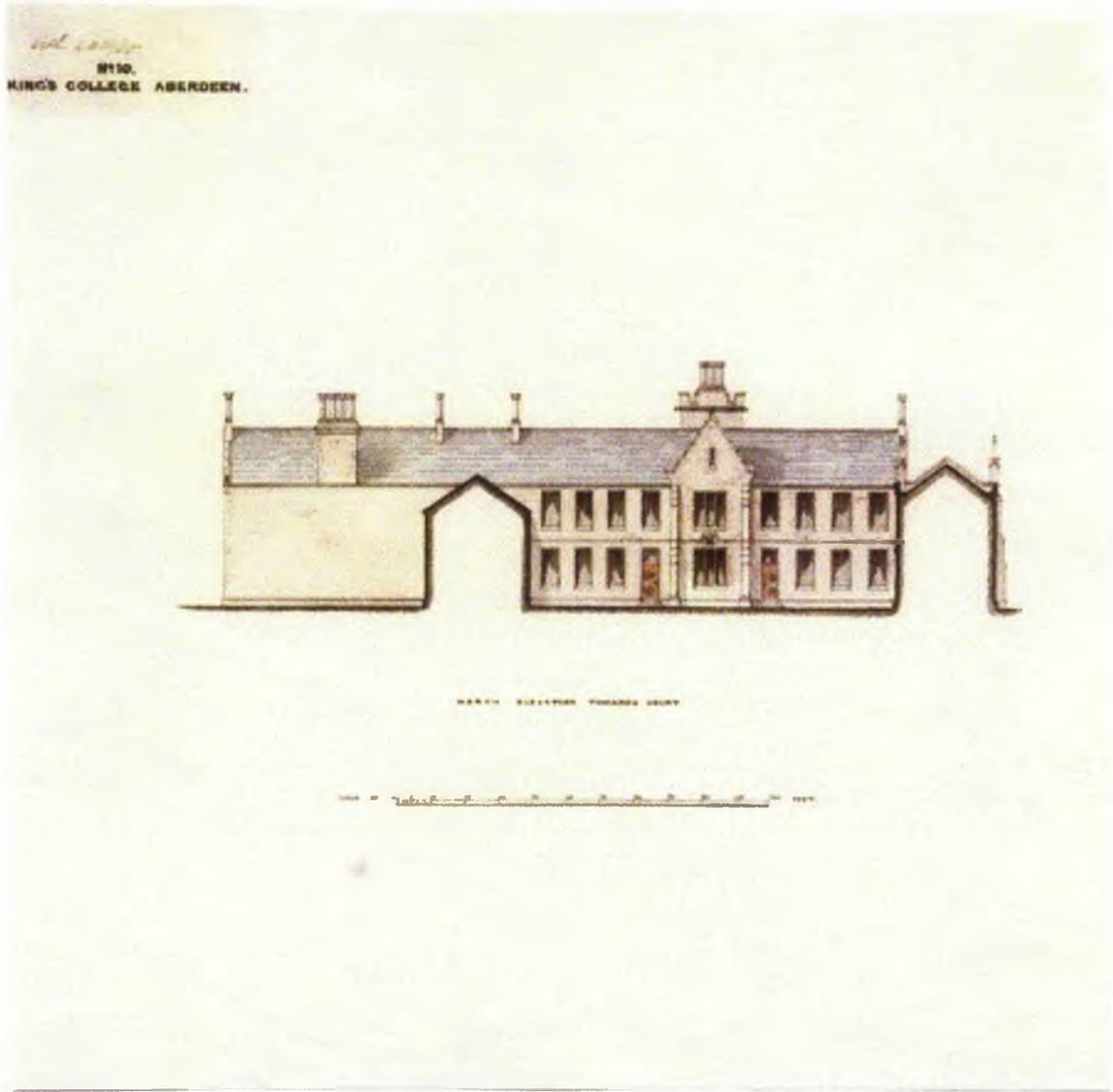


Fig.116 King's College. Oxford gothic elevation of south side of quadrangle.
R. Matheson, September, 1855.

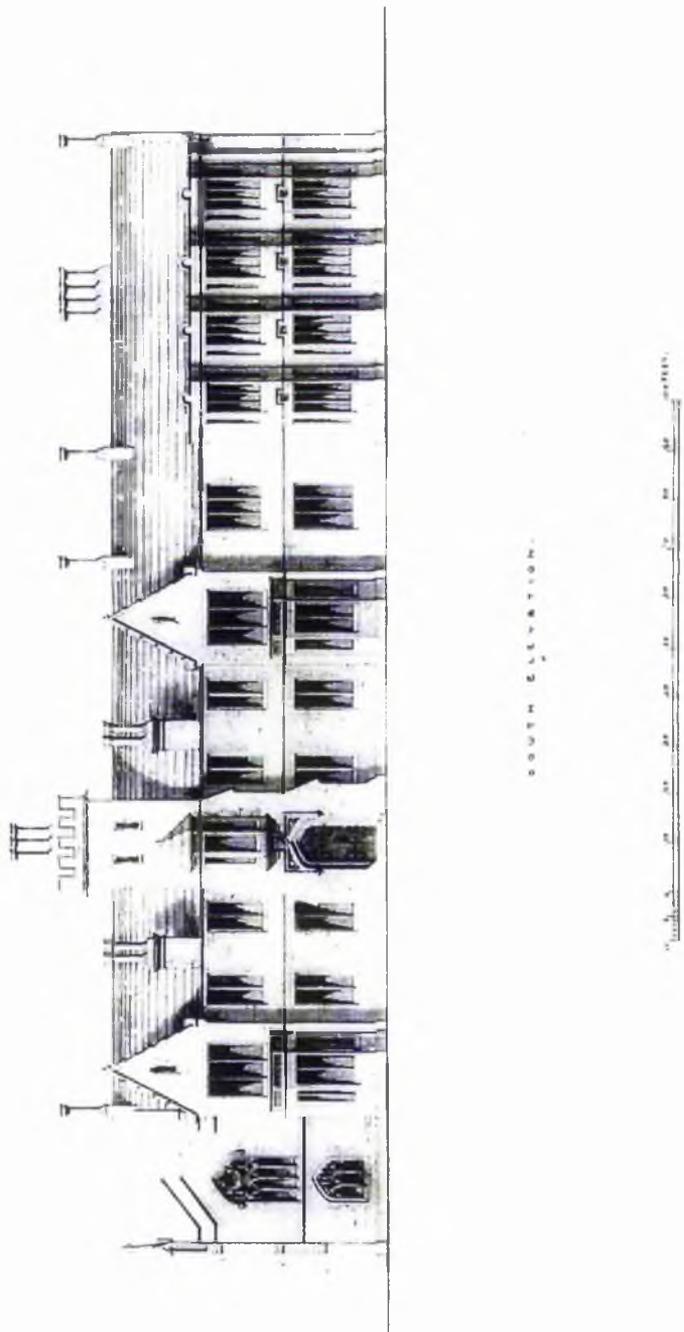


Fig117 King's College. Oxford gothic south elevation showing new south entrance to college. R. Matheson, September, 1855.

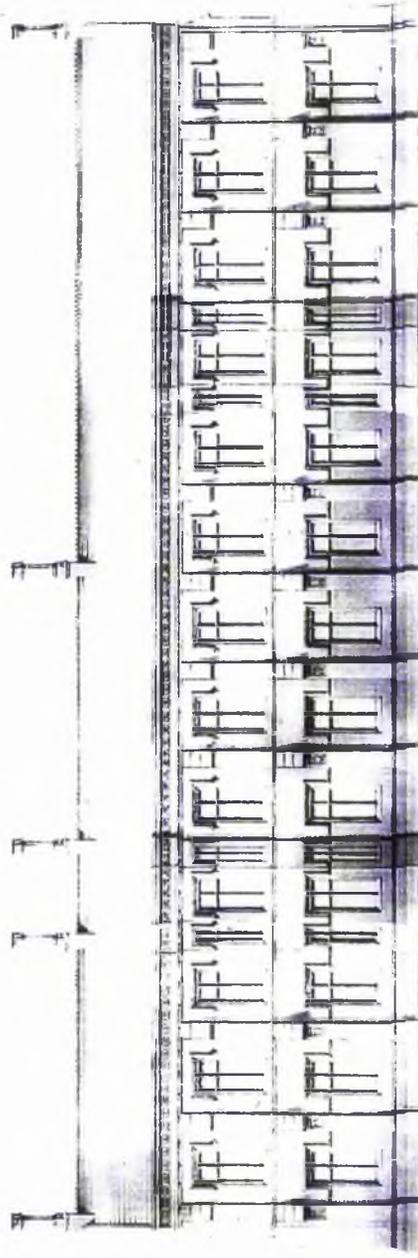
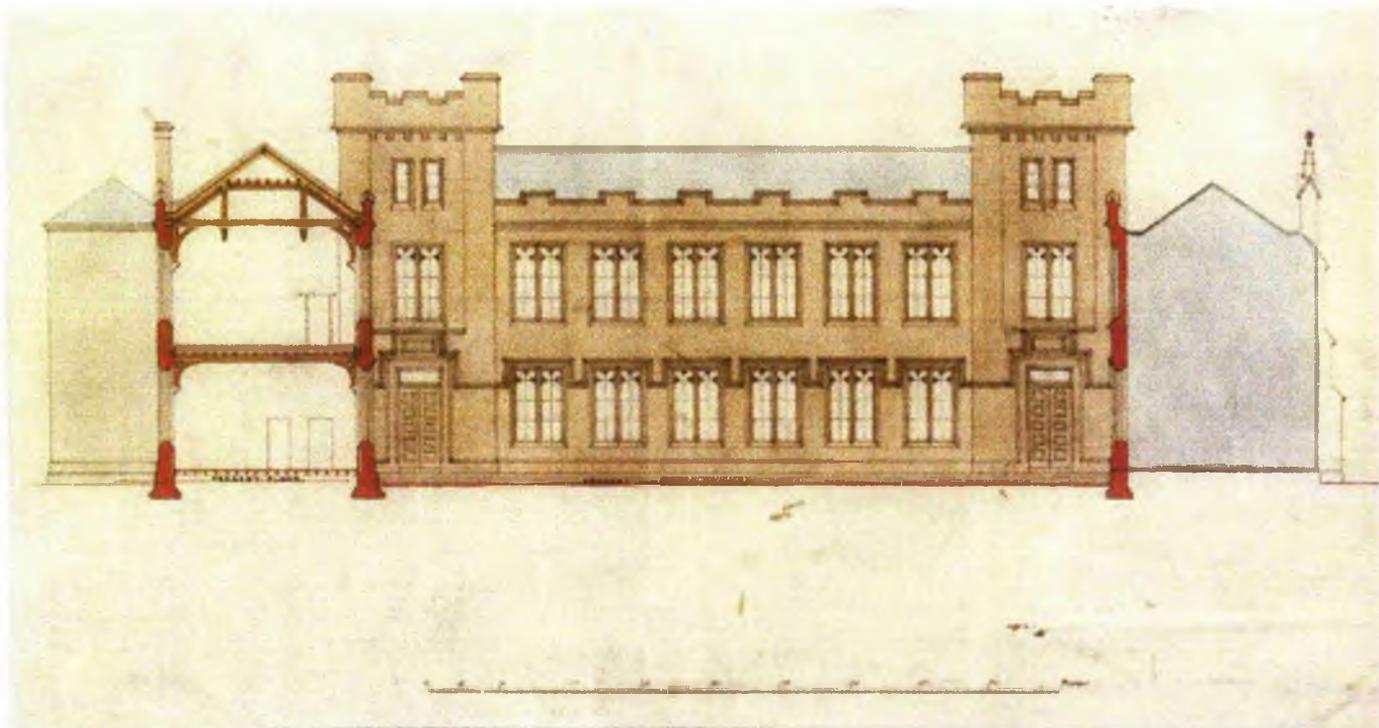


Fig.118 King's College. Tudor gothic south elevation of scheme to replace existing south range. R. Matheson, May, 1859.



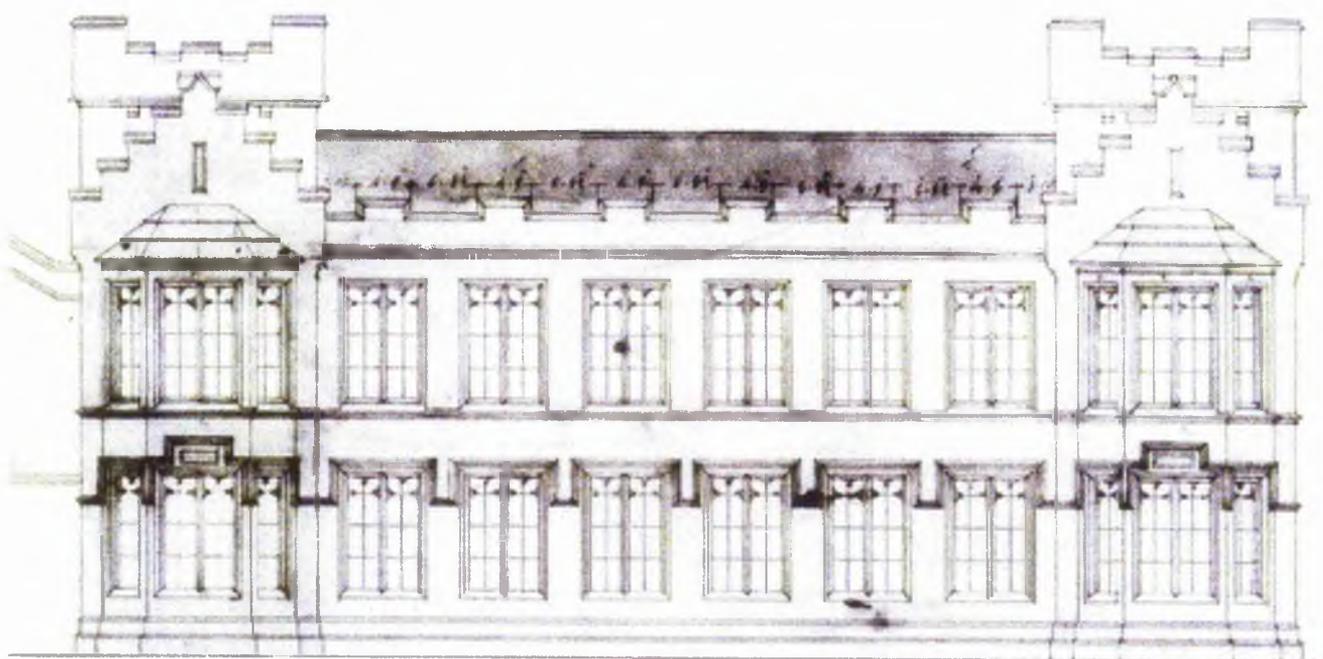
Fig.119 King'sCollege. East elevation of quadrangle wing as built. R.Matheson, 1859.



King's College. Quadrangle elevation drawing MSU/494/A3/7.



Fig.120 King's College. South elevation of quadrangle wing as built.
R. Matheson, 1859.



King's College. Elevation of south wing drawing MSU/494/A3/8.



Fig.121 King's College. Elevation of south wing as built. R. Matheson, 1859.

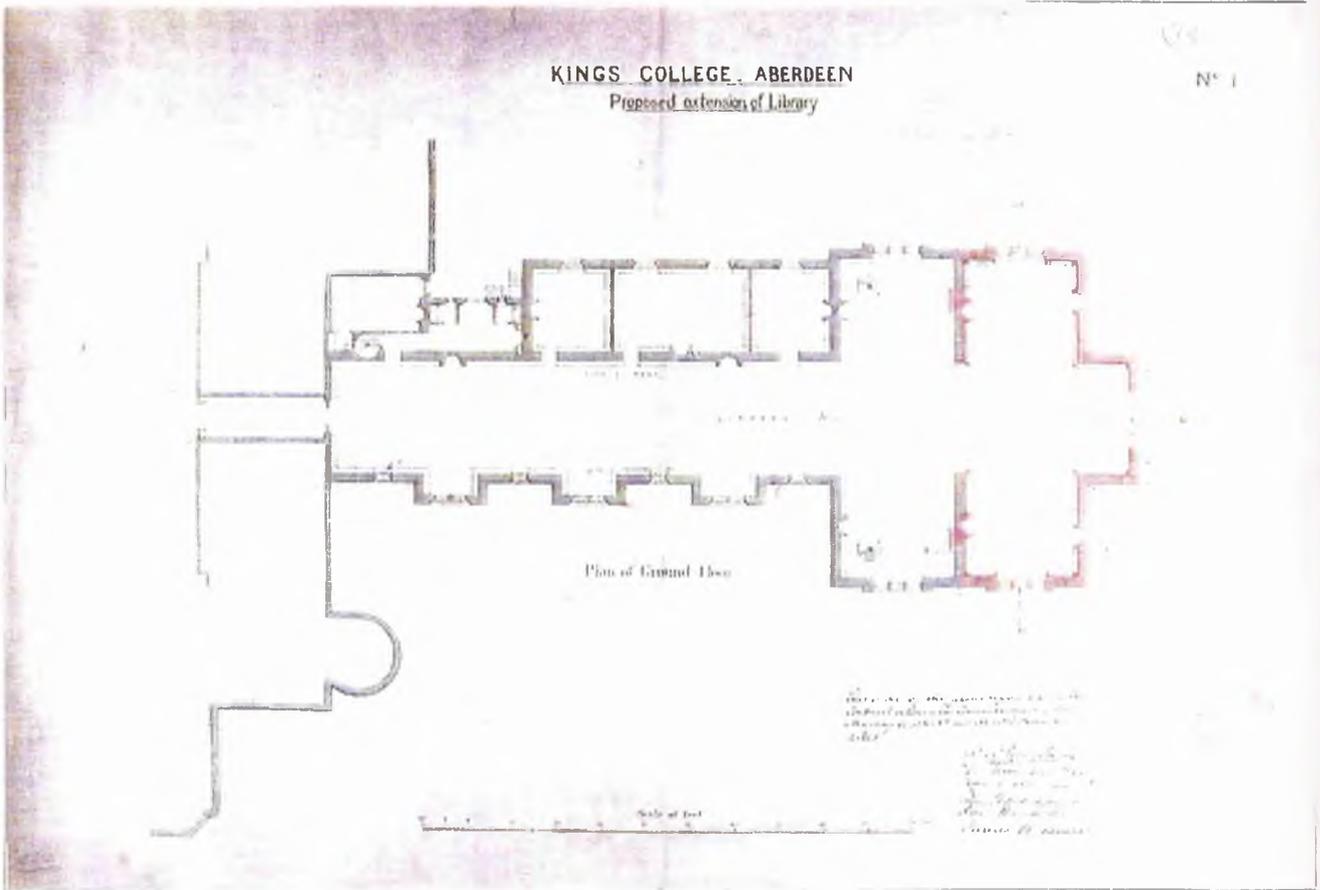


Fig.122 King's College. Plan of Library extension. W.W. Robertson, 1881-84.

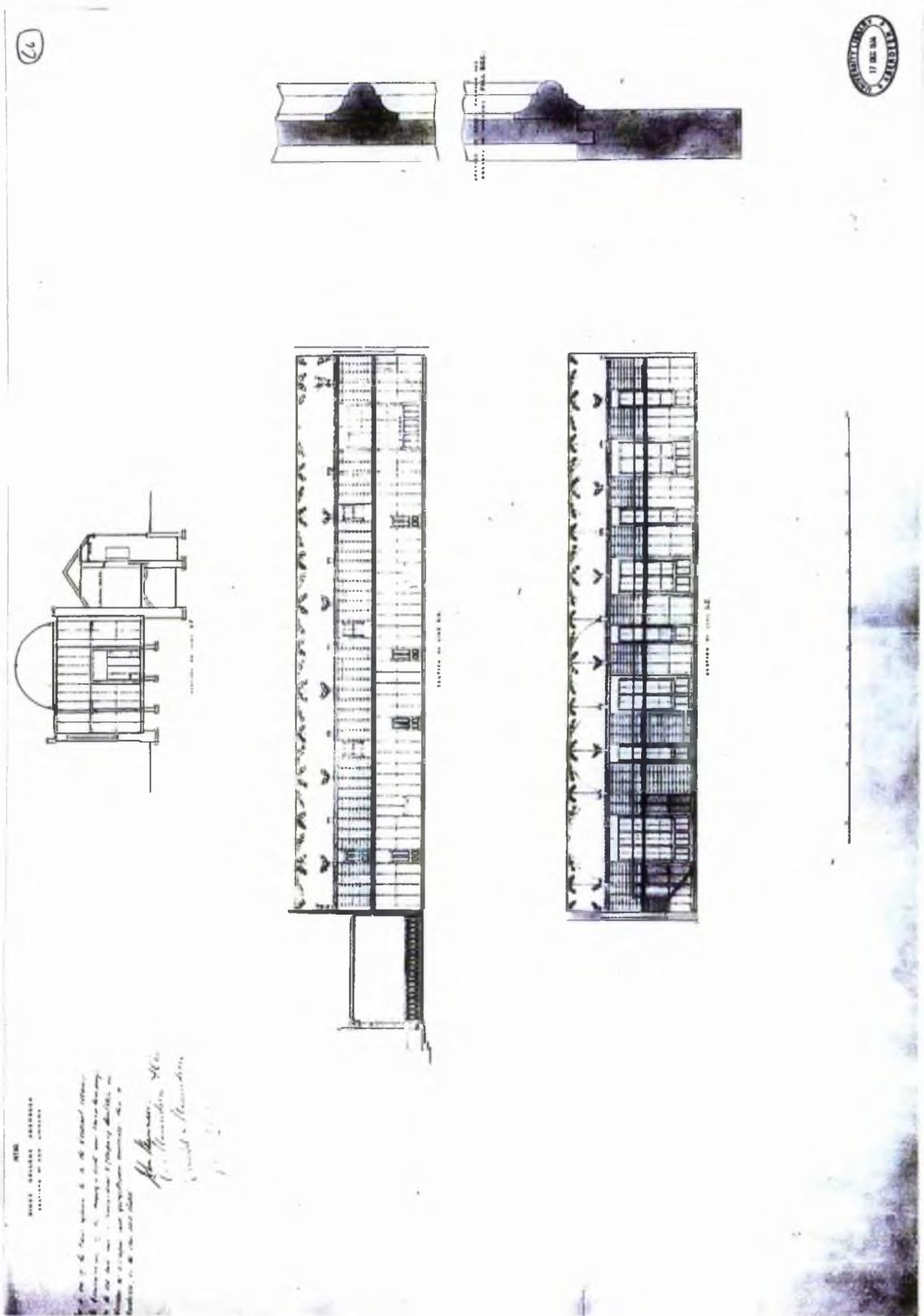


Fig.123 King's College. Section through new Library. R. Matheson, 1868.



King's College —The Library.

Fig.124 King's College. Interior view of completed Library. R. Matheson, 1868.

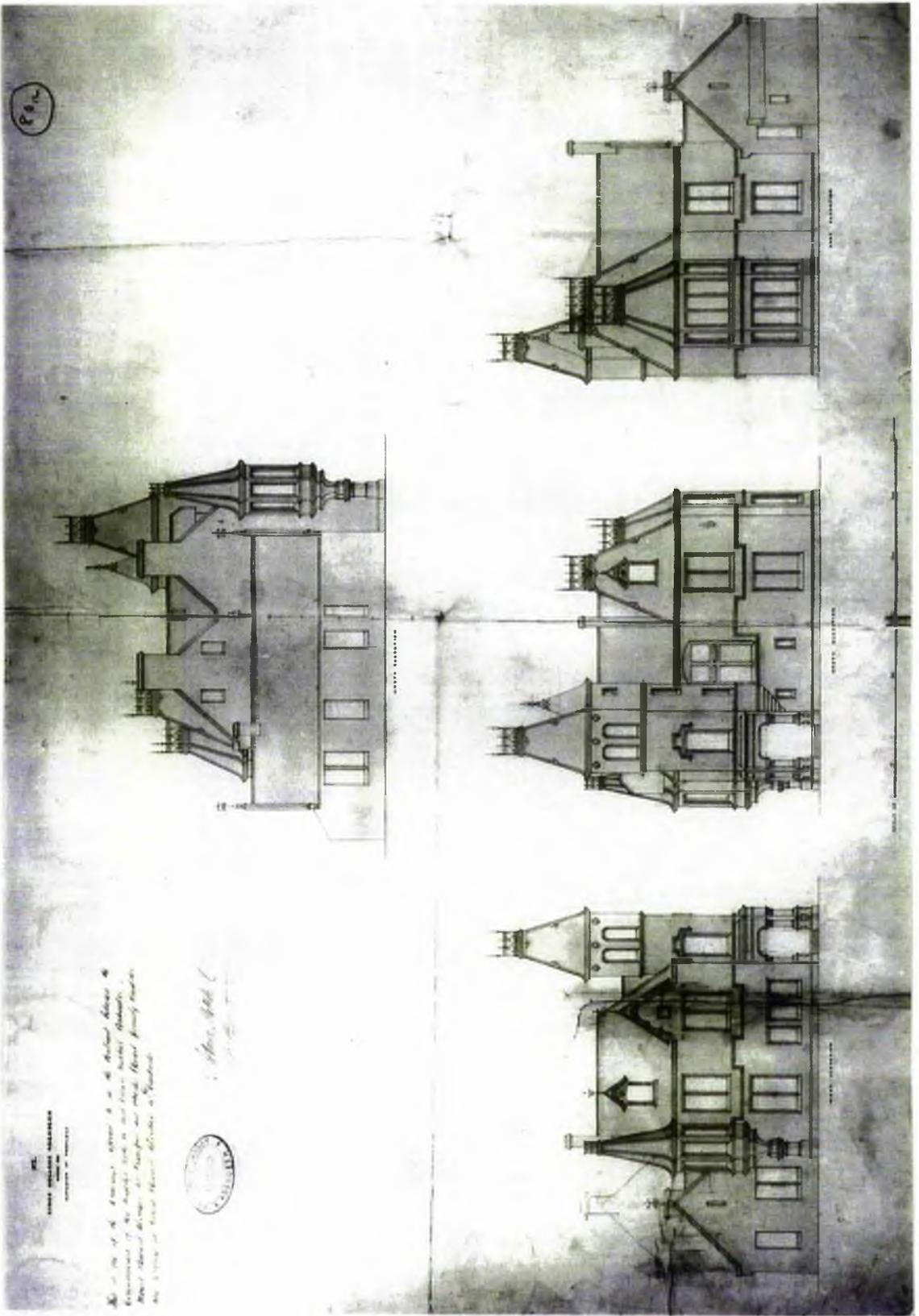
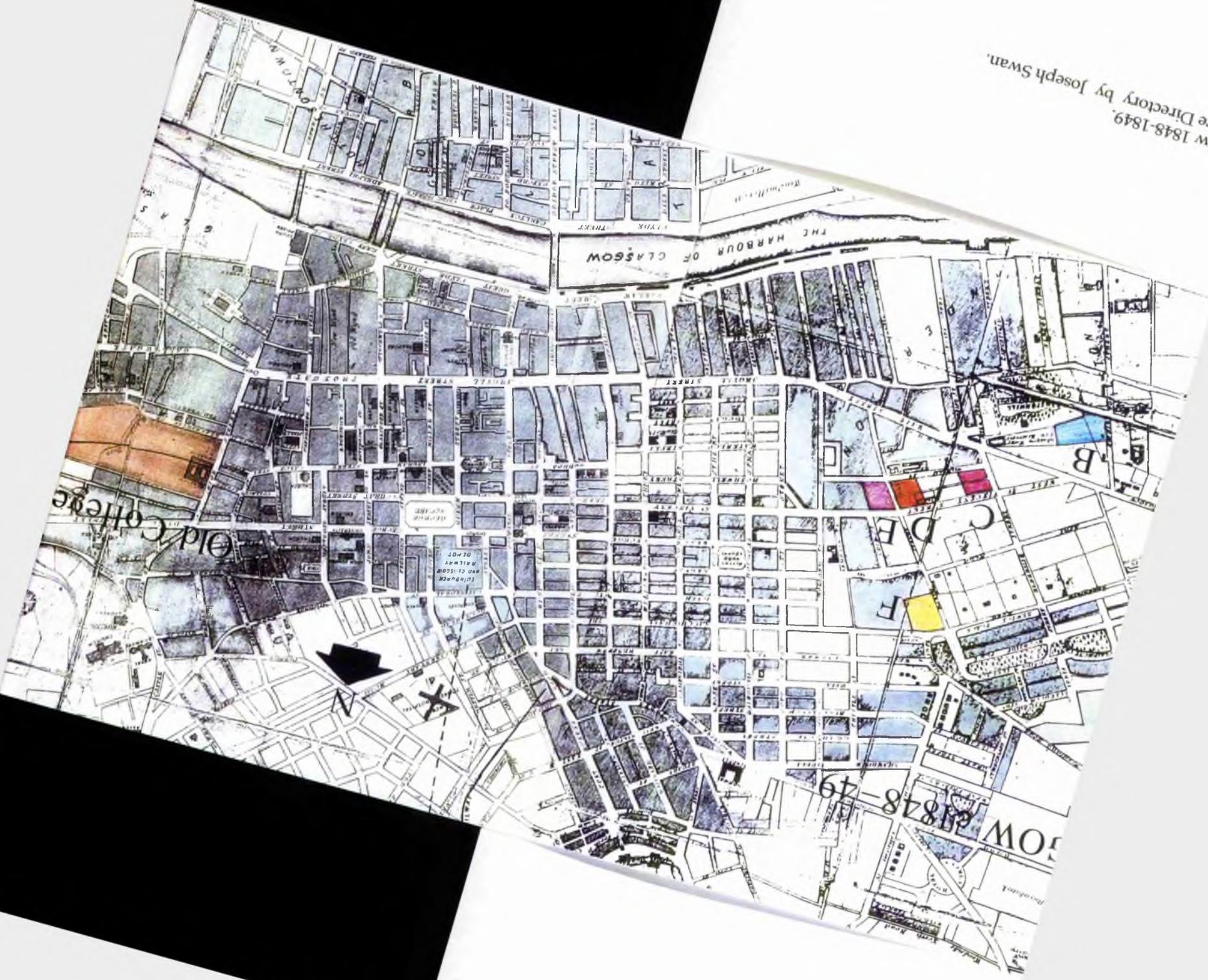


Fig.125 King's College. Elevations of Theology Manse. R. Matheson, 1867.



1848-49

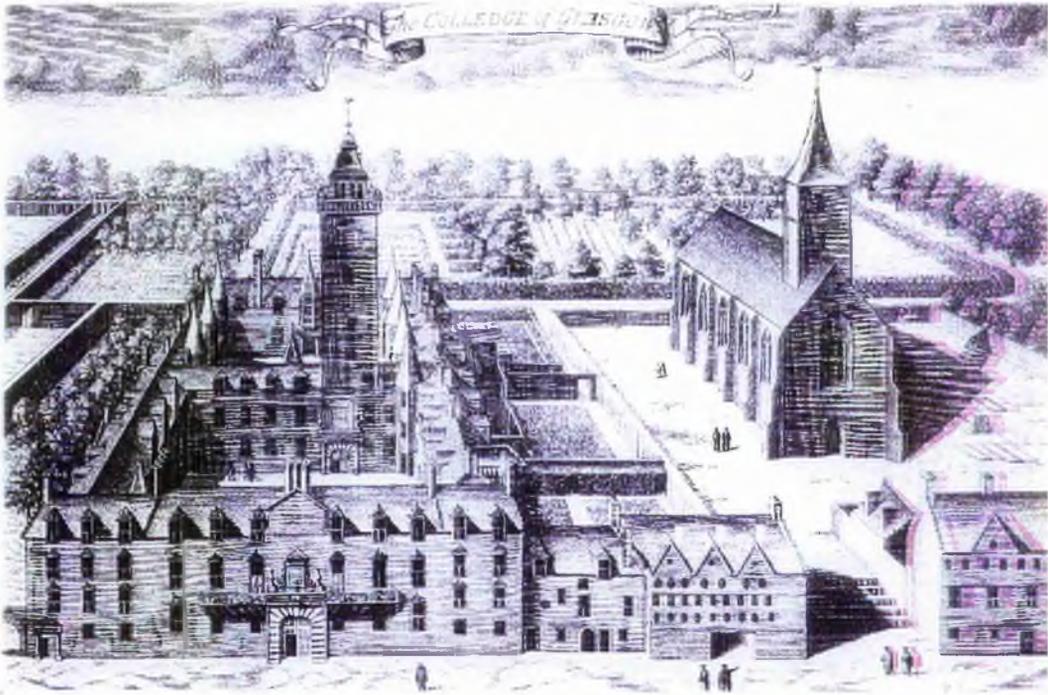
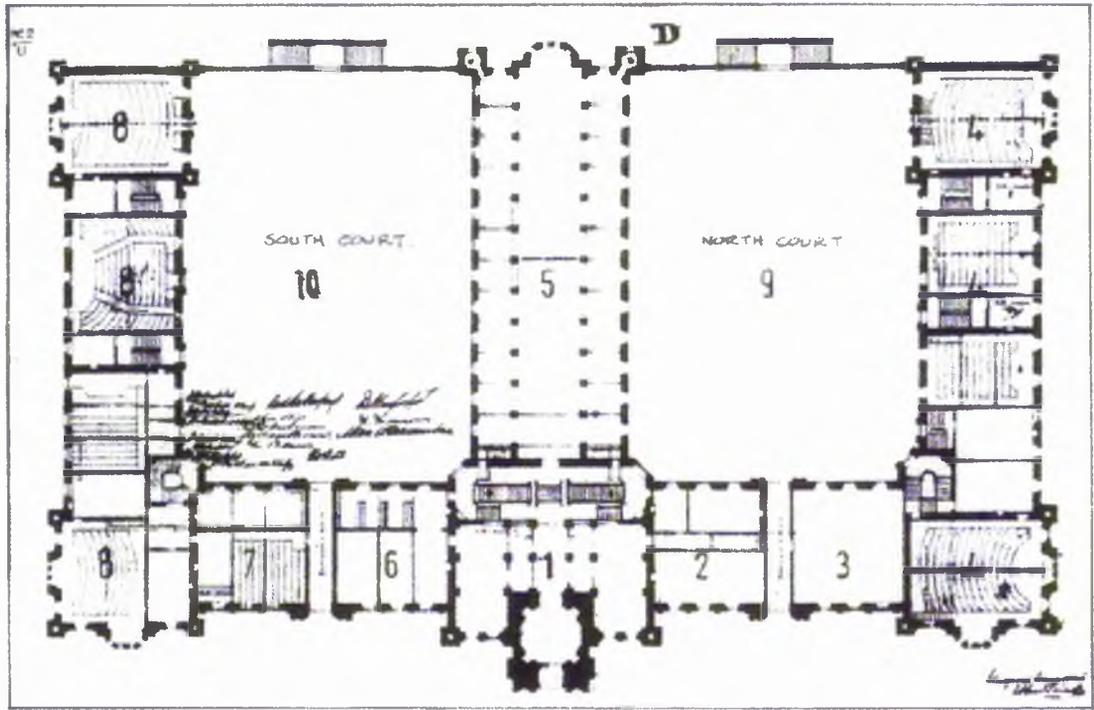
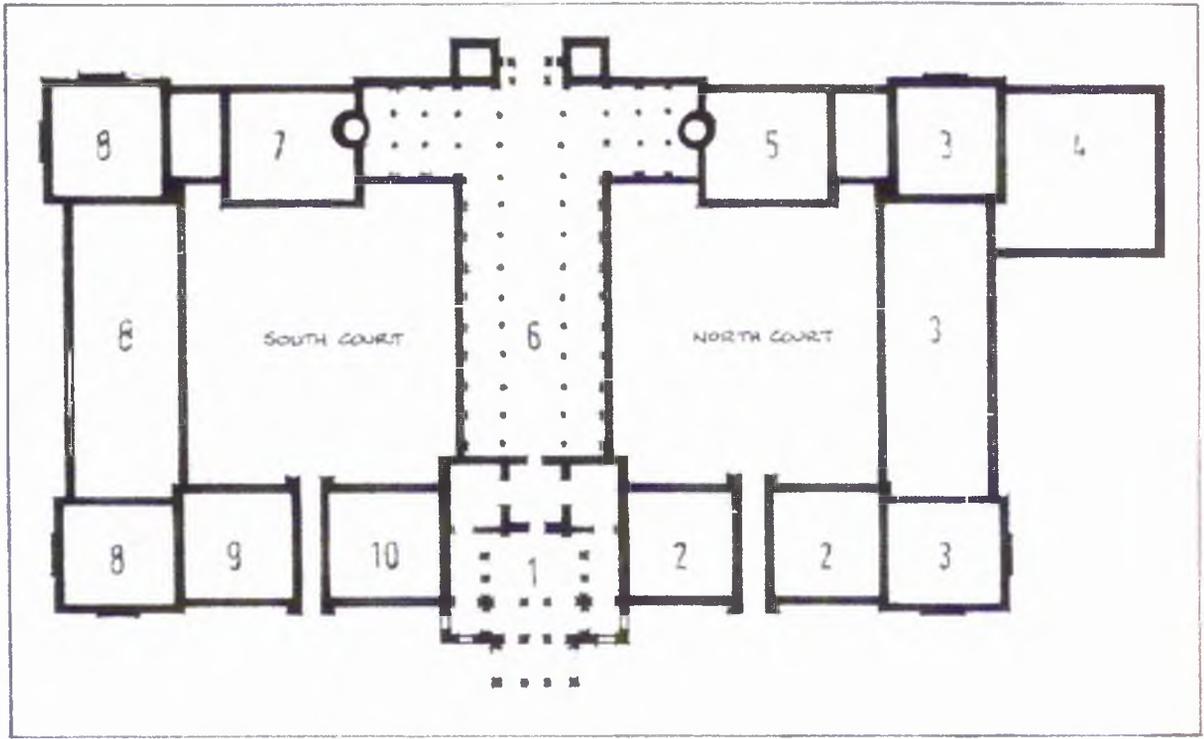


Fig.127 Glasgow University begun 1630, Slezer's 'Theatrum Scotiae'.



- Key
1. Entrance Hall.
 2. Professors' Reading Room.
 3. Medical Students' Reading Room.
 4. Medical Teaching Wing.
 5. Library - Museum on first floor.
 6. Students' Reading Room.
 7. Examination, Dining and Recreation.
 8. Arts Teaching Wing - Arts, Divinity and Law.

Fig.128 Glasgow University. Woodlands ground floor plan. J. Baird's first design late 1845 early 1846.



- Key
1. Entrance Hall.
 2. Professors' Library 1. Common Hall 2.
 3. Medical Teaching Wing.
 4. Chemistry Block.
 5. Anatomy.
 6. Library - Museum First floor.
 7. Natural History.
 8. Arts teaching Wing - Arts, Divinity, Law.
 9. Examination Hall - Dining Room - Reception Area.
 - 10 Students Reading Room.

Fig. 129 Glasgow University. Woodlands ground floor plan. J. Baird's second design. (plan taken from drawing GUA 12732).



Fig. 130 Glasgow University. Woodlands front elevation.
J. Baird's second design undated.



Fig. 131 Glasgow University. Woodlands rear elevation.
J. Baird's second design undated.

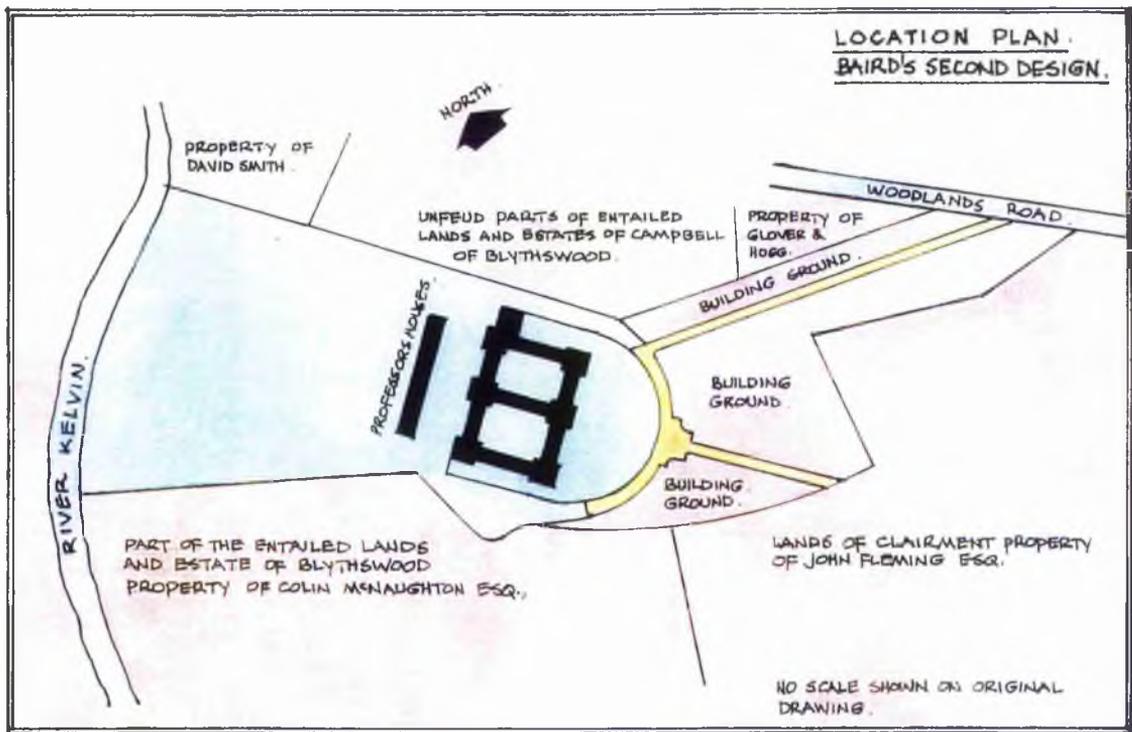
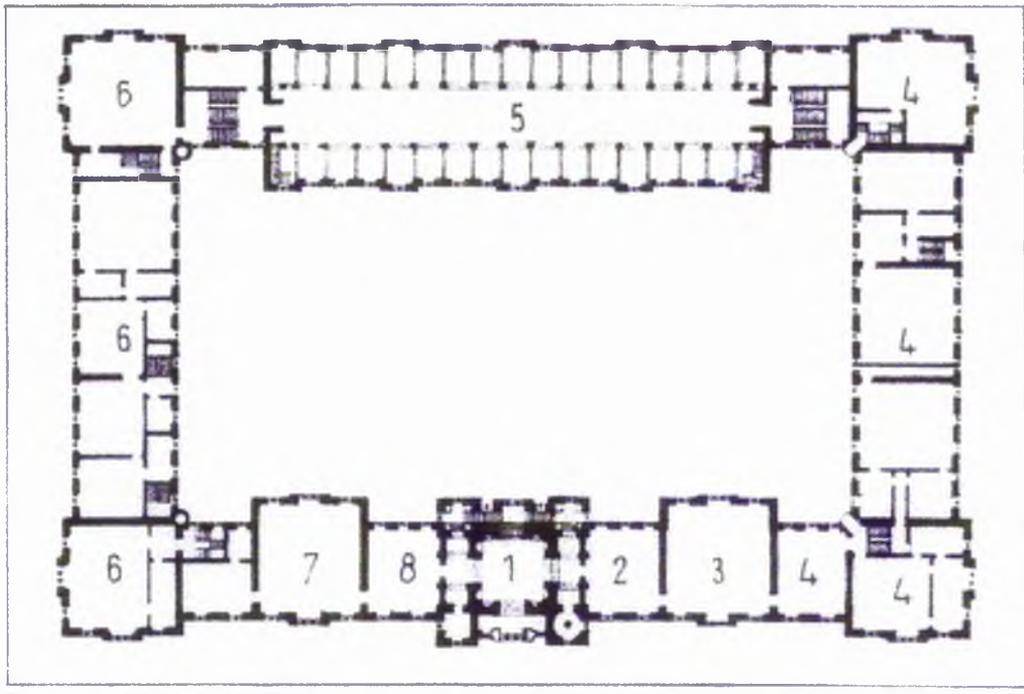


Fig. 132 Glasgow University. Woodlands layout plan. J. Baird's second design undated. (Plan taken from drawing GUA 12728).



- Key
1. Entrance Hall.
 2. Professors' Library.
 3. Students' Reading Room.
 4. Medical Teaching Wing.
 5. Library - Mueum First Floor.
 6. Arts Teaching Wing.
 7. Examination Hall/Dining Room.
 8. Professors' Reading Room.

Fig.133 Glasgow University. Woodlands ground floor plan. J. Baird's third design August, 1847. (Plan taken from drawing GUA 12722).

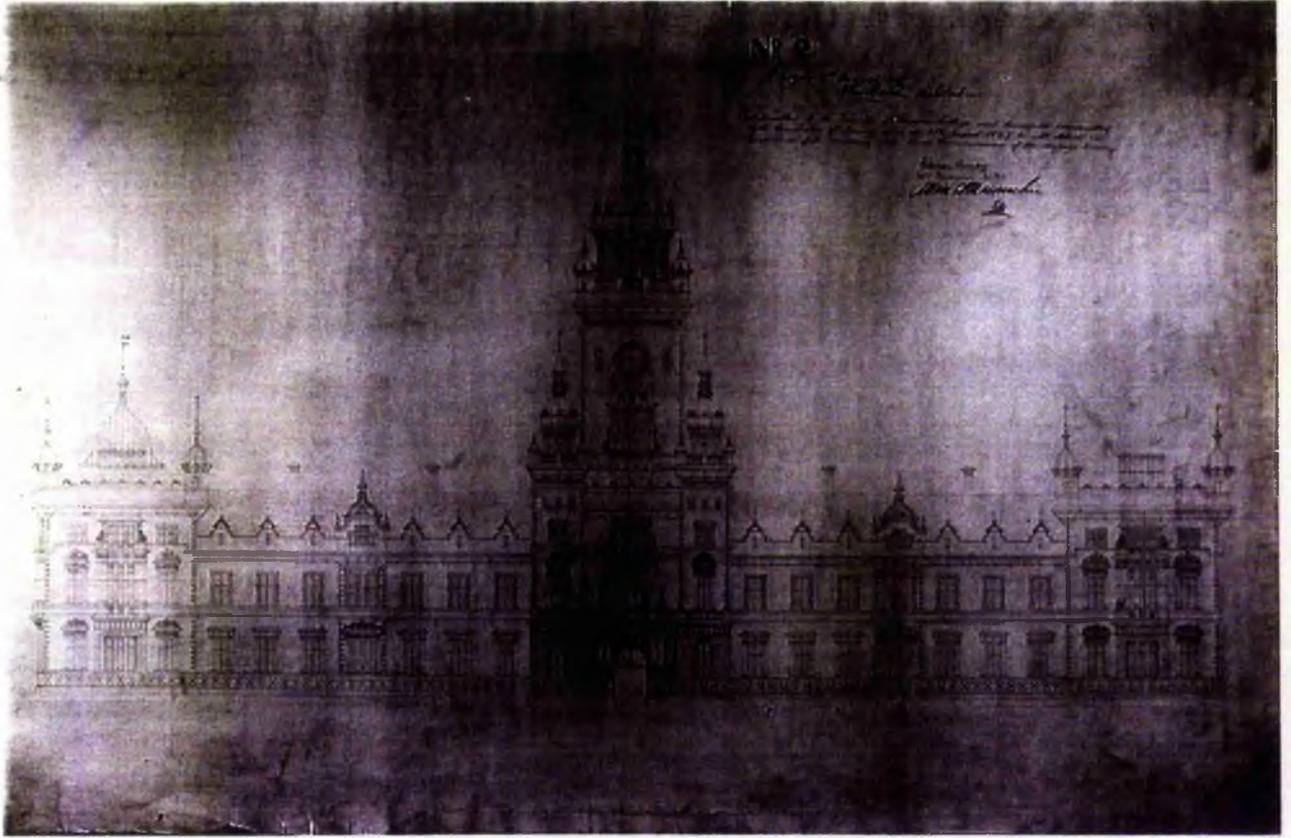


Fig. 134 Glasgow University. Woodlands front elevation.
J. Baird's third design August, 1847.

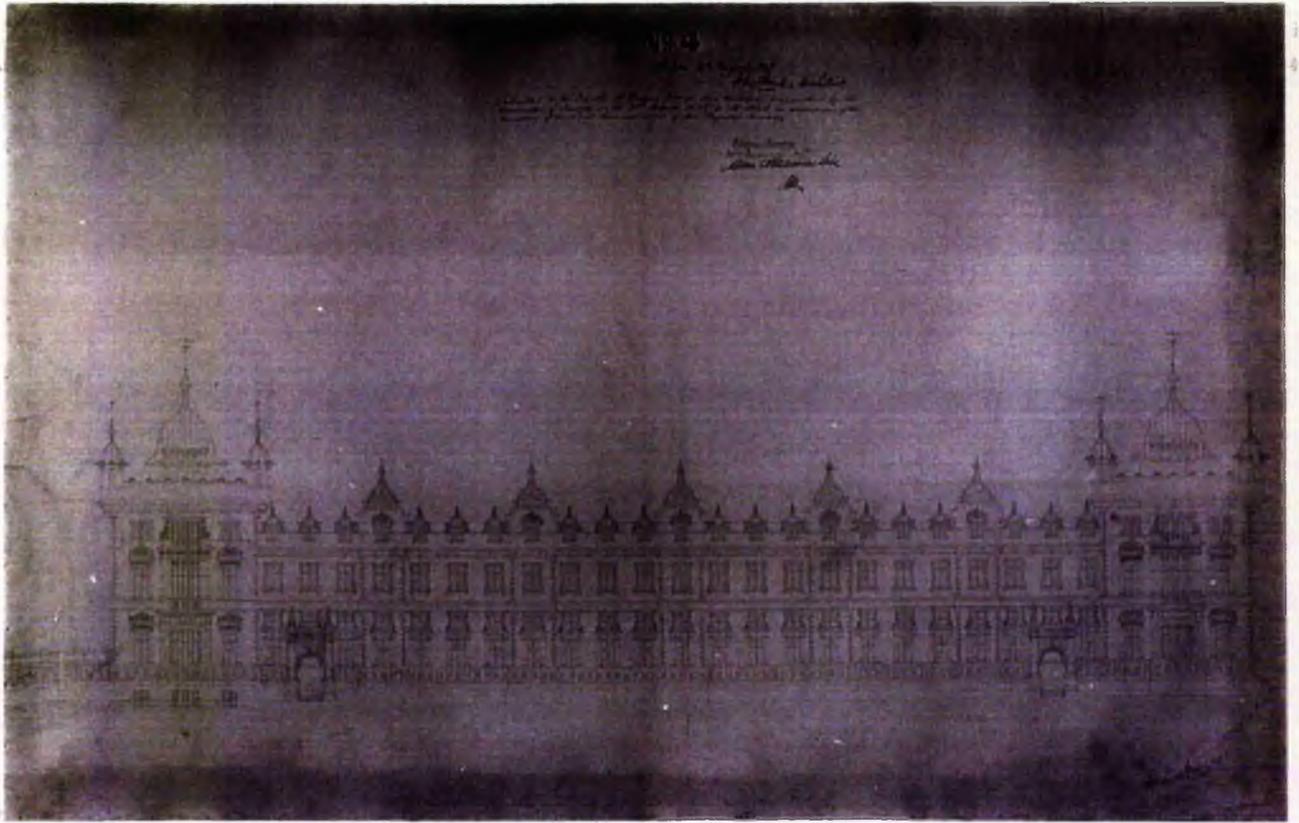


Fig.135 Glasgow University. Woodlands rear elevation.
J. Baird's third design August, 1847.



Fig.136 Glasgow University. Woodlands revised front elevation.
E. Blore, March, 1849.

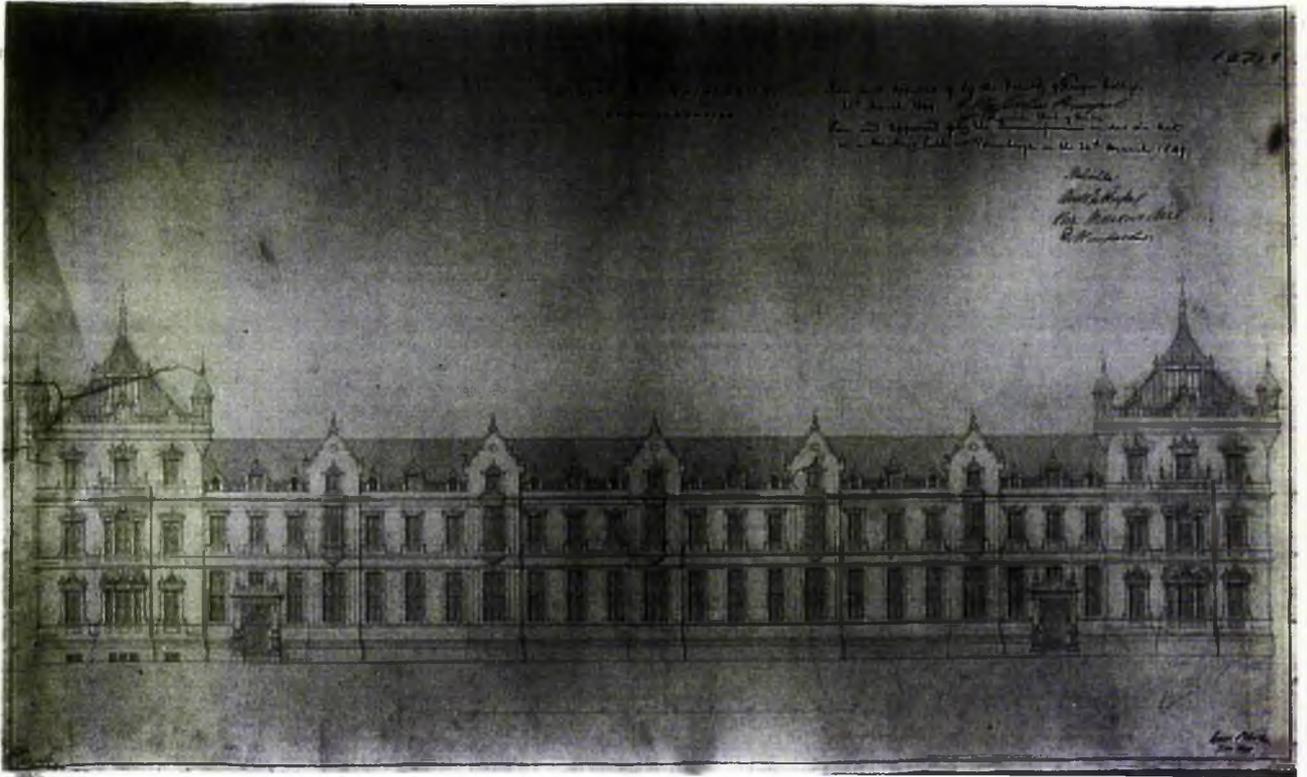


Fig.137 Glasgow University. Woodlands revised rear elevation.
E. Blore, March, 1849.



Fig. A
John Baird's Second Design
front elevation of end tower
1847.

Fig. B
John Baird's Third Design
1848.

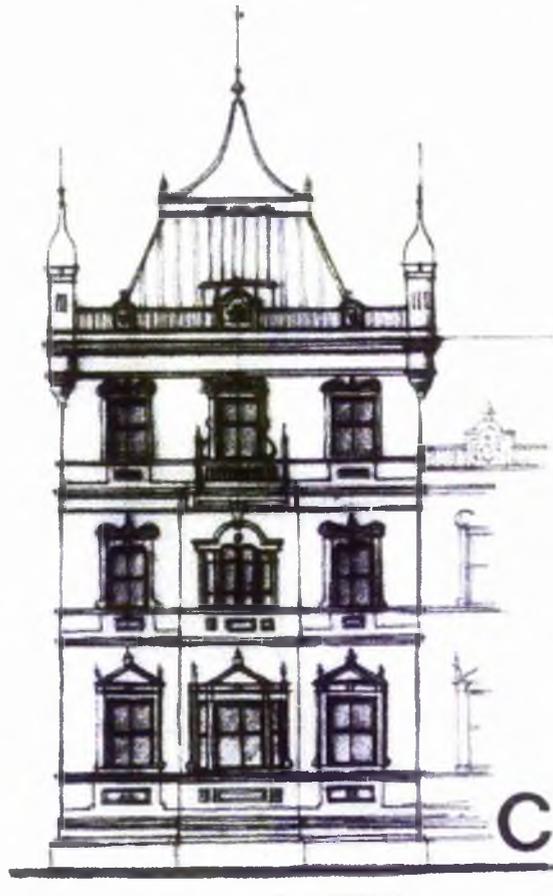


Fig. C
Edward Blore's revised
elevation of end tower 1849.

Fig.138 Glasgow University. Woodlands end towers comparative designs.
J. Baird and E. Blore.

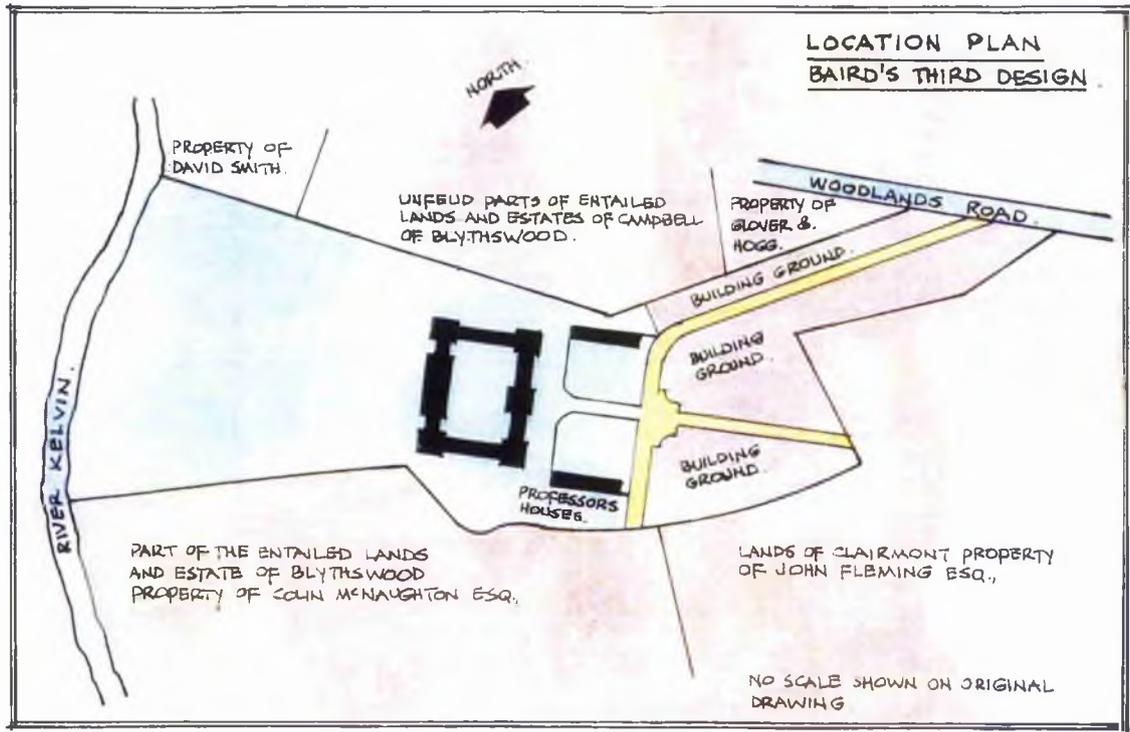
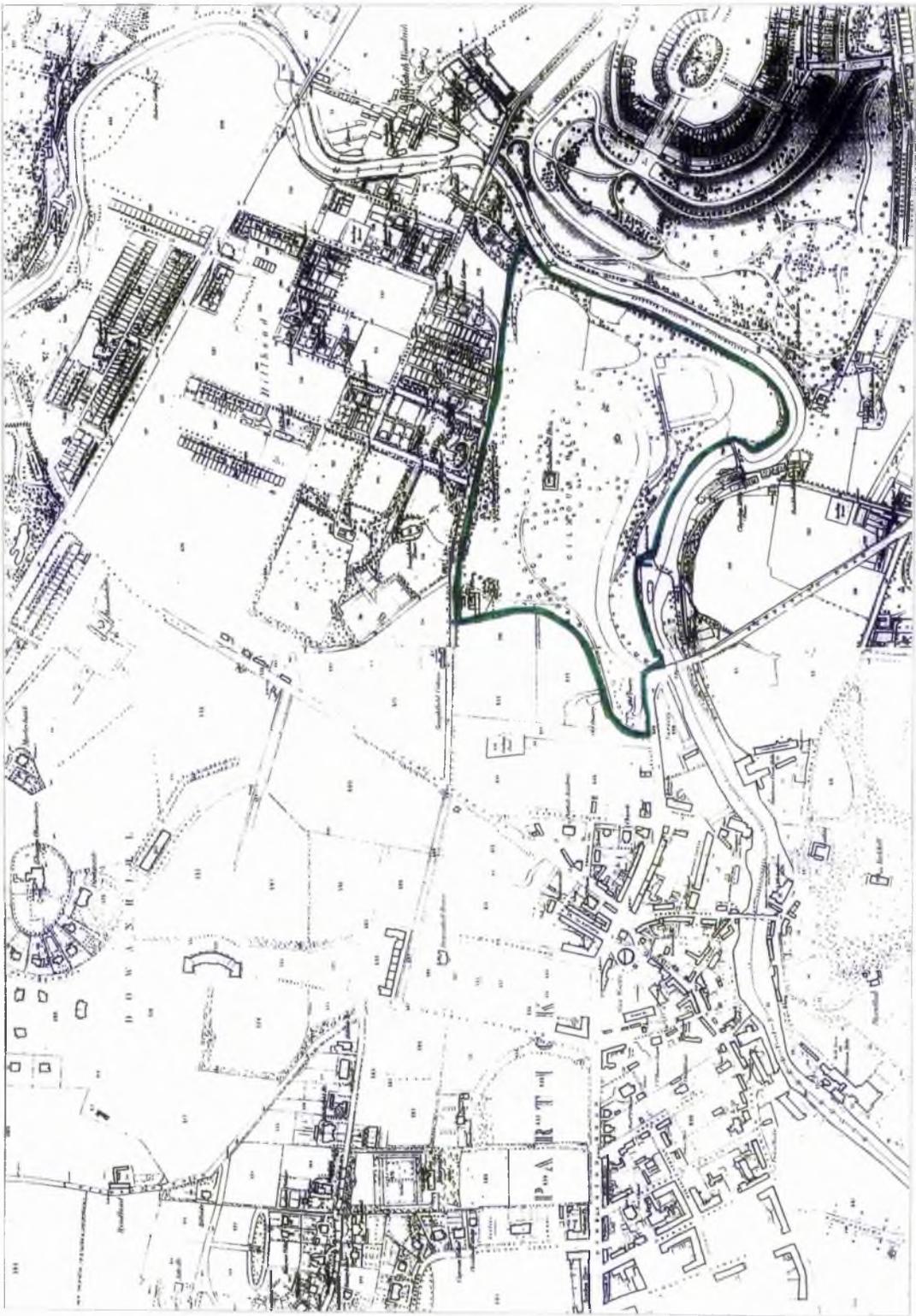


Fig.139 Glasgow University. Woodlands layout plan. J. Baird's third design August, 1847 (Plan taken from drawing GUA 12714).



Fig,140 Ordnance Survey Map of the west end of Glasgow. 1860.

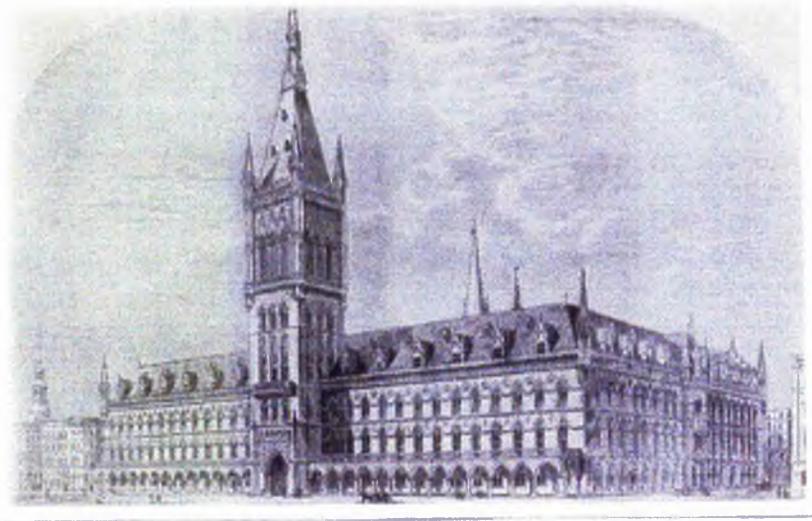


Fig.141 G.G.Scott Hamburg Rathaus prize winning design 1855
The Builder, Vol. XIV 63

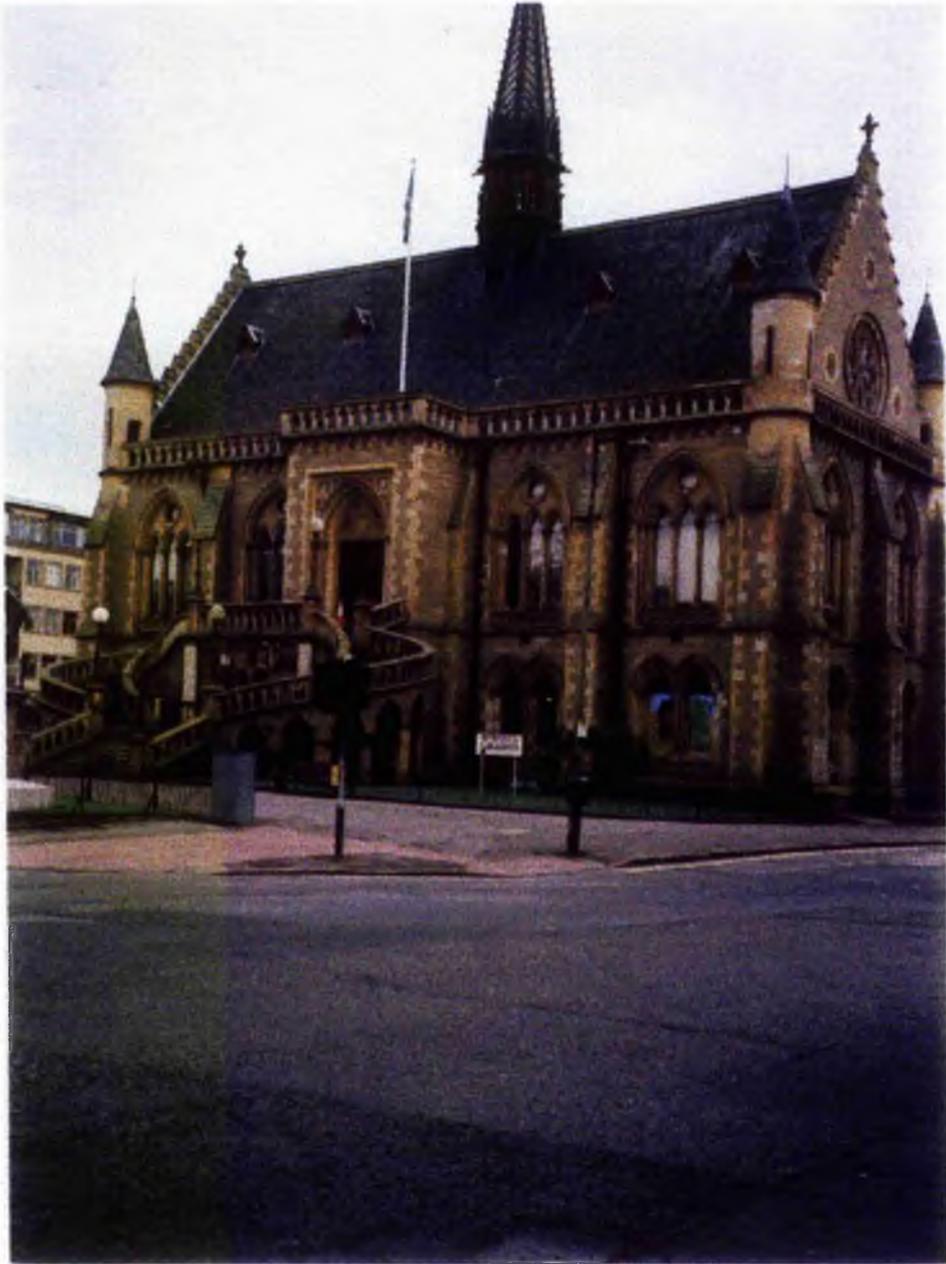


Fig. 142 Albert Institute Dundee, west pavilion as built. G.G.Scott.

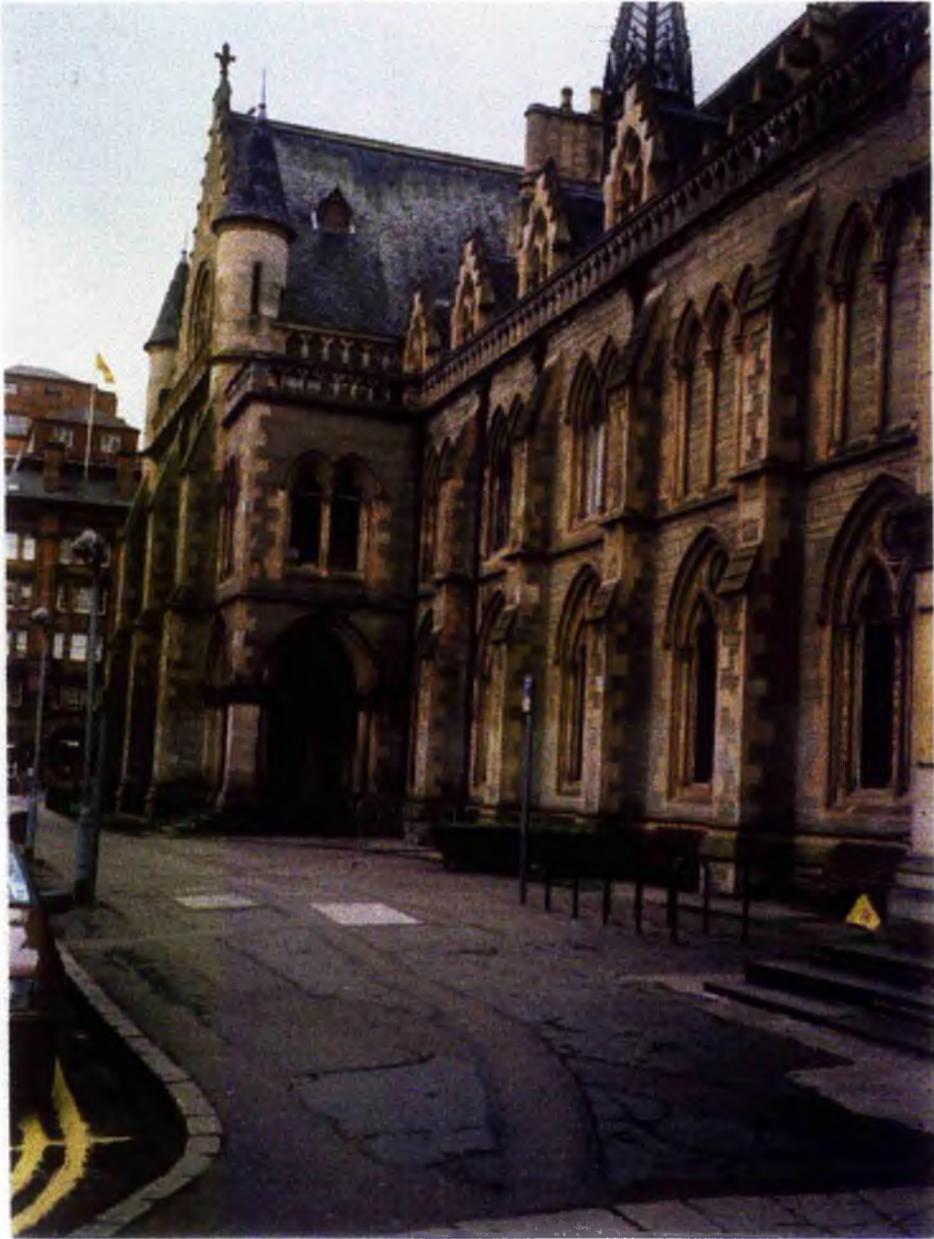


Fig. 143 Albert Institute Dundee, south elevation as built. G.G.Scott.

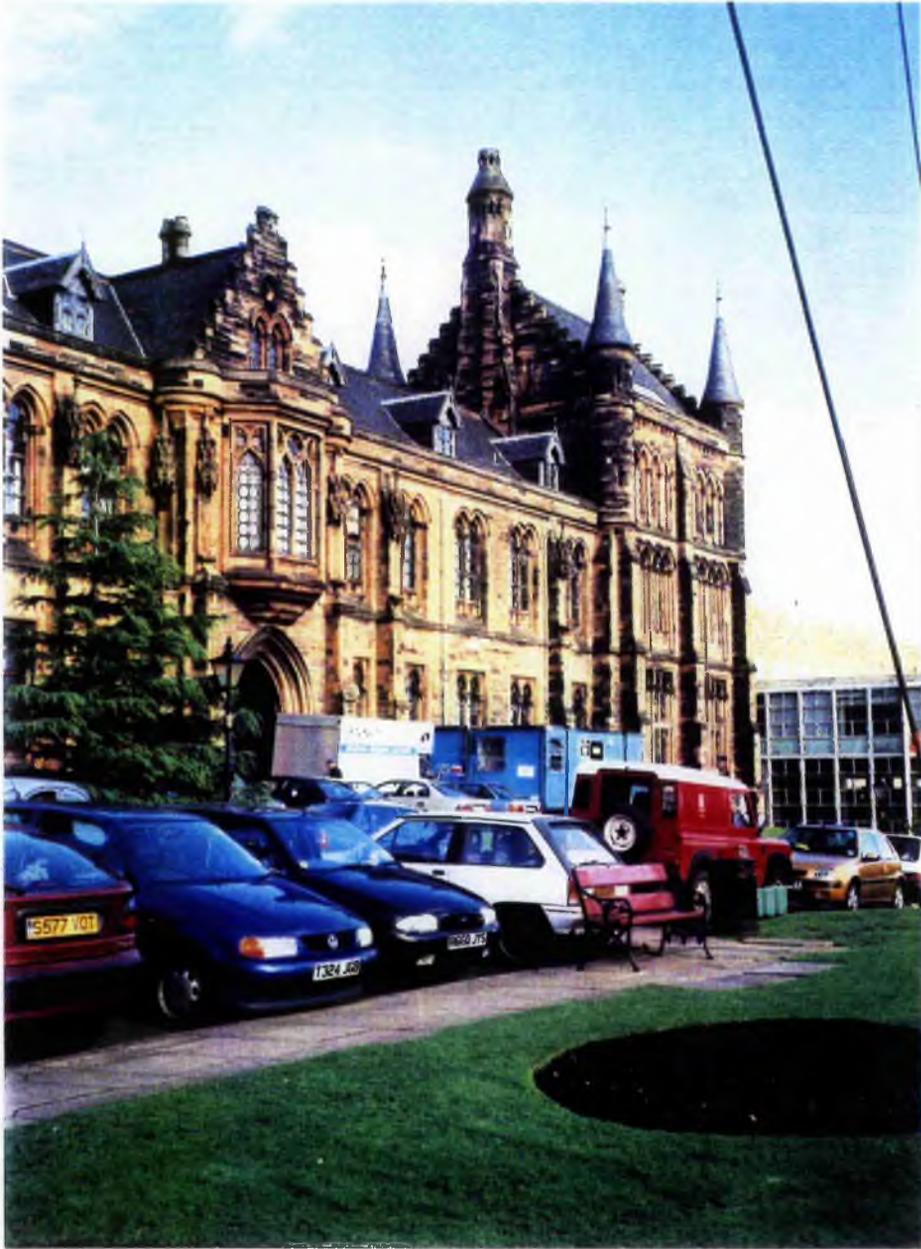


Fig.144 Glasgow University Gilmorehill. South elevation showing secondary entrances and end pavilion as built. G.G.Scott, October 1866.



Fig.145 Glasgow University Gilmorehill. Elevation of eastern quadrangle showing the influence of French Gothic Chateaux architecture, and the inner quadrangle of the Old College.



Fig. 146 Glasgow University perspective view published on 21st April 1866
The Illustrated London News. Vol. XLVIII 393

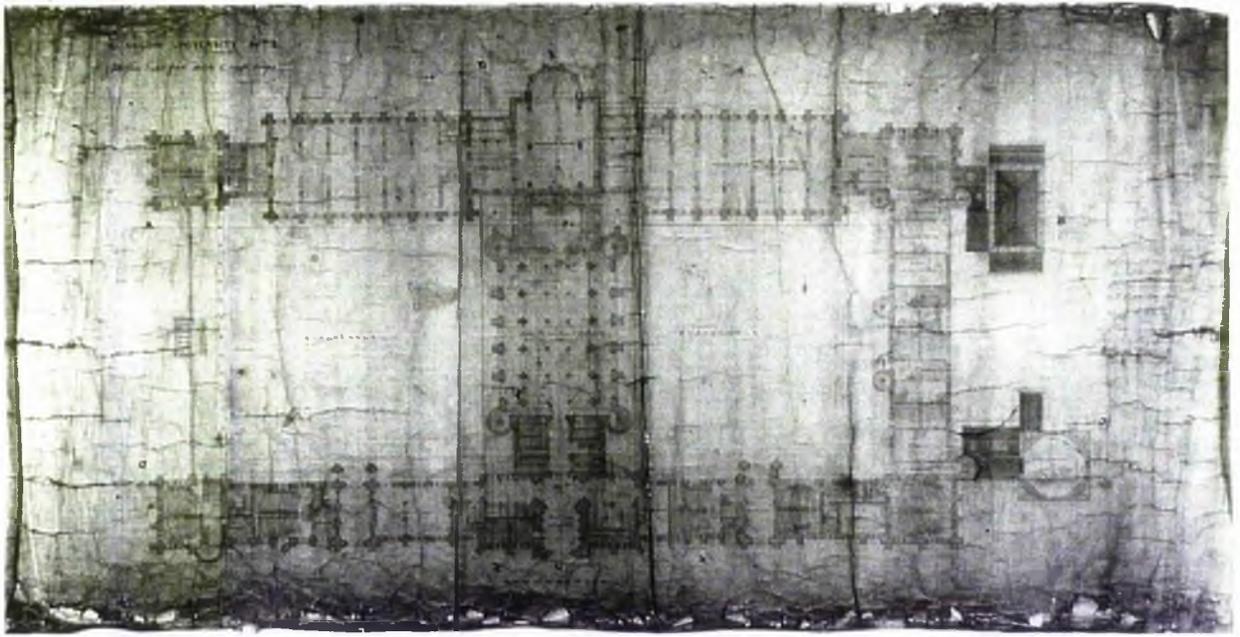


Fig.147 Glasgow University Gilmorehill. Ground floor plan.
G. G. Scott, October, 1866.

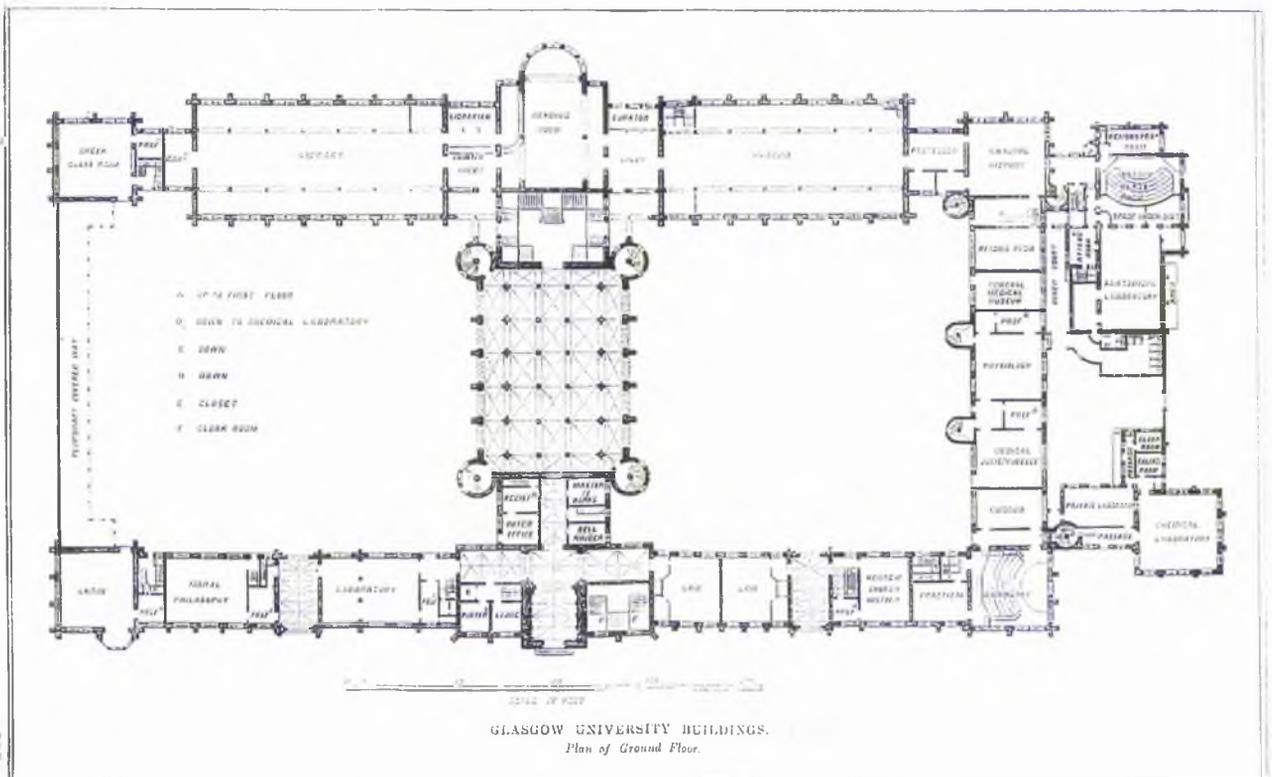


Fig.147 Glasgow University ground floor plan published 3rd December 1870
The Builder Vol. XXVIII 966

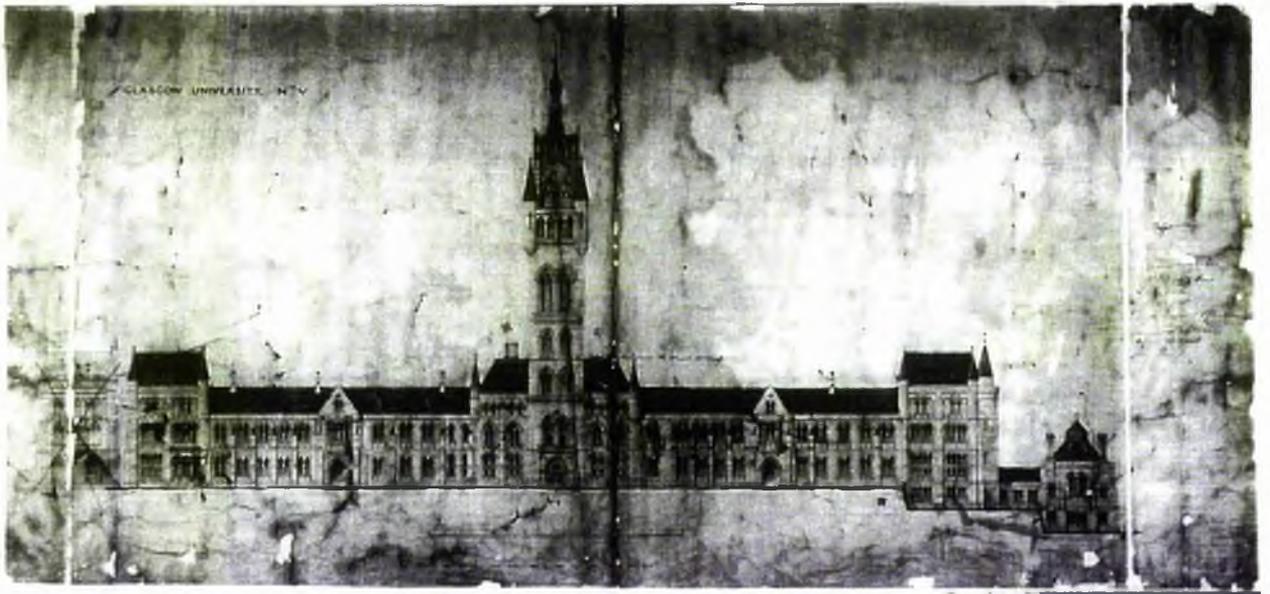


Fig.148 Glasgow University Gilmorehill. South elevation. G.G.Scott, October, 1866.

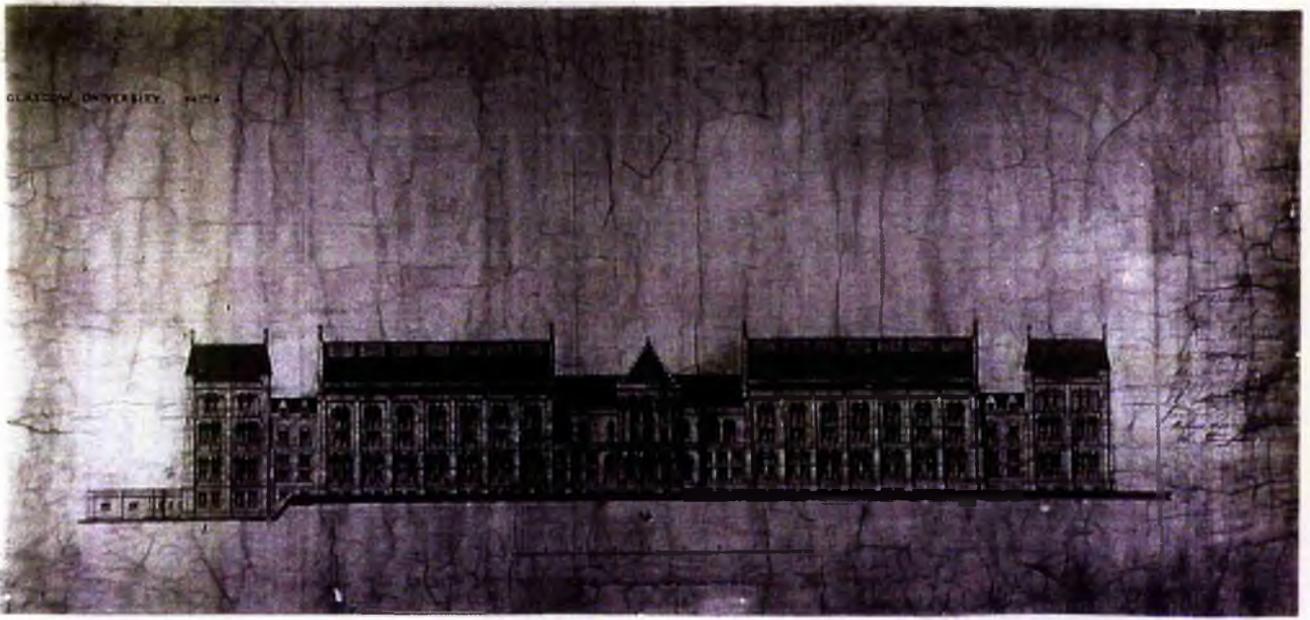


Fig.149 Glasgow University Gilmorehill. North elevation. G.G.Scott, October 1866.

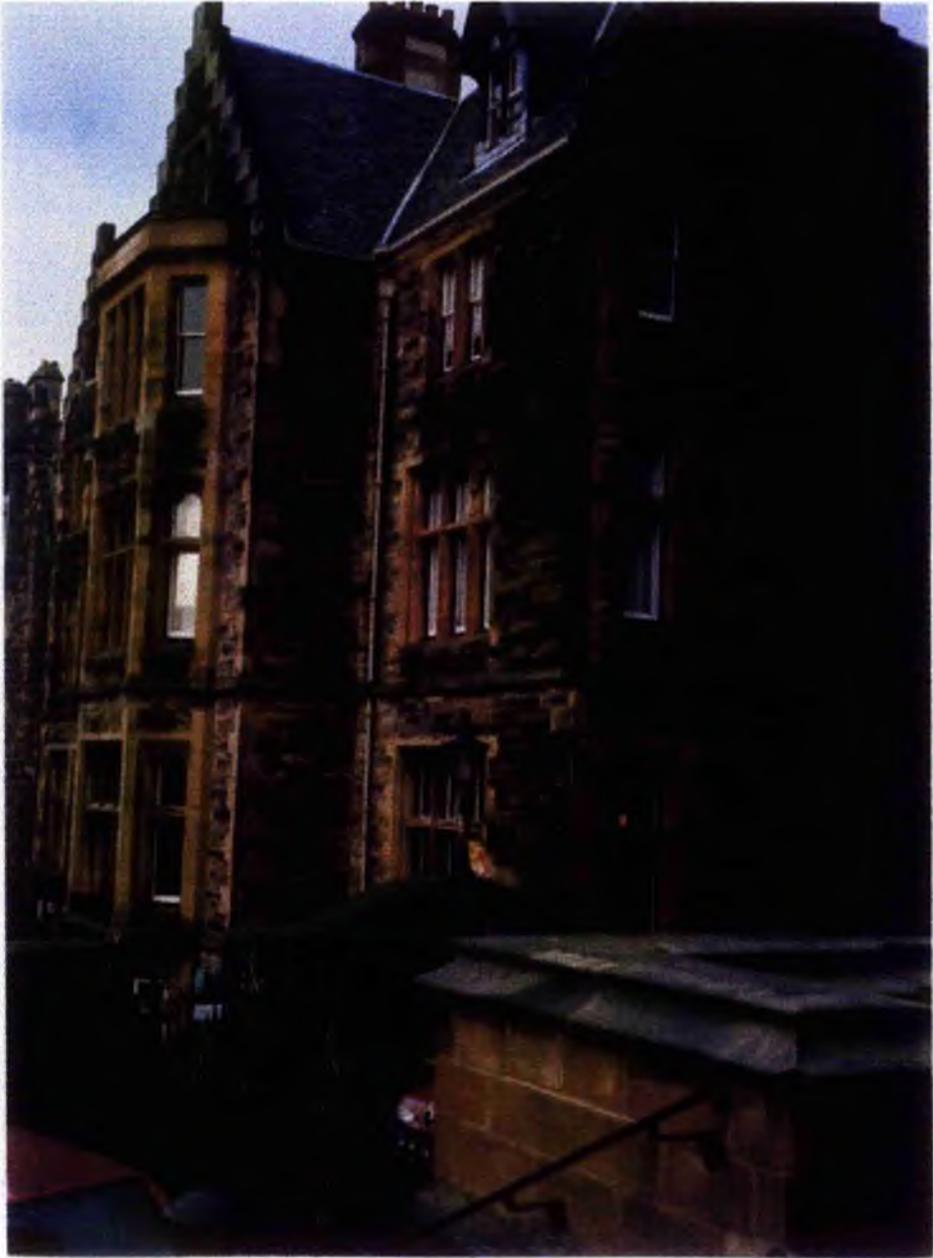


Fig.150 Glasgow University Gilmorehill. Principal's House. G.G.Scott, May 1867.



Fig.151 Glasgow University Gilmorehill. Professors' housing seven house block.
G.G.Scott, May 1867.



Fig.152 Glasgow University Gilmorehill, Professors' Court.



Fig.153 Glasgow University Gilmorehill. South elevation main entrance as built by G.G.Scott.

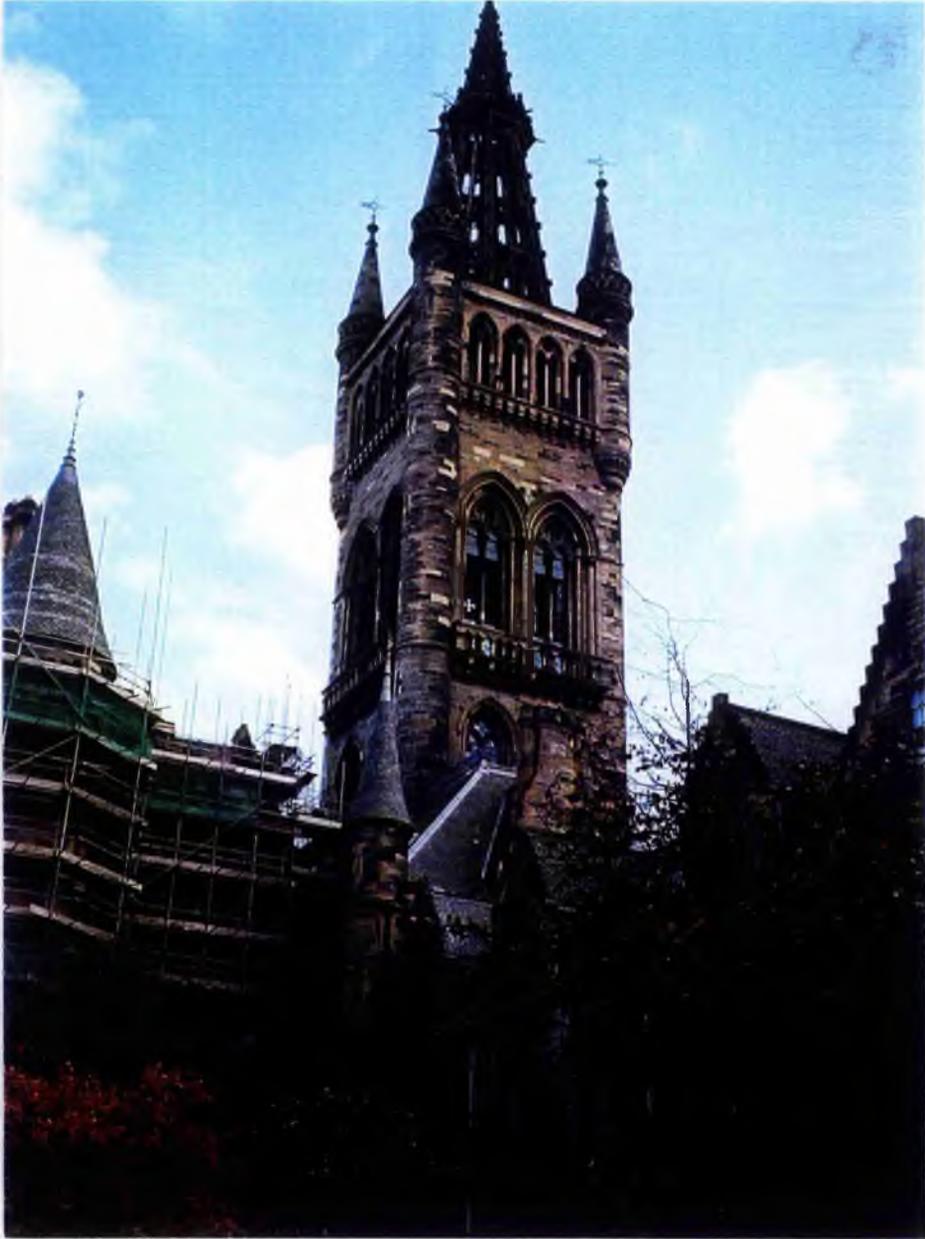
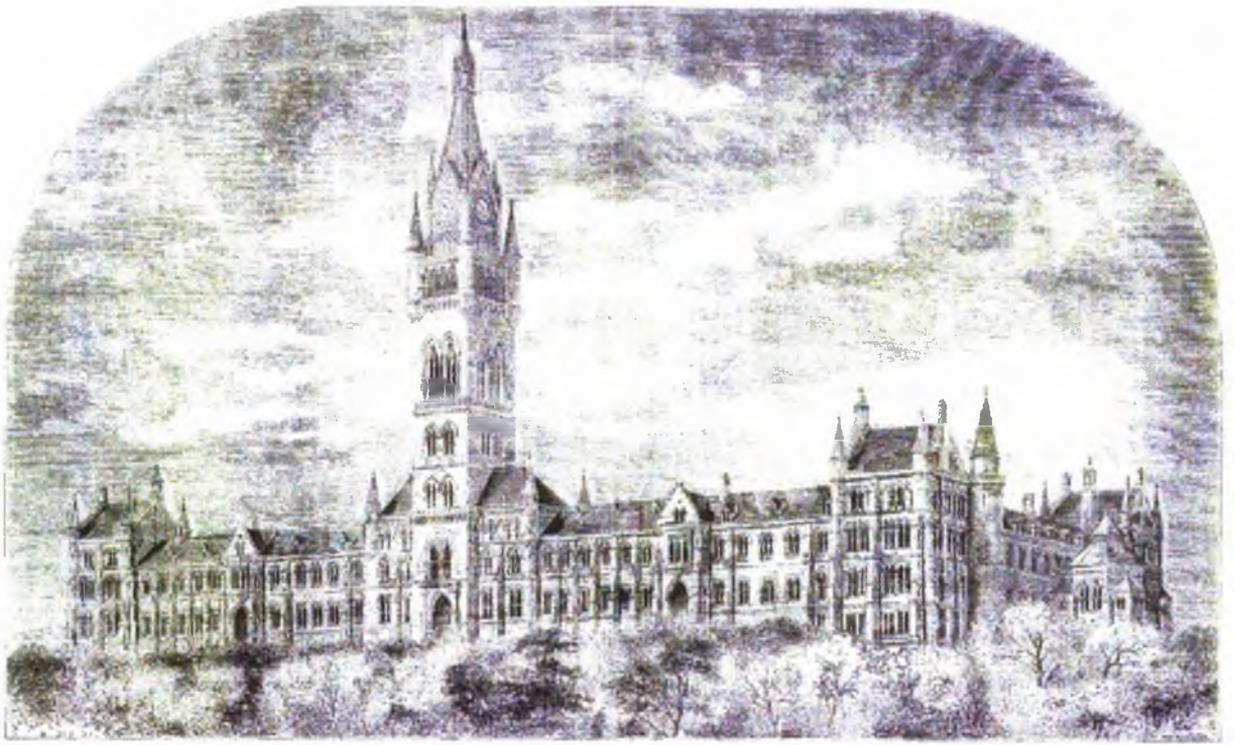


Fig.154 Glasgow University Gilmorehill. Tower with completed spire.
J. Oldrid Scott, 1887.



GLASGOW UNIVERSITY BUILDINGS — DRAWING BY G. G. SCOTT, ARCHT. & ARCHT.

Fig. 155 Glasgow University Gilmorehill. published sketch.
The Builder Vol. XXVIII 3rd December 1870.

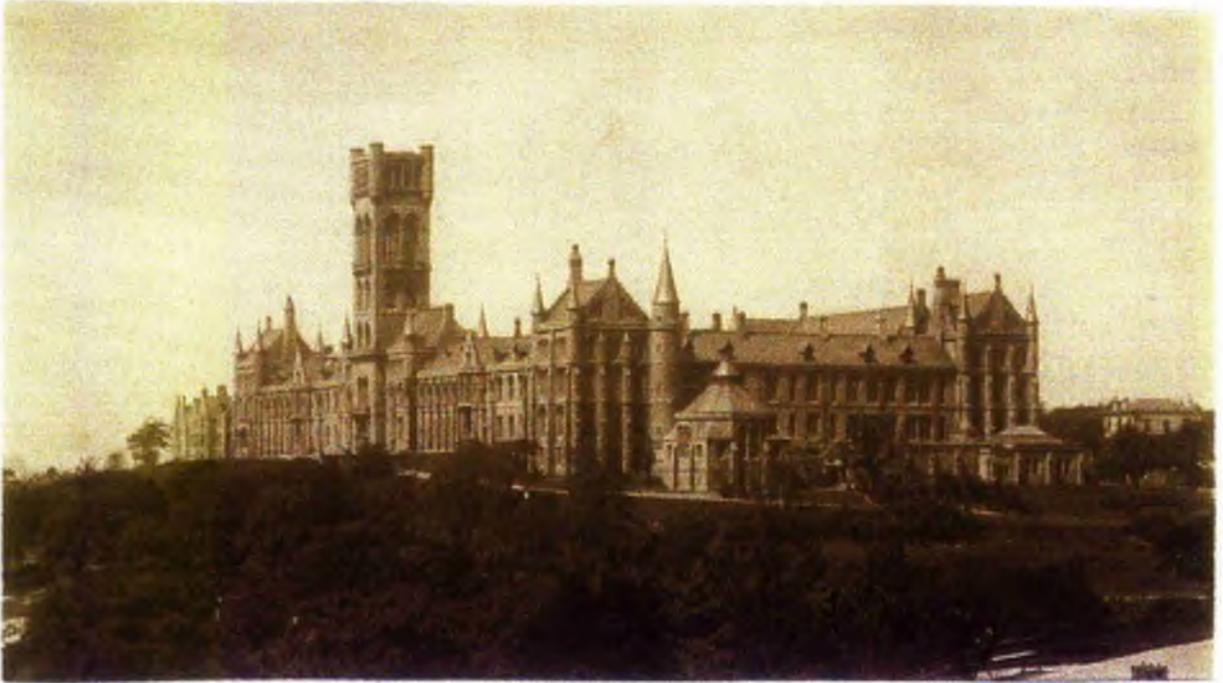


Fig.156 Glasgow University Gilmorehill. View from Kelvingrove Park showing completed Tower. (photograph c1880)



Fig.157 Glasgow University Gilmorehill. Hunterian Museum ground floor cast-iron clustered columns.

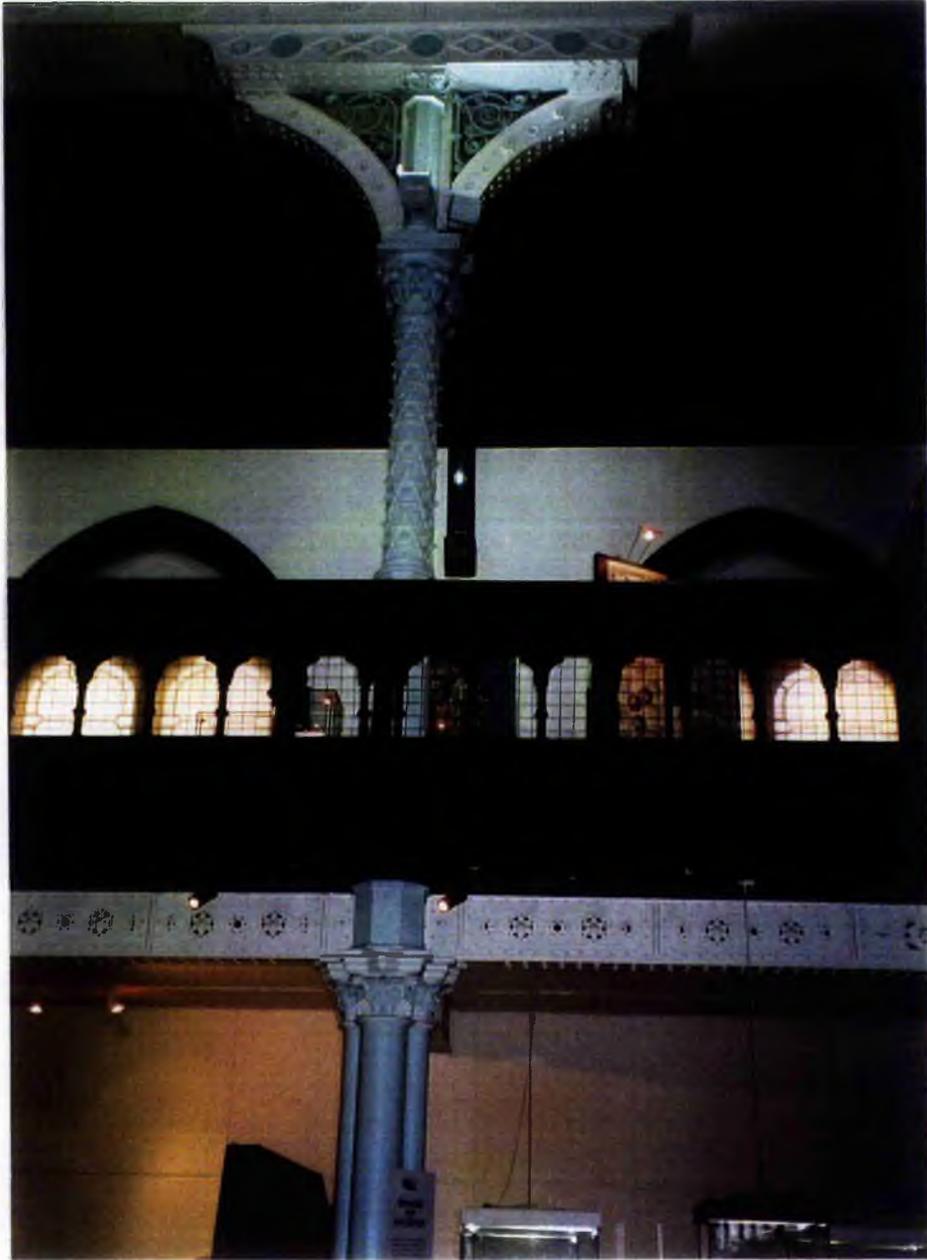


Fig.158 Glasgow University Gilmorehill. Hunterian Museum ground floor and first floor cast-iron columns.



Fig.159 Glasgow University Gilmorehill. Hunterian Museum upper gallery.



Fig.160 Glasgow University Gilmorehill. Hunterian Museum curved cast-iron beams with decorative infill



Fig.161 Glasgow University Gilmorehill. Hunterian Museum staircase with marble infill panels.

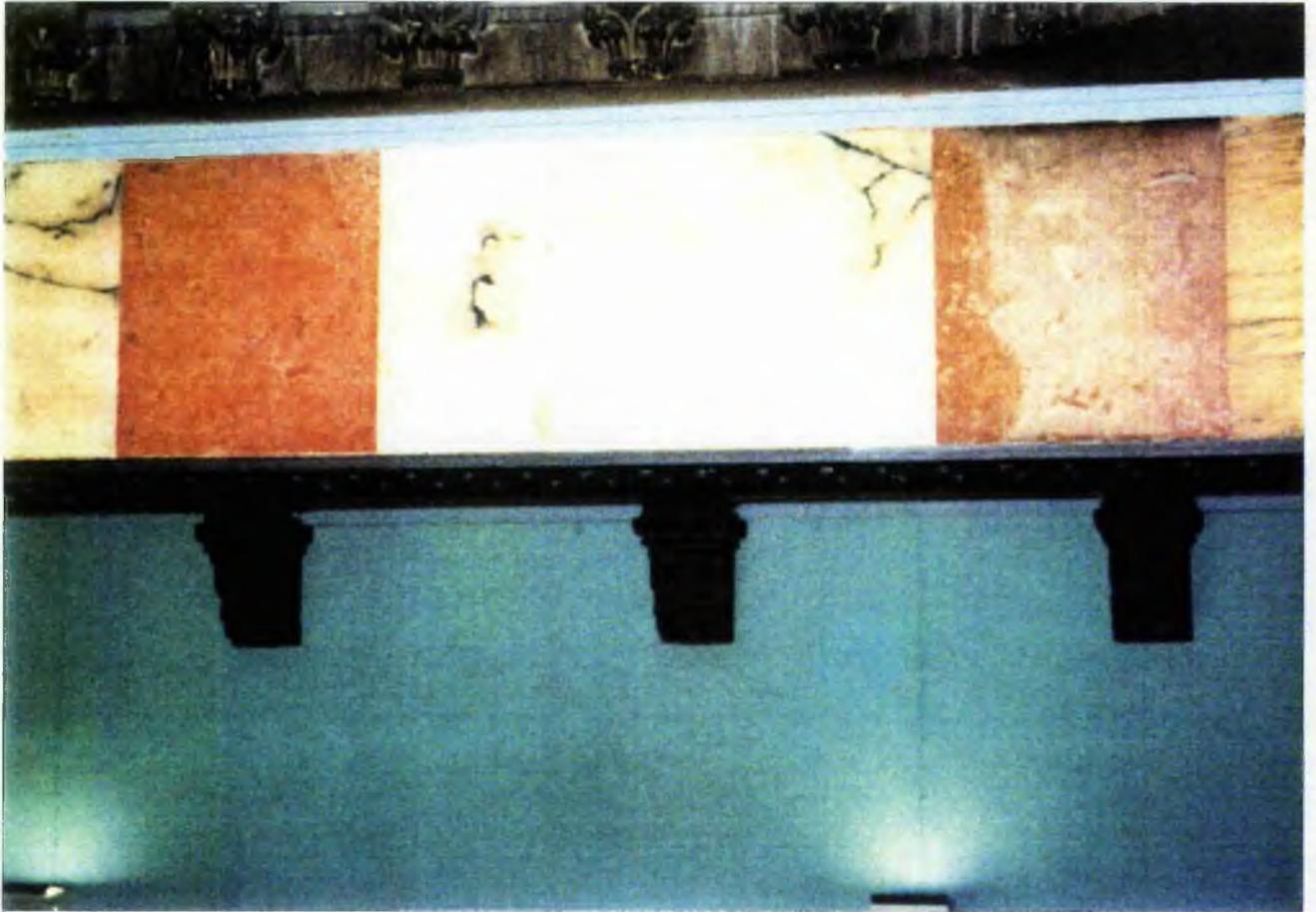


Fig.162 Glasgow University Gilmorehill. Hunterian Museum staircase, showing web of cast-iron beam infilled with marble panels at landing.



Fig.163 Glasgow University Gilmorehill. Hunterian Museum staircase, showing structural beams supporting landing.

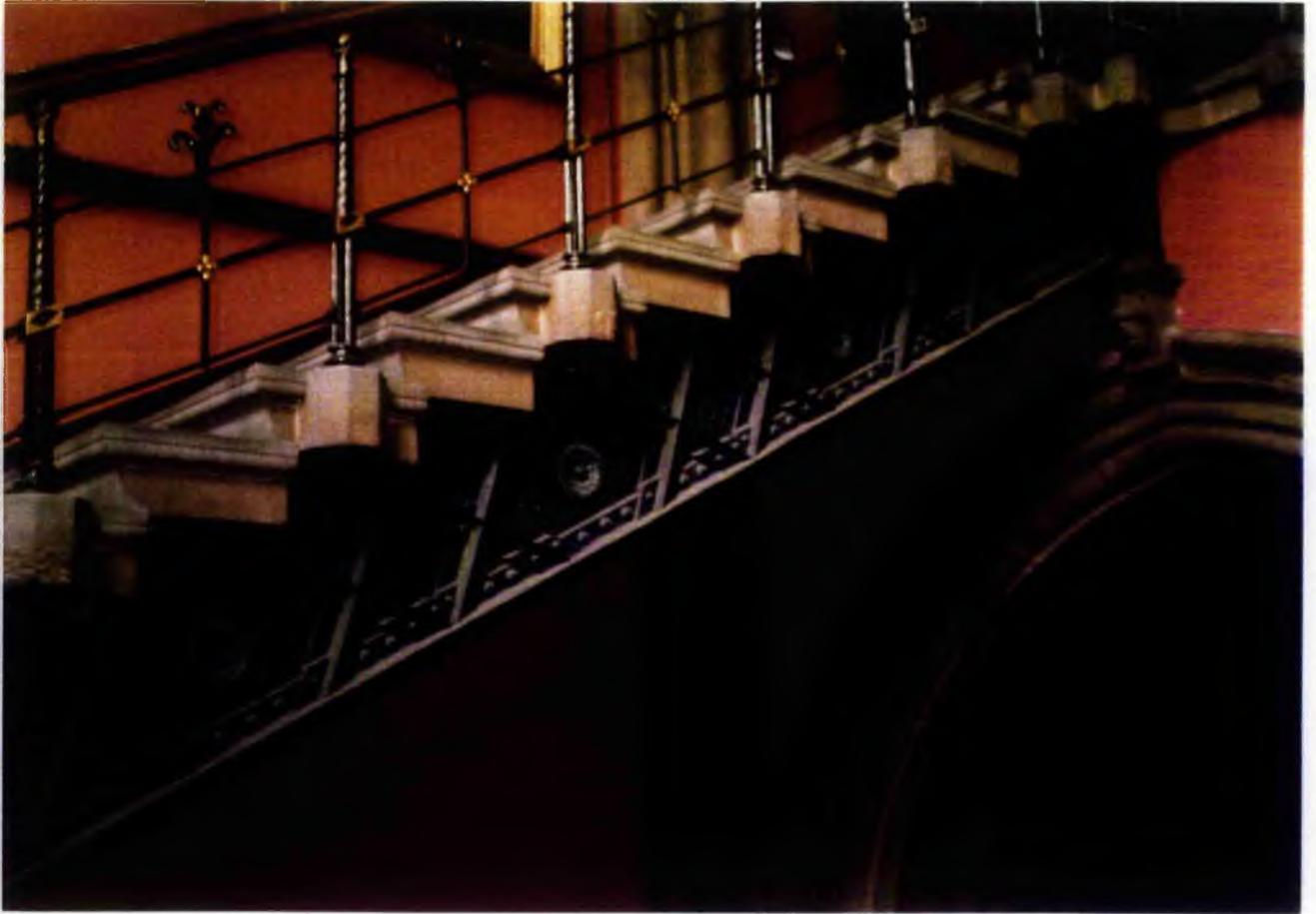


Fig.164 Glasgow University Gilmorehill. Main staircase to Randolph and Bute Halls showing exposed decorated cast-iron stringer.



Fig.165 Glasgow University Gilmorehill. Repositioned Lion and Unicorn staircase.



Fig.166 Glasgow University Gilmorehill. Undercroft under the Bute Hall.



Fig.167 Glasgow University Gilmorehill. Bute Hall west elevation.

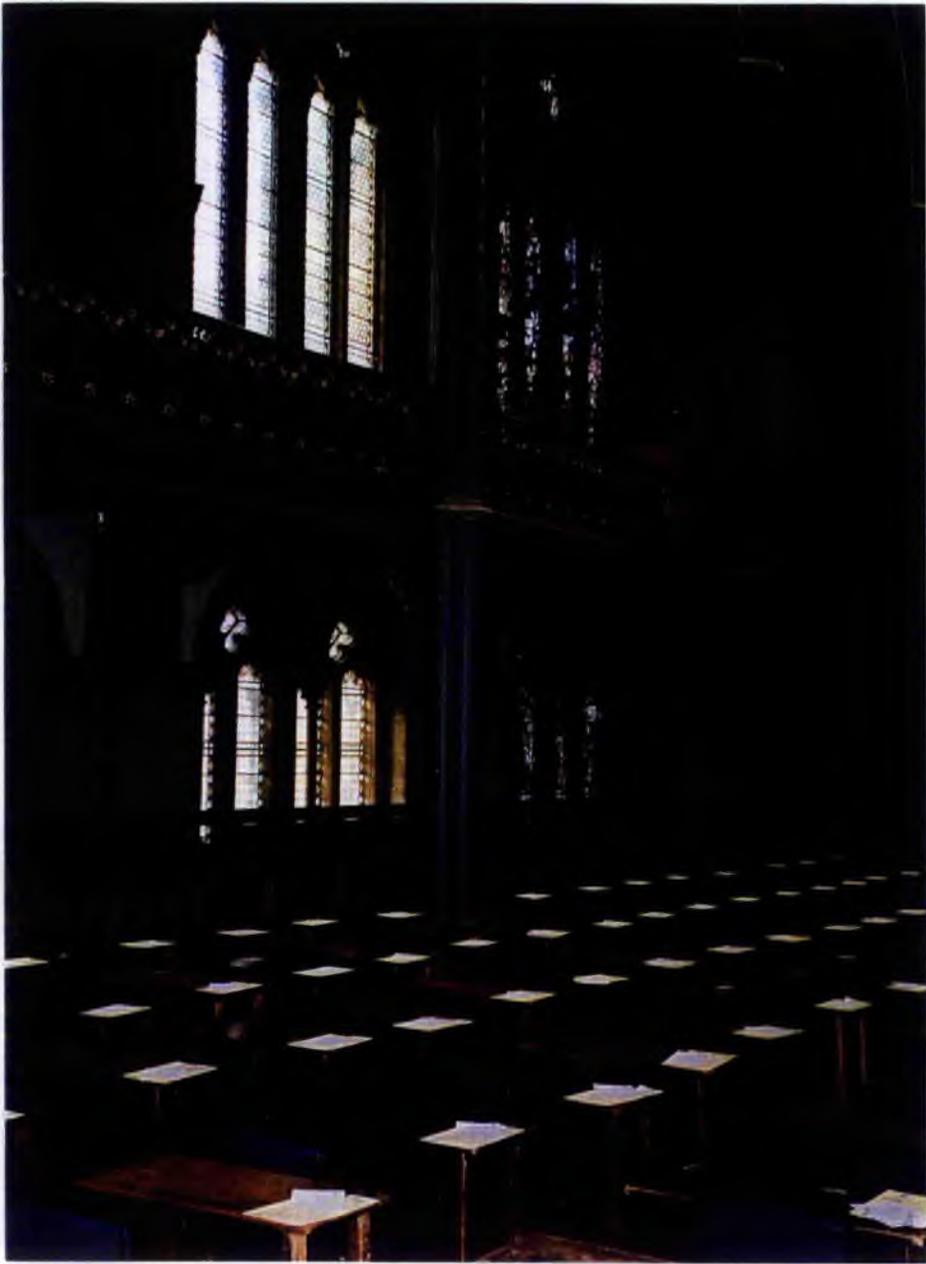


Fig.168 Glasgow University Gilmorehill. Bute Hall internal view showing columns.

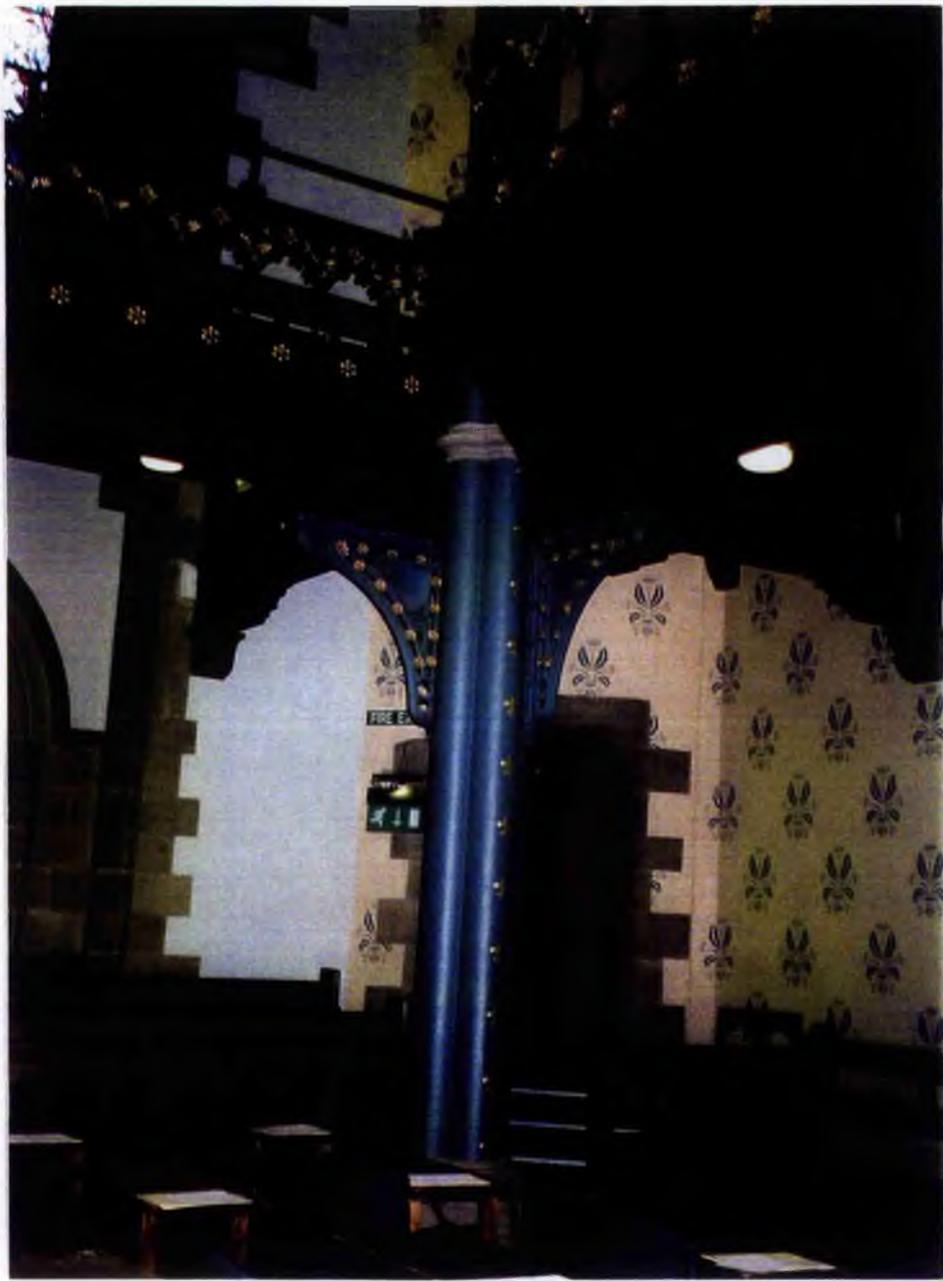


Fig.169 Glasgow University Gilmorehill. Bute Hall showing detail of curved cast-iron brackets.

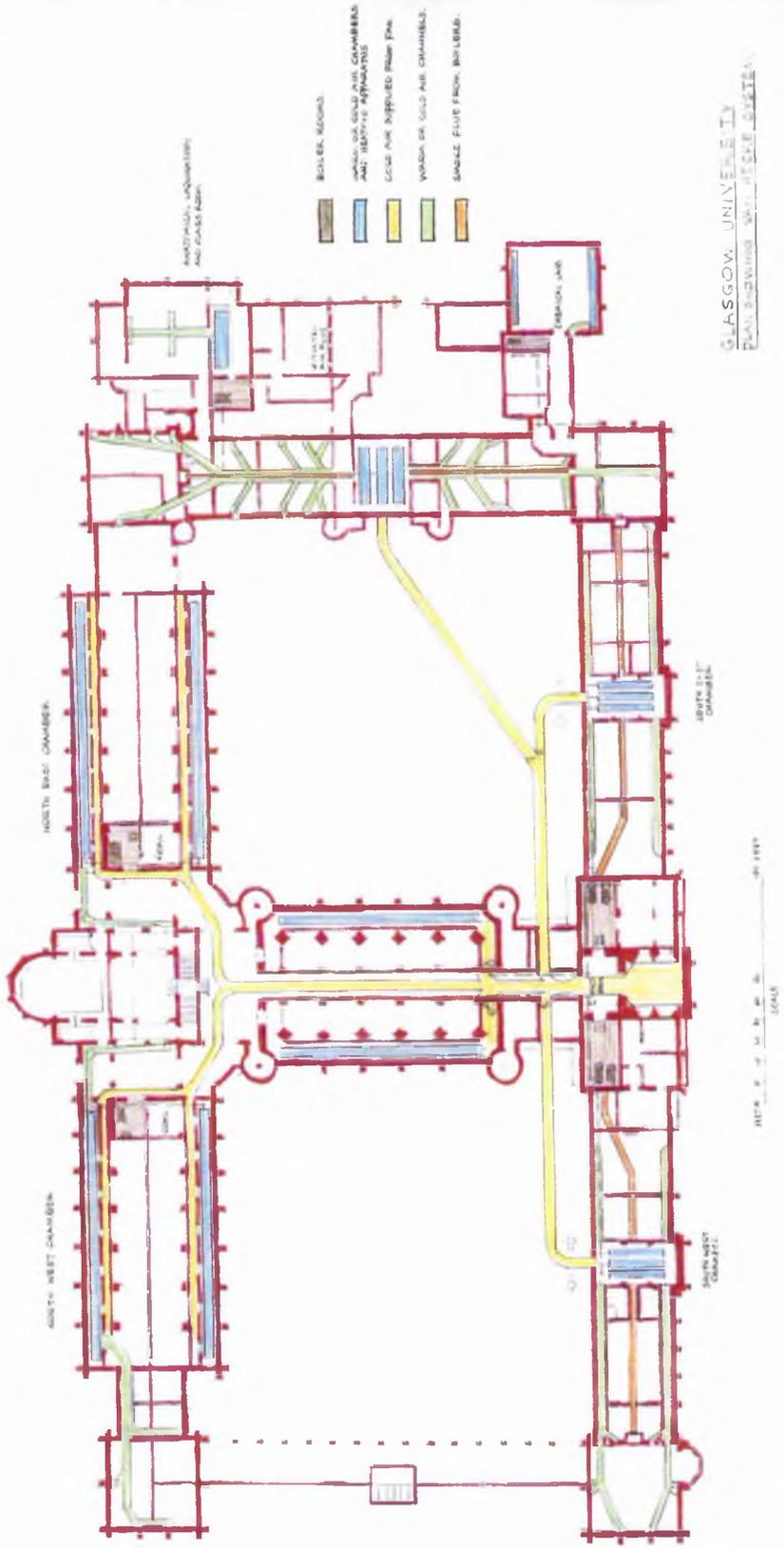


Fig.170 Glasgow University Gilmorehill. Plan of Van Hecke heating and ventilation system.

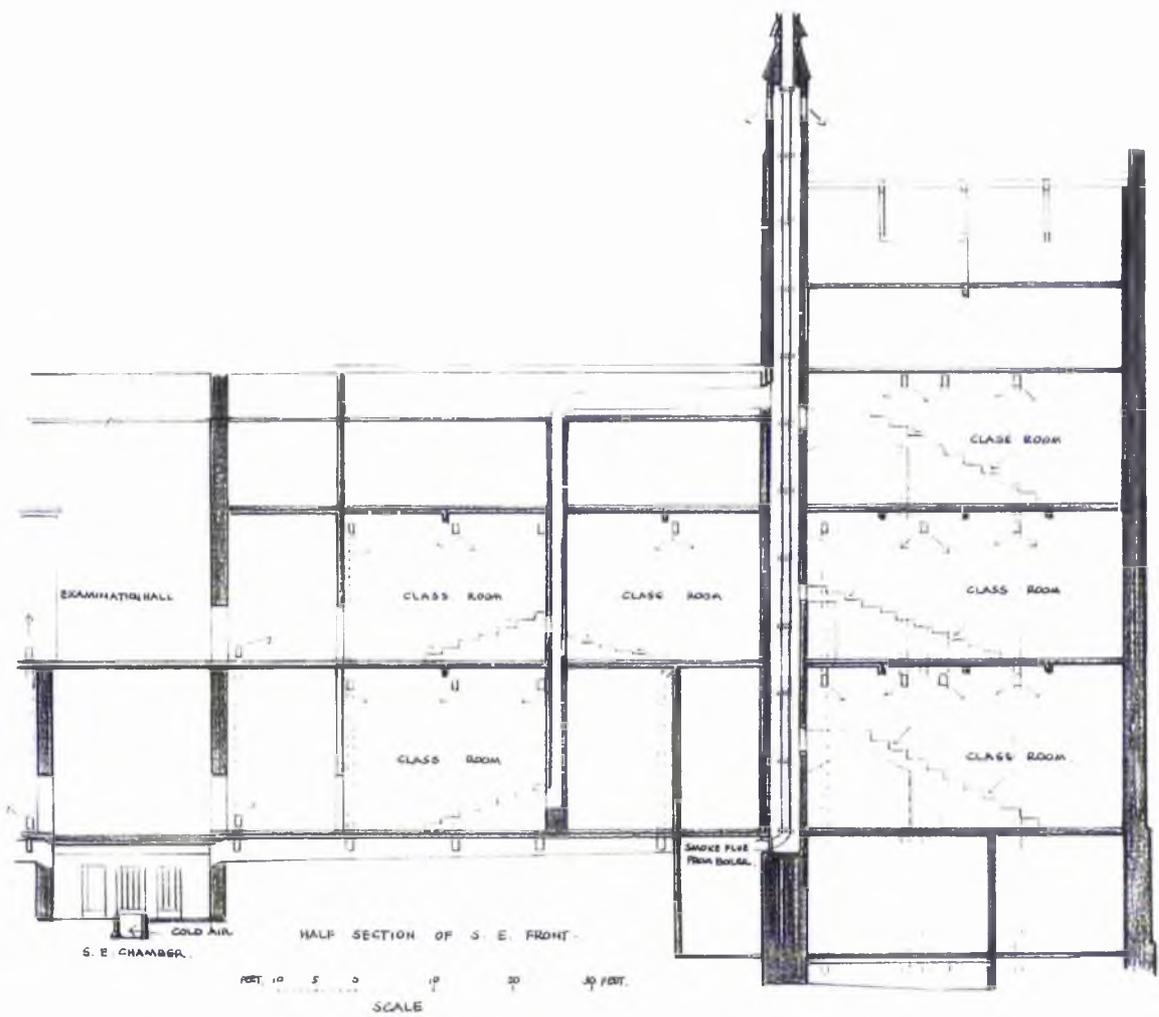


Fig.171 Glasgow University Gilmorehill. Section through S.E. front of building showing heating and ventilation ducts.

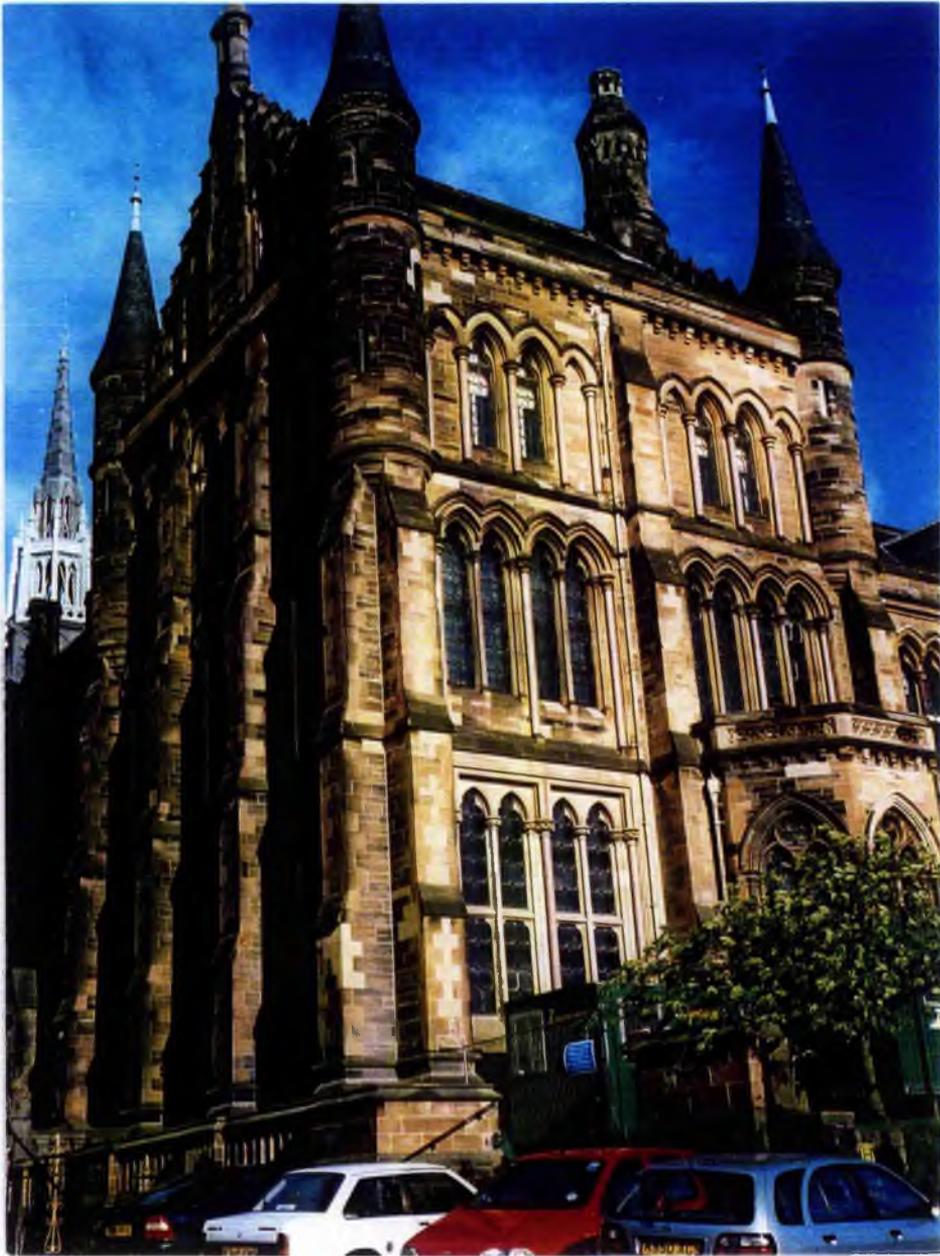


Fig.172 Glasgow University Gilmorehill. S.W. end pavilion note smoke extract flue chimney.