

The Finances of the University of Glasgow Before 1914

PAUL L. ROBERTSON

THE SCANT SUPPORT which the British government gave to English universities in the nineteenth century is well known. As late as 1900, only £25,000 in exchequer funds went to universities and university colleges in England, which were allotted grants ranging from £500 to £1,800 each per year. Although there were significant increases in later years, it was not until the interwar period that large-scale government financing was undertaken. (1) Unfortunately, in this as in other branches of history, there has been a tendency to identify "English" with "British", (2) thereby obscuring the far greater aid which was given to the four ancient Scottish universities over the same period.

From the passage of the Universities (Scotland) Act of 1889, an annual grant of £42,000 was divided amongst the Scottish universities, and this sum had more than doubled by 1910-11. In 1900, annual per capita governmental expenditures on higher education were around twelve times as great in Scotland as in England. (3) Moreover, in the course of the century the government was able to build on a tradition of involvement in university affairs to enforce administrative reorganization and the updating of curricula. Under the aegis of Royal Commissions, aided by judicious allocations of government funds, institutions which were still medieval in many aspects as late as 1858 were by 1914 transformed into modern universities offering a broad range of scientific and technical courses as well as the philosophical options which had traditionally formed the basis of higher education in Scotland.

In this article the financial evolution of the University of Glasgow is traced against the background of the development of the West of Scotland. Particular emphasis is placed on the role of the government

Mr. Robertson teaches in the Department of Economic History, University of Melbourne.

in shaping a university suited to the needs of an urbanized center of heavy industry.

I

In 1451, at the request of Bishop William Turnbull, Pope Nicholas V issued a Bull establishing a *studium generale* at Glasgow, comprising theology, canon and civil law, the arts, and any other lawful faculty. Turnbull's motives in seeking the Bull are unclear and may have extended no further than a desire to save boys in the West of Scotland the long and dangerous journey to St. Andrews, until then Scotland's only university. (4) It is certain, however, that Glasgow was in no way suitable to become the seat of a great university such as Bologna, Paris, or Cologne, after whose constitutions Glasgow's was modelled. At the time Glasgow was a village of perhaps 1,500 souls, isolated from the rest of Scotland and unlikely to attract an international student body to the northwest periphery of Europe. There was a shortage of suitable teachers of civil law and medicine in Scotland, and the Church tended to monopolize the teaching of divinity and canon law. Although the last two subjects were attempted for a while, by the middle of the sixteenth century the University appears to have restricted itself to instruction in the arts to a small number of adolescent "boyes". (5)

Turnbull had not provided for an adequate endowment before his death in 1454 and the financial situation of the University was difficult for many years. A few chaplainries were obtained but their revenues were difficult to secure and were often, at least in part, vested in the Faculty of Arts rather than the University. Furthermore, student fees were frequently paid directly to the teachers and officials, a condition which was to persist until 1889. As a result, in the years 1484-90 the University's revenues seem to have averaged only about £3 Scots per annum. Even taking into account changes in the value of money owing to inflation and debasement, the situation was hardly opulent. (6)

After 1550 the picture slowly brightened. A number of private and royal gifts improved the finances in the years immediately following the Reformation. Although these were again difficult to secure and collect, in 1577 the Crown felt justified in imposing a new constitution, the *Nova Erectio* which endured, only slightly altered, until 1858. At the beginning of the seventeenth century gifts began to flow in towards the construction of a new building. In 1617, a former student bequeathed £500 sterling and two years later a former regent (teacher) left M.1000. After 1630 subscriptions for the building poured in, including large gifts from local officials, the town councils of Glasgow, Stirling, Ayr and Irvine, and from numerous important landowners.

£200 sterling which King Charles had promised in 1633 was finally paid by Cromwell in 1654. Construction began in 1631. (7)

The 1630's and 1640's were also a period of transformation of the ordinary revenues and of notable expansion of the curriculum. In response to a Royal inquiry, the University contended in 1639 that total revenues came to £4,416 3s. 11d. Scots, and necessary expenditures to £5,103 11s. 9d., leaving an annual deficit of £687 7s. 10d. Scots. Two years later, as part of a move to console the rebellious Scots, Charles granted lands worth £344 8s. 4d. sterling (£4,133 Scots) to the University. In that year, before the grant, revenues had come to only £470 11s. 10d. (£5,647 Scots), so that extra funds were made available to pay for a diversification program which had already begun. A Professor of Medicine had been appointed in 1637, and two Professors of Theology were added in 1640 and 1642. (The Principal was also charged with the teaching of divinity in addition to his administrative duties.) (8)

Except in matters of theology, by the late seventeenth century external control over the University had passed largely from the Church to the Crown. Although the Crown had earlier granted Royal charters and exercised loose supervision over finances, before the Reformation the Bishops and Archbishops of Glasgow were the natural leaders not only of the University, but of the burgh itself. After 1560, in those periods when there was an Archbishop, he frequently held the position of University Chancellor, as his Roman Catholic predecessors had as a matter of course. Once the Scottish Kirk had at last triumphed in its long battle against episcopal organization, the Crown became the principal patron, though the Kirk retained a strong interest in education. (9)

In 1696 the University reported a total indebtedness of £22,467 10s. Scots, the interest on which (at six per cent) constituted a crippling obligation since total revenues at the time were only about £12,000 Scots. Shortly afterwards, however, the University was granted a "tack" (lease) on the revenues which had previously accrued to the Archbishopric of Glasgow. Originally granted for 19 years, the tack was renewed with modifications down until 1825 when it was producing about £1,400 annually. (10)

The economic development of the West of Scotland accelerated in the eighteenth century. Following the Act of Union with England (1707), Scottish merchants were for the first time free to engage legally in the highly-profitable commerce with the colonies, and in the second half of the century Glasgow and other towns along the Clyde thrived on the basis of the Chesapeake and West Indian trades. In the 1780's the foundations were laid for a cotton textile sector which marked the beginnings of large-scale mechanization in the region. The population of Glasgow increased from an estimated 12,776 in 1708 to 83,769 by

the Census of 1801. (11) This was also the period of the Scottish Enlightenment in which local scholars rose to European eminence. Joseph Black held Chairs in Anatomy and Medicine from 1756 to 1766; the Chair of Moral Philosophy was held by Francis Hutcheson from 1730 to 1746, and from 1752 to 1764 by Adam Smith who was also Rector in the years 1787-9; and James Watt began his work on the steam engine while serving as “mathematical instrument maker” to the University.

As a result of the growth of the community and its own improved reputation, the University was able to attract an enrollment of nearly a thousand students by 1800, despite an erratic fiscal record. In 1707 Queen Anne had ratified King William’s grant of £300 per annum from the revenues of the Bishop, and in the following year she gave another £210 to increase salaries of the existing professors and to endow new chairs. In 1716 King George I gave £100 per annum for a Chair of Ecclesiastical History and an additional £70 to augment the salaries of some of the more poorly-paid professors. By the 1780s, however, the University’s finances were in disarray. Despite the objections of certain members of the faculty, Matthew Morthland, an incompetent and perhaps dishonest factor, was left to oversee the accounts with the full support of the Principal. When Morthland resigned in 1785 it was found that he owed £3,300 to the College and over £1,000 to various mortifications. He died bankrupt a few years later and the University was unable to recover any funds until after the death of his widow. (12)

The benefactions of the Crown were of great importance to the development of the University in the eighteenth century. Between 1713 and 1760 the Crown endowed five new chairs—in the Practice of Medicine (1713), Civil Law (1713), Ecclesiastical History (1716), Anatomy and Botany (1718), and Astronomy (1760)—bringing the total number of chairs to thirteen. Other universities, of course, benefited from similar endowments. At the beginning of the nineteenth century, for instance, six of the nineteen chairs at Oxford were Regius foundations. (13) The crucial distinction is that, although the professoriate were almost superfluous to the system of education at Oxford and many chairholders there neglected even to lecture, at Glasgow the professors were almost the entire teaching staff. Moreover, the new chairs at Glasgow allowed the University to branch out from the traditional arts curriculum of classical languages and philosophy to provide professional instruction in medicine and law. The development of the modern multi-faculty University dates from this period.

Despite their obvious importance, the Regius professorships were to become a point of contention between the University and the Crown in the first half of the nineteenth century. In an attempt to correct abuses, the Commissioners of 1726-7 had issued new rules

regulating the governance of the University. A new body, the "Faculty", was created to manage the "College". The Faculty consisted of the Principal and professors. The "University", however, was governed by a "Senate" comprising the Rector and the Dean in addition to the members of the Faculty. The distinction would have been of little importance outside of University politics had most of the revenues not been vested in the College. After 1800 the University Senate had control over only about £1,500 a year, as compared to over £9,000 which was administered by the Faculty of the College. In 1807 the Faculty took umbrage because the Crown had appointed the incumbent of the newly-created Chair of Natural History to be Keeper of the Museum as well. The Faculty asserted that the crown had no right to appoint a Keeper and, in retaliation, excluded the holders of the Chair of Natural History (and of other chairs subsequently created by the crown) from their ranks. Hence these professors had no claims on the resources of the College and had to rely on the much smaller revenues of the University. As the Crown endowments were inadequate, there was understandable bitterness. Some chairs carried no salaries at all, although small allowances were made after 1839; only the thirteen professors of the College were entitled to free houses; and it was alleged that the Regius professors were denied classrooms. It was not until 1858 that the absurd anomaly was removed by the statutory merger of the College and the University. (14)

II

Detailed financial statements for Glasgow College are available beginning with the "crop" of 1784. At that time the University's revenues were divided into four categories. The Ordinary Revenue consisted of mortifications granted to the University under the *Nova Erectio* and subsequent charters. It was comprised largely of teinds (tithes) on various parishes and fluctuated with the price of grain. The second category was the Archbishopric Revenues which, as noted earlier, were granted originally in 1696 and subsequently renewed for periods of nineteen years. The third was the Revenues of the Subdeanery of Glasgow (the parishes of Monkland and Calder) which were first obtained in 1670. These were devoted to the support of the Professor of Divinity and of several parish ministers. Finally there were Supplementary Revenues which were for the most part derived from increases (or "profits") in the revenues of the other three classes beyond what had been garnered when the grants were originally made. The College expenditures were more diverse. The largest sums went to the salaries of the Principal, professors, and lecturers, the maintenance of and additions to College property, and other general operating expenses. The ministerial stipends

Table I
Average Annual Receipts and Disbursements of the College of Glasgow, 1784-1824

Years	Receipts			Disbursements						Total ^b
	Annual Revenue	Other ^a	Total Receipts	Principal's & Professors' Salaries	Lecturers' Salaries	Ministers' Stipends	Repairs and Improvements	New Building and Additions		
	£	£	£	£	£	£	£	£	£	
1784-1790	4,373	1,398	5,771	1,330	61	584	296	—	5,336	
1791-1797	5,116	836	5,951	1,760	98	811	217	292	6,165	
1798-1804	6,704	748	7,452	2,859	122	1,122	340	—	7,588	
1805-1811	7,491	2,677	10,168	3,035	128	935	483	1,307	9,388	
1812-1818	8,864	1,675	10,538	3,819	161	1,006	374	—	10,673	
1819-1824	9,122	4,151	13,273	4,004	145	966	935	276	13,308	
1784-1824	6,892	1,860	8,751	2,772	119	926	429	313	8,632	
Total Amounts	282,555	76,300	358,805	113,642	4,860	37,790	17,586	12,844	353,895	

Note. Individual items may not sum to totals because of rounding.

a. Includes Heritable Property sold, Donations and Legacies, and Principal Sums and Loans received.

b. Includes Chapel Services, Library Expenses, Bursaries, Prizes, and other Miscellaneous Expenses.

Source: Derived from a table given in Royal Commission on the Universities of Scotland, Evidence, Vol. II, University of Glasgow, B.P.P., 1837.[93.]XXXVI, pp. 458-9.

which the College was obliged to pay absorbed between eight and ten per cent of revenues. (15)

In 1777, the gross receipts of the College had amounted to £3,585 13s. 11d., and the disbursements to £2,926 9s 10ds., leaving a surplus of £659 4s. 1d. By 1784 gross receipts had increased to £5,576 8s. 4d. and disbursements to £3,380 5s. 9d., the surplus having grown to £2,196 2s. 7d. This was exceptional, however, as disbursements soon rose to match receipts. The surplus averaged under £120 per annum over the entire period 1784-1824. (16) (Table 1)

As gross receipts and disbursements include bequests and other extraordinary items (amounting to no less than £11,442 16s. 10d. in 1823 but entirely absent in some other years), the Annual Revenue provides a better guide to the College's operating budget. As can be seen from Table II, the tendency was for all categories of revenue to increase between 1784 and 1824, although not in unison. This was for the most part due to rising prices of agricultural produce, especially during the war years after 1793. The rapid growth in Supplementary Revenue from 1819 and corresponding shrinkages in the other categories seems to have been the result of a transfer of "profits" from the other categories beginning in that year. (17)

In some cases, the specific obligations with which a category of revenue was burdened exceeded the actual revenue of that category and the difference had to be made up from revenue in other categories. In 1824, for example, the Ordinary Revenue came to £3,089 2s. 5¾d., but was charged with £3,136 19s. 0d., including a proportion of the salaries of the Principal, professors, lecturers, and university officers,

Table II
Sources of Annual Revenue of Glasgow College, 1784-1824

Years	Ordinary Revenue		Archbishopric Revenue		Subdeanery Revenue		Supplementary Revenue	
	£	%	£	%	£	%	£	%
1784-1790	9,640	31.5	7,549	24.7	6,103	19.9	7,312	23.9
1791-1797	11,431	31.9	8,559	23.9	7,633	21.3	8,191	22.9
1798-1804	15,841	33.8	11,807	25.2	8,589	18.3	10,690	22.8
1805-1811	16,668	31.8	11,835	22.6	11,815	22.5	12,117	23.1
1812-1818	25,091	40.4	12,050	19.4	11,936	19.2	12,969	20.9
1819-1824	18,852	34.4	8,333	15.2	8,673	15.8	18,870	34.5
1784-1824	97,523	34.5	60,133	21.3	54,749	19.4	70,149	24.8

Total Annual Revenue, 1784-1824 = £282,555.

Note: Individual items may not sum to totals because of rounding.

Source: Derived from a table given in Royal Commission on the Universities of Scotland, Evidence, Vol. II, University of Glasgow, B.P.P., 1837.[93.] XXXVI, pp. 450-457.

the stipends of several ministers, and the cost of maintaining the buildings and professors' houses. The Archbishopric Revenue, amounting to £1,455 17s. 1d., was burdened with only £637 2s. 3¼d. in obligations. £981 7s. 5½d. was charged against the £1,418 3s. 9d. in Subdeanery Revenue, and £3,469 15s. 5¼d. against the Supplementary Revenue of £3,559 6s. 11¼d. Total annual revenues came to £9,522 10s. 3d., expenditures to £8,225 4s. 2½d., and the surplus to £1,297 6s. 0½d. (18)

Expenditures rose most quickly in the area of professors' salaries. Beginning in 1784, the professors periodically augmented their salaries by diverting funds from the Supplementary Account. By 1824 there had been five such increases, totalling an extra £220 per annum for the Principal and each of the thirteen professors of the College. These raises were not, of course, shared by the Regius professors whose chairs had been created after 1807 and who were not members of the Faculty of the College. The salaries of the professors after 1817 varied from over £450 per annum for the Principal to only £50 for each of three of the Regius professors. (Table III.) In addition, the thirteen professors of the college received the free use of housing on the University grounds. Of the £4,221 14s. 5d. paid to the Principal, the thirteen College professors, and the lecturers in 1824, £333 6s. 7¾d. was charged against the Archbishopric Account, £492 17s. 2½d. against the Ordinary, £182 15s. 1½d. against the Subdeanery, and £3,212 15s. 5¼d. (representing the augmentations since 1784) against the Supplementary. (19)

This picture of the revenues of the College and the incomes of the professors is a serious distortion, however, for it omits several important items of revenue. First, as was noted above, the University had a separate income of perhaps £1,500, £510 of which came from Royal grants and the remainder from various fees. More significant were the students' class fees which were paid directly to the professors and never entered the books of the College or the University. This system, under which professors received what were in effect piece rates, lasted surprisingly long: Fees were important even at a new university college such as the one founded at Leeds in 1874. In 1800 the class fees in Glasgow were set at a minimum of two guineas (£2 2s.) for "gown classes" leading to a degree and for mathematics, and at a minimum of 1.5 guineas for the private classes taught by the same professors. In 1818, the minimum fee was raised to three guineas for the gown classes. The fee for the Roman law course was five guineas, and for Scottish Law and Natural Philosophy (Physics), four guineas each, but some of the theology courses were free and others charged only one or two guineas. Fees in the theology courses were subsequently increased between 1829 and 1836, but did not exceed two guineas. (20)

Table III
Average Incomes of the Principal and Professors of the
University of Glasgow, 1832-1836

	Salary			Total Income		
	£	s	d	£	s	d
Principal	436	19	6¼	436	19	6¼
Professors						
Divinity	425	10	7½ ^a	582	5	5½
Ecclesiastical History	322	15	6	379	8	5
Oriental Languages	300	0	0½	388	16	9½
Law	310	0	0	411	13	9½
Medicine	270	0	0	711	18	7¼
Anatomy	250	0	0	912	2	9
Natural Philosophy	291	2	1	670	14	10½
Moral Philosophy	288	11	0¼	660	8	5
Logic	289	6	6	745	8	1¼
Greek	289	8	10	1,141	4	4
Humanity	289	8	10	899	18	2¼
Mathematics	292	0	0	662	4	2½
Practical Astronomy	270	0	0	272	6	2½
Regius Professors						
Natural History	100	0	0	140	0	0
Surgery	50	0	0	440	1	8½
Midwifery	50	0	0	315	14	9
Botany	150	0	0	428	18	4¾
Chemistry	50	0	0	525	4	0
Materia Medica	—	—	— ^b	346	12	8

a. Salary in 1826. The salary of the Professor of Divinity, like that of the Principal, varied slightly with the price of grain.

b. At the time of his appointment in 1831, the first Professor of Materia Medica (pharmacy) was allowed to keep the salary of £70 per year which he had previously received as a lecturer. After he resigned in 1833, his successor received no salary.

Sources: Royal Commission on the universities of Scotland (1826-1830), *Report*, B.P.P., 1831, [310.] XII, pp. 231-233; Commission for Visiting the University of Glasgow (1837), *Report*, B.P.P., 1839 [175.] XXIX, pp. 25-26.

By 1832-36, class fees totalled about £6,400 per annum. As will be discussed in the next section, in 1825 the government refused to renew the tack on the Archbishopric revenues. By the mid-1830's the Annual Revenue of the College had been reduced to about £8,600, of which only about £6,800 were free after ministers' stipends and other burdens were deducted. Hence, excluding the revenues of the University (which were perhaps in the region of £2,000-£2,300 a year at this time), class fees contributed almost one-half of the total operating expenses.

As Table III shows, well over half of the total annual income of

the professoriate was derived from class fees, £6,406 18s. 3¼d. versus only £4,725 2s. 11½d. from salaries in 1832-36. The incomes were in all cases comfortable by the standards of the period, and in some cases very comfortable. This is especially true of the thirteen Faculty members, the cost of whose free housing is not included in the table. The Principal, who received no class fees, was at a disadvantage when compared with many of his colleagues. On the other hand, the teaching loads of the professors also tended to be high, at least by modern standards, as lectures were supplemented by regular "catechizing" sessions in which the professors questioned the class members in turn and stimulated discussion. The largest classes were those of the first- and second-year Arts students and some of the medical courses. The more advanced philosophy courses, such as Natural philosophy, which was the basis of the fourth-year Arts program, and non-examination courses, such as Mathematics, were small and their professors taught less. The Royal Commission of 1826-30 found that the Professor of Humanity (Latin) taught up to 21 hours per week and had over 500 students. The Professor of Greek taught 25 hours each week, again to approximately 500 students. The Professor of Natural Philosophy, who had 122 students in 1823-4 and 87 in 1825-6, lectured for seven hours each week and examined for an additional four hours. Thus the incomes varied greatly from professor to professor and from year to year. In some instances students were excused from paying altogether: In 1826-7 all of the 50 students in the Natural History class attended for free. In the words of the (Regius) professor, "They said they were very poor; and I could not insist upon their paying fees; so that the salary (£100) is by no means adequate to the situation." Moreover, some of the more overworked professors hired assistants at their own expense. (21)

For the students, the cost of an education at the University of Glasgow was moderate. Given an average of £3 3s. in professor's fees, 7s. for the library, 5s. for other fees, and 10s. for books and miscellaneous expenses, in 1828 it cost £4 5s. to attend the University each year, or £17 for a four-year course. Including graduation fees, the total cost of acquiring a degree was only £19 11s. In truth, however, before 1858 the University was still more the equivalent of a secondary school than of a modern university. About 8-10 per cent of the students in the Humanity class were under twelve years of age and the average age was fourteen or fifteen, although a few students were over thirty. In the Logic class (the second year of the Arts program) the average age was said to be fifteen or sixteen years. Very few students attended for the entire four-year course. Of the 200-300 who entered the Greek class each year, as few as five per cent subsequently received degrees. In 1825, 31 students received the degree of M.A. and four the degree of

B.A., but by 1829 the numbers had decreased to nine and one respectively. (22)

III

The Glasgow region rose to industrial maturity during the nineteenth century. By 1914 there were well over one million people in West Central Scotland and the area had become the greatest center of heavy industry in the United Kingdom. Coal mining, iron and steel manufacturing, shipbuilding and engineering had all come to supplement the older textile sector. As technologies increased in complexity, these industries required growing numbers of workers educated in fields which until then had formed no part of the university curriculum in Britain. In the course of the century the University of Glasgow underwent numerous small changes which, slowly but cumulatively, reformed and strengthened the finances and course offerings so that it could serve the needs of a modern community.

The progress of the University's revenues was hesitant until as late as the 1890's. Although Glasgow was more prosperous than the other Scottish universities, the Royal Commissioners of 1826-30 severely criticized the manner in which the Faculty had managed the College's property. They presented no evidence to support the allegation, however, and Professor Mackie suggests that the commissioners were prejudiced against Glasgow. Nevertheless, the University's revenues did receive a setback in 1825-6 when the government declined to renew the tack on the revenues of the Archbishopric. Approximately £1,400 a year was lost, in return for which the government granted £800 a year to the Ordinary Revenue for a period of fourteen years. The Annual Revenue of the College decreased from an average of £9,122 in 1819-26 to £8,495 in 1831-5. The position was acerbated in 1839 when the government refused to renew the grant of £800. At the same time nearly the same sum was provided to endow some of the medical chairs as well as a new Chair of Engineering, the first in the United Kingdom. As the endowments provided insufficient income to the holders of the chairs and no provision was made to cover the resultant departmental expenses, this seeming generosity merely further weakened the position of the College and University, and led to straitened finances for decades to come. As one professor testified before the Scottish Universities Commission as late as 1876, "it was a little hard on the University to have its income cut down and its expenses increased at one blow; this is one of the causes which made the University of Glasgow, which was tolerably well provided at the time, and had a small amount of working expenses, a poor University, with large working expenses and a small income." (23)

This may have been the government's way of protesting the shabby treatment which the College had accorded to the holders of the Regius chairs created since 1807. The College may also have been guilty of excessive thrift since its accounts showed a surplus of slightly over £800 per annum in the years just before 1839. It is less likely that the government would have withdrawn the grant if the funds had already been committed.

Although revenues grew very slowly down to 1858, the University adjusted well to the loss of the £800. The members of the Scottish Universities Commission of 1858-63 noted specifically that "the administration of the University property has been conducted in a judicious manner, and also with a liberal regard to the interests of education." In the late 1850's the Annual Revenue averaged £8,361. After allowing for ministers' stipends, bursaries, and other burdens, this was reduced to £6,649, or slightly less than in the 1830's. As the latter included the £800 grant, however, the other revenues had actually increased over the period. Such a tight grip was kept on expenditures that in 1858-9 the surplus was over £1,250, or almost twenty per cent of the free revenue, despite the decrease in receipts over the preceding thirty years. (24)

As earlier, this is not a full picture of the University's finances since it excludes the revenues of the University (as distinct from the College) as well as class fees and the annual parliamentary grant. The fees charged had remained at the same rate since the 1830's; as the student body had grown by one-quarter, to 1,266, total revenues from class fees were probably in the neighborhood of £8,000. University revenues were perhaps £2,300 and in 1858 the government paid £1,360 to the professors in addition to their salaries from the College and University. Thus the total operating expenses of the University were approximately £17,000 per annum, or £13 9s. per student. As student fees averaged about £9 annually, each student paid for about two-thirds of the cost of his education, the remainder coming from endowment income and parliamentary grants. (25)

The distinction between the University and the College was finally abolished by Act of Parliament in 1858, as had been recommended by the Commissions of 1826-30 and 1836-7. In 1866-7 the combined revenues of the University and College came to £11,900, or about £9,500 when allowance is made for ministers' stipends and other burdens. Again, revenues from the Crown, which were paid directly to the professors, are excluded. The Scottish Universities Commission, which was established by the same Act of 1858, made other important changes in the University's finances. Under the terms of the Act, the commissioners were empowered to grant additional parliamentary funds to provide for retirement allowances for aged or infirm professors, to pay

the salaries of assistants for existing or future professors, to pay the fees of outside examiners, to increase the salaries of existing professors or other University officials, and to endow new chairs. After examining the finances and prospects of the various universities, the commissioners granted an additional £1,805 per annum to Glasgow, £4,043 to Edinburgh, £1,680 to Aberdeen, and £1,094 to St. Andrews, or a total of £8,622. On a per student basis, this amounted to £6 5s. 9d. for St. Andrews, £2 16s. 3d. for Aberdeen, £2 16s. 2d. for Edinburgh, and only £1 8s. 6d. for Glasgow. (26)

The small grant which Glasgow received is, in part, a tribute to the care which was exercised in administering the University and its finances. At Aberdeen, for instance, extra funds were required to effect the merger of the two small Colleges which hitherto had operated independently, and in competition, only a few blocks from each other. St. Andrews had fallen into desuetude by the late 1850's. Four of the nine professors of the United College had become incapacitated and only 98 students enrolled in 1858-9. The other college, St. Mary's, was even smaller. The greatest concern of the commissioners, however, was the conduct of the finances of the university proper. As in Glasgow, most of the funds were controlled by the colleges, with the university relying almost entirely on graduation fees from those receiving the degree of M.D. St. Andrews offered no medical instruction, and the candidates were predominantly Englishmen, trained in teaching hospitals, who wanted a degree for reasons of prestige. The requirements were lax, and it was obvious that the commissioners would restrict the university's powers to award the degree, and thus its income. As the commissioners noted dryly, "Such a result, however, we could not regret in the case of a University possessing no Medical School." In anticipation of a tightening of the requirements, the number of successful candidates for the M.D. increased from 65 in 1854 to an incredible 604 in 1862, bringing the university's capital from £6,986 in 1854 to £15,300 in 1863. Unfortunately, the *Senatus Academicus* had managed the finances on the assumption that the increase in revenues was permanent, and the commissioners felt constrained to offer additional funds to St. Andrews to help relieve the poverty and to aid the professors who could not expect to receive adequate fees when enrollments were so small. (27)

Of the £1,805 per annum which the commissioners of 1858-63 allotted to Glasgow, £475 was to be used to compensate professors for the loss of graduation fees and to increase the salaries of some of the more poorly-paid chairs. £650 was granted to pay Assistants to the Professors of Natural Philosophy, Greek, Humanity, Mathematics, Chemistry, *Materia Medica*, and Forensic Medicine. At the same time, the commissioners directed that an additional charge of £200 per annum for an Assistant and class expenses for the Professor of Anatomy

was to be drawn from the General University Fund. The endowment of assistantships was a very important step since it marked the creation of a sub-professorial level of teaching staff. (There had previously been lectureships, primarily in medical fields, but most of these had since been converted into chairs.) Finally, the commissioners ordained that three new chairs be established, in English Language and Literature, Biblical Criticism, and Conveyancing. Only the endowment of the first, a salary of £200 yearly, was to be drawn from public funds; for the Chair of Biblical Criticism, one-sixth of the revenues of the Deanery of the Chapel Royal of Scotland was set aside; and the Faculty of Procurators in Glasgow agreed to provide £105 annually for the Chair of Conveyancing. (28)

Lasting improvements in the University's finances were brought about by the actions of the Commissioners of 1858-63. Revenues increased from £11,900 in 1866-7 to £15,713 in 1884-5. Enrollments increased rapidly, from 1,266 students in 1858 to 2,180 students in 1889-90. Even though the rates of class fees remained unchanged from early in the century, the total class fees collected probably increased by two-thirds to perhaps £13,500; and the physical plant of the University had been immeasurably improved with the construction of the new Gilmorehill buildings which were opened in the 1870's and early 1880's. (See below Part V.) Finally, the government continued to contribute revenues, largely for salaries and pensions. (Table IV.) Nevertheless, despite a surplus of revenue of over £700 in 1884-5, it was obvious that the resources of the University must soon be strained in trying to meet the demands of a growing student body. (29)

Parliament intervened at this point to provide the first large grants to Scottish universities. A total of £42,000 was granted annually from 1889, and when it was pointed out that this would be insufficient, an additional £30,000 in local government funds were appropriated from 1892. As £20,742 had been provided by the government before 1889 and the universities now had to assume the costs of pensions for retired professors, which the Treasury had paid since the Act of 1858, £40,000 was left for new educational purposes. Allocation of the grants was delegated to the members of the Scottish Universities Commission of 1889-1900 who determined that Glasgow should receive £12,180 from the 1889 grant and £8,700 from the 1892 grant. As the University had received £5,189 from earlier grants and now had to provide £4,000 annually for a pension fund, the net gain was £11,690 13s. 6d. (30)

The commissioners of 1889-1900 endeavored to leave the distribution of the new funds in the hands of the University but, as is shown in Part IV, nevertheless exercised strict control. They made two further decisions which affected the University's finances. In 1892 it was decided to admit women as students. Queen Margaret College (QMC),

Table IV
Statement of Public Monies (Exclusive of Building and Special Grants)
Received by the University of Glasgow, 1889

	£	s	d
From Parliamentary Vote:			
For the Principal	550		
For the Professors (ranging from £10 for Medicine to £275 for Civil Engineering)	1,785		
For Assistants	650		
For Examiners	480		
For Pensions	2,804	8	9
Subtotal	6,269	8	9
From the Consolidated Fund			
For the Principal	38	4	5
For the Professors (ranging from £2 17s. 9d. for Moral Philosophy to £100 for Church History)	395	2	2
For Bursaries	83	4	
For the Library	707		
Subtotal	1,223	10	7
Total	7,492	19	4

N.B. This statement apparently neglects certain items covered in the sum of £5,189 (exclusive of pensions) quoted by the commissioners of 1889-1900 and cited below.

Source: Records of the Scottish Universities Commission (1889-1900), West Record House, Edinburgh, File ED/9/88.

a women's college incorporated in 1883, was assimilated into the University with its property and an endowment in excess of £25,000. Secondly, they decreed that student class fees should be paid directly to the University and then distributed to the professors as a portion of fixed salaries. The commissioners felt that the traditional system of paying class fees to the professors encouraged a lowering of standards in order to attract more students. (31)

The consolidated University accounts of 1895-6 show the extent to which revenues and expenditures grew as a result of the new Parliamentary grants and the reforms of the commissioners. (Table V.) Revenues from teinds, properties, stocks, etc., were £11,504, or £10,612 if QMC excluded, as compared with the £9,870 in 1884-5. Revenues from matriculation and graduation fees, library subscriptions, etc. were £5,763 or £5,078 excluding QMC, a decline from £5,817 a decade earlier. Class fees had risen to £15,466, but excluding QMC the figure (£13,502) is almost identical to the estimate for 1884-5. Thus any major improvement in the University's revenues resulted from the increase of £11,691 in the Parliamentary grant.

Table V
Revenues and Expenditures of the University of Glasgow,
Selected Years, 1895-1914

	1895-6	1900-01	1904-05	1913-4
	£	£	£	£
Revenues				
Teinds, Properties, and Stocks	11,504	12,144	11,229	9,993
Endowments and Other Grants	1,894	1,643	2,801	9,065
Class Fees	15,466	17,501	22,793	36,529
Other Fees	5,763	7,083	9,367	10,868
Parliamentary Grants	20,880	20,880	20,880	31,868 ^a
Total	55,508	59,251	67,071	98,323
Expenditures				
Administration	3,460	3,303	3,943	9,351
Salaries of the Principal and Professors	25,787	25,482	26,450	31,877
Salaries of Lecturers	3,820	4,511	5,515	17,803
Salaries of Assistants	5,349	5,346	7,446	6,859
Payments to Examiners, etc.	1,224	1,430	2,116	2,996
Maintenance of Buildings, etc.	2,351	6,858	8,640	16,091
Class Expenses	2,714	2,884	5,083	9,114
Library	1,780	1,889	2,897	4,825
Pensions	4,000	4,000	4,137	4,505
Miscellaneous	4,844	2,867	2,092	1,080
Total	55,329	58,570	67,819	102,830
Surplus or (Deficit)	178	681	(748)	(4,508)

a. The normal Parliamentary grants of £33,380 less £1,512 10s. in overexpenditures during the previous year.

Note: Individual items may not sum to totals because of rounding.

Sources: "Abstract of the Revenue of Expenditure of the University of Glasgow", Sessions 1895-96, 1900-01, 1904-05, and 1913-14, pp. 2-5 of each.

There was one further increase in Parliamentary funding before the outbreak of the First World War. In July, 1910, His Majesty's Treasury sent a letter to the Principal which intimated that, after consideration of the Report of the Committee on the Scottish Universities presided over by Lord Elgin, it had been decided to grant the University an additional £12,500 per annum provided that its expenditure could be justified. In the interim, £6,250 per annum would be granted. Under the scheme submitted, £900 was allocated for increasing the Principal's salary, £3,962 10s. for providing tutorial and other supplementary instruction, £1,225 for the maintenance of buildings, £2,000 for current equipment, and the remainder for the Hunterian Museum, the University Library, and various class libraries. By 1913-4, total Parlia-

mentary support for the University had risen to £33,380, or more than double the total operating expenses, including class fees, in 1831-5. (32)

Table V reveals some interesting trends in the University's finances between 1895-6 and 1913-4. The total revenue rose by 77.1 per cent over the period, while enrollments rose by less than forty per cent, to 2,825 students in 1913-4. The share of the Parliamentary grant fell from 37.6 per cent in 1895-6 to 32.4 per cent in 1913-4 despite the additional grant of £12,500 in the latter year. The share of students' class fees, on the other hand, increased from 27.9 per cent to 37.2 per cent over the same period as a result of disguised inflation. Although the fees per class remained unchanged, by 1913-4 students were expected to take two or three classes each year, rather than just one. (33)

The most striking trend, however, was the decrease in the share of income derived from teinds, property, and stocks, from 20.7 per cent in 1895-6 to 10.1 per cent in 1913-4. This reflects the long-term stagnation in the value of University property, which grew very little after 1896. Between 1847 and 1865, the value of the holdings (exclusive of heritable property and of the grounds and buildings used by the University) increased from £34,239 to £51,015. Most of this can be traced to a settlement of £10,000 received when the Glasgow, Airdrie and Monkland Junction Railway reneged on an offer to purchase the University's old buildings in the High Street. In 1866, when the £10,000 and the interest which had accrued on the sum since 1850 were removed to another fund (the "College Fund" or "Fabrick Fund"), net assets were reduced to £37,160, an increase of barely 8.5 per cent in almost twenty years. In 1867, when the accounting base was altered to include heritable property, net assets were valued at £159,764. By 1893, they had risen to £195,610, or by 22 per cent in 26 years. In the following year they received a big boost, to £252,611, when £23,395 was added from the property of Queen Margaret College and £29,273 was contributed by the government to compensate for the lag between when the grants of 1889 and 1892 were approved and when the commissioners had decided upon a proper allocation. Despite a small increase in the latter part of the 1890's, the value of net assets actually declined to £250,866 in 1914. (34)

This decline in property values and incomes was broadly similar to the experience of Oxford and Cambridge colleges, although the timing differed. At Oxford and Cambridge, ". . . there really was quite a severe fall in agricultural rents (both gross and net) in the late nineteenth century and only a partial recovery in the first decade of the twentieth." To a more limited extent than at Glasgow, Oxford and Cambridge colleges also sought to improve their prospects by increasing student fees, but the general effect was a slowing-down of reforms and a post-

ponement of new developments. It seems clear that the University of Glasgow would not have been able to expand and develop as rapidly as it did after 1889 if governmental grants had not been available. (35)

The most interesting change in expenditures between 1895-6 and 1913-4 is the changing proportions of funds spent on the salaries of the Principal and professors, lecturers, and assistants fell from 63.2 to 55.0 per cent, but the number of staff increased greatly because of a new emphasis on the more lowly-paid lecturers and assistants to professors. The salaries of the professoriate increased hardly at all, in part because few new chairs were created, and in part because the salaries of professors in general did not increase from the levels of the 1830's. (In some cases, in fact, they decreased after students' class fees began to be paid directly to the University.) (36) In contrast, the amount spent on lecturers in 1913-4 was over 4.5 times what it had been in 1895-6. More than anything else, perhaps, it was the decision to expand the ranks of the lecturers, rather than hire expensive professors, which allowed the University to diversify and modernize its curriculum so extensively in this brief period.

IV

Through its ability to augment the University's purse, the Crown was naturally in a position to help determine the curriculum. Every new chair between 1713 and 1840 was founded and endowed by the Crown, (37) which also maintained the patronage. At this remove, it is impossible to know precisely what motivated successive governments to aid the University, but the heavy emphasis on new chairs of medicine (Practice of Medicine, Anatomy, Surgery, Midwifery, *Materia Medica*, Physiology, and Forensic Medicine) and on the associated sciences (Botany, Zoology, and Chemistry) suggests a high degree of constructive consistency. Moreover, as the quarrel between the College and the Regius professors after 1807 shows, if left to themselves the Faculty would probably not have added to their numbers. As long as there remained a "wages fund", under which the establishment of new chairs meant reduced salaries and class fees for the existing professoriate, the Faculty had every incentive to resist the creation of new chairs unless they were fully endowed.

The Faculty was not completely unprogressive, however. In 1826-7, perhaps in order to forestall the plans of the Royal Commission which was then sitting, the Faculty decided to reorganize the degree examinations. Students who had completed the classes in Latin, Greek, Logic, and Ethics could obtain the degree of B.A. Those who added Natural Philosophy and Mathematics were eligible for an M.A., and provision was made for honors degrees in Classics and Mental Philosophy or

Mathematics and Natural Philosophy. At the same time, the standard of the examination was raised. While this doubtless improved the integrity of the degrees, it also seems to have reduced the already low proportion of matriculants who took degrees: In the decade following 1826, 43 students took B.A.s and 157, M.A.S. as compared with 22 and 278, respectively, in the preceding decade. (38)

The commissioners of 1858-63 gave considerable thought to the allocation of the £1,805 per annum which they had decided to grant the University. As was noted in Part III, they took the important step of paying assistants to professors from the funds of the University, thereby setting the precedent for a sub-professorial corps of teachers which was to make diversifications economically feasible in later years. The commissioners also founded new chairs after careful consideration of which subjects would be most useful. The brief of the Commission included all of the Scottish universities which made it both possible and necessary to balance the claims of the individual universities in a national context. According to the *Report* of the Commission, for example, it was deemed necessary to establish a Professorship of English Language and Literature in Glasgow because of the excessive size of the Logic class (in which a few lectures on English were offered each year) and because of the success of an existing Chair of English in Edinburgh. As there were more Arts students in Glasgow than at Edinburgh, the commissioners believed that the classes in Glasgow would be well attended. Similarly, the justification for founding a Chair of Biblical Criticism was "in order that the Faculty of Divinity in Glasgow might be placed on the same footing with the Faculties of Divinity in the other Universities, in each of which there is now a Professorship of Biblical Criticism." (39)

The commissioners not only allocated the government grants at their disposal, but actively solicited outside funds to finance projects which they felt to be promising. They approached the Crown for one-sixth of the revenues of the Deanery of the Chapel Royal in Scotland to endow the Chair of Biblical Criticism, and negotiated with the Faculty of Procurators in Glasgow for £105 per year for the Chair of Conveyancing. (40) In general, both the commissioners of 1858-63 and their successors in 1889-1900 exercised far greater control over the conduct of the University's affairs than the twentieth-century University Grants Committee has done, at least until recently. Perhaps with justice, so little faith was placed in the ability and willingness of the Scottish universities to reform themselves that by Acts of Parliament the commissions were given sweeping powers to alter virtually every aspect of the universities' conduct. If the conservative Dons of Oxford and Cambridge paid any attention to the proceedings of the Commission of 1858-63, they could only have been confirmed in their fear of the government's intention to limit university autonomy.

The Parliamentary Grant of 1889 has been termed “utterly inadequate” and it has been charged that the commissioners of 1889-1900 tried to force expansion beyond the limits of the University’s resources. (41) Examination of the Minutes of the University Court and Senate and of the Commission’s own records reveals, however, that the commissioners took great care to ensure that all new projects were adequately funded, and on occasion had to restrain the University Court from making imprudent appointments.

In spite of an expressed desire “to leave the University authorities as free as possible in the management of their funds”, in practice the commissioners of 1889-1900 watched closely over the allocation of the new grants. In a letter to the commissioners of February, 1892, the University asked that not less than £1,400 be allotted annually to the Faculty of Arts for a Chair of Modern History, a Chair or Lectureship in Political Economy, and Lectureships in German, French, and Comparative Philosophy; that not less than £1,000 be allotted annually to the Faculty of Law for Chairs in Mercantile and Maritime Law and in Civil Law, Chairs or Lectureships in Public or International Law and Constitutional Law, and a Lectureship in Procedure; and that the Medical Faculty receive not less than £800 annually for a Chair of Pathology and other urgent or necessary additions to the medical teaching staff. Although these requests came to only £3,200 out of the University’s new untied income of over £11,600 annually, the commissioners felt obliged to deny most of what had been asked. In large part this was because the requests were underestimates of what would actually be required. The commission had decided that a minimum of £500 in salary should be assigned to each chair alone. In the event, the commissioners approved only the establishment of Chairs of History and Pathology, and Lectureships in French, German, Political Economy, and several other subjects including some which were not requested in the original letter. (42)

The Lectureship in Political Economy was soon raised to a Chair when a private donor unexpectedly offered an endowment. In May, 1895 a Glasgow solicitor wrote to the Principal to report that an anonymous “friend” was willing to provide £10-12,000 for a Chair of Political Economy. The University Court passed the offer on to the commissioners with a query as to whether £12,000 would be sufficient. The following month the commissioners decided that £15,000 would be needed. After brief negotiations, conducted by the commissioners rather than the University, the donor (who turned out to be Andrew Stewart, a Glasgow iron merchant) agreed to give the additional £3,000. (43)

The story of a proposed Chair of Geology was far different. In August, 1893, the commissioners agreed that geology should be separated

from the domain of the Professor of Natural History, but only if sufficient funding could be found. Eighteen months later, in February, 1895, the University Court replied that they had obtained a grant of £5,000 from the Bellahouston Trustees as well as an agreement from the Honeyman-Gillespie Trustees to apply their existing endowment of £200 per year (which was currently given to the holder of the Chair of Natural History) to endow instead a new Chair of Geology. The commissioners noted that the total income from the Bellahouston and Honeyman-Gillespie gifts would be only £400 per year, or well below the £500 which was the minimum salary required by law for a professor in Scotland. When the University Court suggested that the difference be made up from the Fee Fund (the fund of students' class fees which were now paid to the University), the commissioners objected that this would result in too great a drain on the fund if the class became very large. Finally in May, the commissioners decreed that a chair could not be afforded, even though this meant the loss of the £5,000 from the Bellahouston Trustees, who were unwilling to support a lectureship. (44)

Even after the Commission's term had expired, the commissioners ensured that the Scottish universities would not have the ultimate control over their own affairs. Although the University Court is competent to draft, make, and revoke its own ordinances, before taking effect their decisions must be submitted to the Courts of the other Scottish universities, sent to the Privy Council for ratification, and laid before Parliament. As there has rarely, if ever, been any opposition, however, the universities have been, in practice, self-governing. (45)

In addition to presiding over an expansion of the teaching staff, the commissioners of 1889-1900 helped once again to reform the curriculum. For the Ordinary Degree of M.A. (which requires three years of study), they obliged each candidate to attend full courses in seven subjects. Among these, one course had to be in Latin or Greek, one in English or a modern language or history, one in a philosophy, and one in mathematics or natural philosophy. Two of the remaining three courses had to be in a single group, either classical, philosophical, or mathematical. In 1908, the rules were slightly altered to provide greater depth by demanding that each Ordinary candidate take second-year (Higher Ordinary) courses in one or two subjects instead of a variety of first-year courses in related subjects in a single group. The Honors curriculum, which takes four years, requires fewer subjects and much greater depth. The Commission recognized 27 subjects for the M.A., and the earlier objections about the rigidity of the program were replaced by complaints that a student could get by too easily by electing "soft options". (46)

By 1914 there were 36 chairs in the University as compared with 31

in 1900 and 18 in 1826. The greatest addition to the teaching staff was at lower levels, however, and especially after the turn of the century. In 1900-01, there were 15 University lecturers and another 10 in Queen Margaret College. Four taught various aspects of the law, ten taught medicine, and the remainder taught a variety of Arts and Science courses including French, German, education, electrical engineering, and metallurgical chemistry. Salaries varied from £400 for the Lecturer in Anatomy in Queen Margaret College to £4 14s. 6d. for the Lecturer in Metallurgical Chemistry. Most full-time lecturers received between £200 and £300. At this time there were also more than 35 assistants to professors, a rank which corresponds loosely to the bottom three steps on the current lecturers scale. The salaries of the assistants ranged from £50 to £275 per annum. During the 1913-4 session, there were 71 lecturers. Law and medicine continued to be heavily represented, but a number of Arts subjects had been added as well. Among the new topics were Celtic (two lecturers), Italian, Geography, Greek History and Archeology, Roman History and Antiquities, Arabic, Electricity Pure and Applied, Engineering Drawing and Design, British History, Social Economics, Economic History, and Psychology. Salaries ranged between £21 and £400 with full-time lecturers receiving £200-400 per annum. There were also over seventy assistants whose salaries averaged somewhat under £100 annually. Over the years the student/teacher ratio fell from perhaps 50/1 in 1826 to 22/1 in 1900-1 to 16/1 in 1913-4 (assuming that all lecturers worked full-time, which of course many did not). Even favorably stated in this way the ratios are poor in comparison to those at Oxford and Cambridge, but they do demonstrate remarkable progress in the 25 years after 1889 when the government began to provide larger grants. (47)

The expansion sponsored by the government has potentially undermined the autonomy of the University in one further way. The Crown has maintained the patronage of the Principalship and of all of the Regius chairs created between 1713 and 1861, with the exception of those in Theology. In addition, the patronage of fourteen privately-endowed chairs resides, at least in part, beyond the control of the University Court. Even today there is no guarantee that the Principal and the holders of the fourteen Regius chairs will be chosen with the consent of the University Court or that they will conform to the Court's standards. (48)

V

To this point emphasis has been placed on the role of the government, but private donors also contributed generously to the growth and development of the University.

The most conspicuous examples of private aid went to help finance the construction of the University's new home on Gilmorehill. The seventeenth-century building in the High Street, much modified by later additions, had long been recognized to be inadequate. Not only was it too small, but the neighborhood had become one of the most congested and insalubrious in a city famed for its congestion and insalubrity. As early as 1846 the University had entered into an agreement with the Glasgow, Airdrie and Monklands Junction Railway Company to exchange the buildings in the High Street for a larger campus in the Woodlands a couple of miles to the west. The railway was to construct the new buildings and contribute to the costs of an adjacent hospital, but changed its plans in the subsequent slump. The University received £10,000 net in settlement. (49)

The commissioners of 1858-63, who gave extensive consideration to the problem, determined that it would cost £108,000 to provide a new site and buildings. Of the sum, £50,000 was to come from the sale of the old buildings, £15,000 from the settlement received from the Glasgow, Airdrie and Monklands Junction Railway plus accumulated interest, and £20,000 from the sale of the unique (but apparently educationally useless) Hunterian Collection of coins. The government agreed to put up half of the anticipated deficit, but only after the remainder had been raised by private subscription. By the time the University acted to sell its old site and buildings, it was able to obtain £100,000 from the City of Glasgow Union Railway Company, but the costs of relocation had risen even faster. As the Woodlands tract was no longer available, a more expensive site had to be purchased, and the University also became committed to help finance the construction of a new teaching hospital. In 1865 it was realized that it would cost at least £266,000 for the new buildings and the hospital, a fantastic sum for an institution whose annual budget in 1865-6 was less than £12,000. (50)

In the sequel, the costs rose much higher and the burden of interest became so great that bankruptcy was predicted in the late 1870's. Before work was completed in the 1880's, approximately half a million pounds had been spent, excluding the cost of the hospital. The University itself contributed £117,500 from the Reserve Fund and the sale of the old College buildings, and in 1867 Derby and Disraeli committed the Conservative government to a handsome grant of £120,000 from the Treasury, to be paid in six annual installments. Most of the remainder came from private subscriptions, which by May, 1877 amounted to over £167,000 plus another £40,000 for the new hospital. At the end of 1877 the deficit came to £12,575, and it was estimated that a further £71,200 would be needed to complete the buildings. The shortage was soon met when, in the following year, Charles Randolph, the

famous engineer and shipbuilder, bequeathed £60,000 most of which was used to finance the building of Randolph Hall. The Marquess of Bute also contributed substantially and by 1883 the University felt wealthy enough to transfer almost £20,000 from the Stock Account to extinguish the debt. (51)

In a recent analysis of the donors to two great University appeals, Michael Sanderson has found that the support of businessmen and manufacturers was very limited. Not only did few people subscribe, but those who did were often in businesses which could expect few benefits from the University. (52) These attitudes were not peculiar to Glasgow: For one industry which has been studied in detail, shipbuilding, entrepreneurs on the Clyde were ambivalent towards university education but no more so than their competitors on the Tyne, the Tees, or the Mersey. (53) When everything is included, the local business community contributed significantly to the development of the University of Glasgow, even before 1914.

One example, the endowment of the Chair of Political Economy, has already been cited. It is clear from the terms of the gift that Andrew Stewart intended that the teaching benefit practical businessmen, for he specified that the patronage rest with the Merchants' House, the Trades House, and the Chamber of Commerce of Glasgow, as well as with the University Court. In a somewhat different vein, the endowment of the Chair of Conveyancing by the Faculty of Procurators (who retained the patronage entirely to themselves) is a further example of local desire to develop university training for practical ends. (54)

The foundation of the Chair of Naval Architecture and Marine Engineering followed directly from an appeal by members of the Institution of Engineers and Shipbuilders in Scotland for greater facilities for university-level education in their fields. Late in 1880 a committee of the University Senate, after consultation with members of the Institution, decided that a lectureship should be established for one year. If it proved "reasonably successful", it could then be endowed permanently. The Institution had no funds of its own to devote, but set up a committee to solicit contributions. Late in 1882 the one-year experiment was pronounced successful. The Institution wished to extend the temporary lectureship for a further year, but the Senate felt that it should be permanently endowed if it were to be continued. At Christmas, 1882 the Principal learned that it was probable that funds would soon be forthcoming to endow a chair, and in November, 1883 it was at last announced that Isabella Elder had offered £12,500 for a Chair of Naval Architecture and Marine Engineering in honor of her late husband, John Elder, who had been Charles Randolph's partner. The Institution proposed that the £5,000 which it had raised be applied to a separate lectureship. The Senate felt that it could

not “at present contemplate the existence of such a Lectureship independent of the Chair . . .”, an instance when the business community offered to provide more than the University was willing to accept. The Institution’s money went instead to fund an assistantship. (55)

Mrs. Elder was apparently an enthusiast for higher education who had earlier increased the endowment of the Chair of Engineering established by the Crown in 1840 and who also presented her house and its grounds to Queen Margaret College. There were other generous donors such as J. S. Dixon who gave £10,000 towards a Chair of Mining Engineering, and by 1914 there were three chairs in engineering and several lectureships to supplement the flourishing Faculty of Science which had been separated from the Faculty of Arts in 1893. As late as 1890-96, under ten percent of Glasgow graduates chose careers in industry, commerce, or business, but the contribution of the professors to these fields was nevertheless great. In the course of the century such men as Lewis Gordon and W. J. Macquorn Rankine in Civil Engineering and Mechanics, Francis Elgar and J. H. Biles in Naval Architecture and Marine Engineering, and, above all, William Thomson (later Lord Kelvin) in Natural Philosophy, all maintained close ties with local industry throughout their tenure at the University. (56)

Finally, there were large grants from other groups, notably the Bellahouston Trustees and the Carnegie Trust for the Universities of Scotland. Aside from numerous miscellaneous grants, the Bellahouston Trustees finally did provide £6,000 when a Chair of Geology was successfully founded in 1903. The Carnegie Trust announced a grant of £7,500 in 1902-03, and a few years later gave £26,500 in endowment grants including £5,000 towards a Professorship in Mercantile Law, £7,500 each for Lectureships in the English Language and French, £5,000 for a Lectureship in Bacteriology, and £1,500 for one in German. By 1913-4, endowments and grants accounted for 9.2 per cent of the University’s total annual revenues. (57)

VI

The views expressed here differ markedly from those of George Davie in his famous book, *The Democratic Intellect*. Davie regards the reforms of the nineteenth century, and especially those after 1889, as a victory for assimilationists both in Scotland and in England who wished to bring Scottish institutions, such as education, into line with those in the South. In return for a greater role in ruling the Empire, Scots were obliged to sacrifice their valid native tradition in education in which young boys were given a broad philosophical training without undue concentration on classical languages or, indeed, any other field. Under the new system, students stayed longer in secondary schools, as in

England, and, in the Honors curricula, early specialization was allowed in the universities. In this way, Scottish universities lost much of their democratic character. The more advanced entrance age excluded some students for economic reasons, specialization was an inappropriate preparation for some professions, and the breadth of course offerings and expansion of the staff meant that students were no longer taught by the professoriate, the leading minds in their fields, as had happened routinely before 1858.

It can be argued, however, that these reforms represented an intelligent compromise between the demands of a society which increasingly required technical sophistication and the values of the native educational tradition. Scottish reformers also wanted increased opportunities for advanced students to specialize. The effect of the reforms was to shift general training for adolescents from the universities to secondary schools which, as Davie admits, up to 1930 at least did their best to restrict premature specialization and “to restate well-tried principles in twentieth-century terms.” (58) Moreover, most students avoided the Honors curricula in the universities and opted for the Ordinary degree which, even today, demands far more breadth of study than can be got at most English universities.

The Commissions of 1858-63 and 1889-1900 did an excellent job of preserving one democratic aspect of the Scottish tradition, namely

Table VI
Student Fees, University of Glasgow, 1913-1914

Degree Course	Fees (in Guineas)
Ordinary M.A. (10 graduating courses) (10 gns. per year for three years)	30
Honors M.A. (14 courses) (10 gns. per year for four years)	40
B.Sc. in Pure Science (16 courses) (15 gns. per year for four years)	60
M.A. and B.Sc. combined (20 courses) (15 gns. per year for five years)	75
Law (LL.B.) (9 courses or 6 if one already had an M.A.) (10 gns. per year for two or three years)	20 or 30
Applied Science (B.Sc. in Engineering) (16 courses) (15 gns. per year for four years)	60
Other Fees	
Matriculation Fee, each year	1
Degree Fee – for M.A.	5
– for B.Sc.	6

Source: Glasgow University Calendar, 1913-14.

the moderate cost of higher education. It is true that fees more than doubled in the course of the nineteenth and early twentieth centuries. The average charge of £4 5s. per year in 1828 had grown to £9 by 1863 and to between £12 and £17 by the 1913-4 session. (Table VI.)

As most students lived at home, however, other expenses were modest. This should be contrasted with the situation at Cambridge, which cost about £200 a year to attend after the turn of the century. (59) There can be little doubt that Glasgow students were still getting a bargain. Over the period a rigid secondary school curriculum featuring large classes had been replaced by the broad options of a modern university, with courses pitched on a high level in a variety of subjects and faculties, and in classes which in many cases were small enough to allow for individual treatment even if they did not offer the intimacy of an Oxbridge tutorial. In general the reforms of 1826, 1858-63, and 1889-1900 were successful in retaining the traditional range of Scottish university education while at the same time raising standards, increasing the depth through the introduction of the Honors degree, and yet keeping the cost of a higher education within the reach of a much higher proportion of the population than in England.

Notes

1. V. H. H. Green, *The Universities* (Harmondsworth: Pelican, 1969), pp. 182-3. Green's Chapter Nine, "The Economic Aspects of the Universities", is a good short summary of university finance in general. For recent accounts of the experiences of particular universities, see P.N. Sharp, "Finance", in P. H. J. H. Gosden and A. J. Taylor, eds., *Studies in the History of a University 1874-1974* (Leeds: E. J. Arnold & Son, 1975); and J. P. D. Dunbabin, "Oxford and Cambridge College Finances, 1871-1913", *Economic History Review*, 2nd Series, Vol. XXVIII, 1975, pp. 631-47.
2. E.g. "... by 1901 still only £25,000 per annum was going from the Exchequer into British universities." Peter Mathias, *The First Industrial Nation* (London: Methuen, 1969), p. 421. Similarly, when David Landes writes of "the British system" of education he seems to be referring only to conditions in England. *The Unbound Prometheus* (Cambridge: Cambridge University Press, 1969), pp. 340-8. While acknowledging that approximately £300,000 in Treasury and local government funds were directed towards English universities by 1912, Ivor T. James allots to the Celtic fringe only "Capital grants amounting to a few thousand pounds each . . . given to universities in Scotland and Wales." "The University Grants Committee", in *Higher Education*, an issue of *Aspects of Education*, Number Eighteen, March, 1975, p. 117.
3. At mid-year 1900, there were approximately 32,249,000 inhabitants of England and Wales and only 4,437,000 of Scotland. In making the calculation I have included only direct Exchequer grants and disregarded funds channelled to the universities as a result of local discretion.
4. J. D. Mackie, *The University of Glasgow 1451 to 1951* (Glasgow: Jackson, Son and Company, 1954), pp. 4-10.

5. Royal Commission on the Universities of Scotland, 1826-30, *Report* (British Parliamentary Papers (hereafter B.P.P.), 1831.[310.] XII.), p. 226; Mackie, *op. cit.*, pp. 25-8. Conditions were similar at the established and famous Oxford, where the average age of all students was 16.5 years in 1600 and only three per cent of the student body came from outside England and Wales. Lawrence Stone, "The Size and Composition of the Oxford Student Body, 1580-1909", in L. Stone, ed., *The University in Society* (Princeton: Princeton University Press, 1974), Vol. I, pp. 29-33, 35-7, 74.
6. Mackie, *op. cit.*, pp. 21-3. Unless otherwise noted, all values are given in pounds sterling. The Scottish pound depreciated steadily against sterling over the period. In the 1560's four Scottish pounds were the approximate equivalent of one pound sterling; by the time of the Union of 1707, the ratio had deteriorated to 12/1.
7. *Ibid.*, pp. 65-6, 95-7. One mark was worth two-thirds (13s. 4d) of a Scottish pound.
8. *Ibid.*, pp. 98-9. The Professorship of Medicine lapsed in 1646 and was not revived until 1712.
9. *Ibid.*, Chapters VII-IX, *passim*.
10. *Ibid.*, pp. 146-8; Royal Commission, 1826-30, *Evidence*, Vol. II, University of Glasgow (B.P.P., 1837.[93.] XXVI), pp. 44-5. The texts of many of these grants are given in *Deeds Instituting Bursaries, Scholarships, and Other Foundations, in the College and University of Glasgow* (Glasgow: George Richardson, 1850).
11. Henry Hamilton, *An Economic History of Scotland in the Eighteenth Century* (Oxford: Oxford University Press, 1963), p. 18.
12. Mackie, *op. cit.*, pp. 153-4, 206-8.
13. Arthur Engel, "The Emerging Concept of the Academic Profession at Oxford 1800-1854", in L. Stone, ed., *op. cit.*, p. 305.
14. Commission for Visiting the University of Glasgow, 1836-7, *Report* (B.P.P., 1839[175.] XXIX.), pp. 32-5; Royal Commission, 1826-30, *Report*, p. 234; Mackie, *op. cit.*, p. 249.
15. Royal Commission, 1826-30, *Evidence*, pp. 44-5.
16. *Idem.*, *Report*, pp. 228-9.
17. *Idem.*, *Evidence*, pp. 450-7.
18. *Ibid.*, pp. 317-20.
19. *Idem.*, *Report*, p. 230.
20. *Ibid.*, p. 259; Mackie, *op. cit.*, p. 248; Commission, 1836-7, *Report*, p. 25; F. T. Mattison, "Government and Staff", in Gosden and Taylor, *op. cit.*
21. Royal Commission, 1826-30, *Report*, pp. 244-5, 248-9, 259; George Davie, *The Democratic Intellect* (Edinburgh: Edinburgh University Press, 1961), pp. 14-24.
22. Royal Commission, 1826-30, *Report*, pp. 244, 246, 277; *Idem.*, *Evidence*, p. 316.
23. Mackie, *op. cit.*, p. 268; Commission, 1836-7, *Report*, pp. 40-45; Royal Commission on the Universities of Scotland, 1876, *Report* (B.P.P., C.-1935, 1878), p. 125.
24. Commission under the Universities (Scotland) Act, 1858, *General Report* (B.P.P., 1836.[3174.] XVI.), p. xiv; "Abstract of the Annual Revenue and Expenditure of the College of Glasgow", 1858-9, pp. 2-3.

25. Commission, 1858, *Report*, pp. vii, xv.
26. *Ibid.*, pp. 17-8; Mackie, *op. cit.*, p. 269; "Abstract of the Revenue and Expenditure Account of the University of Glasgow", 1866-7, pp. 2-3. Hereafter referred to as "Abstract", these are bound in with the College and University Journals which are stored in the University of Glasgow Archives.
27. Commission, 1858, *Report*, pp. viii-xiii.
28. *Ibid.*, pp. xiv-xvii.
29. "Abstract", 1866-7 and 1884-5, pp. 2-3 of each; *Glasgow University Calendar*, 1890-91, p. 37.
30. Commission under the Universities (Scotland) Act, 1889, *General Report* (B.P.P., Cd. 276, 1900. XXV), pp. xxxiv-xxxvii.
31. *Ibid.*, p. xxxviii; Mackie, *op. cit.*, pp. 304-5.
32. Minutes of the University Court, 1910-11, p. 3; "Abstract", 1913-4, p. 19.
33. See below, Table VI.
34. Taken from statements in the "Abstracts" from 1847 to 1914.
35. Dunbabin, *op. cit.*, pp. 639-41, 644.
36. Commission, 1889, *Report*, pp. xxxviii-xxxix.
37. The Chairs of Logic, Moral Philosophy, and Natural Philosophy, founded in 1727, were actually redesignations of three of the traditional Regencies, and not new positions.
38. Mackie, *op. cit.*, pp. 251-2. The commissioners of 1826-30 subsequently proposed a similar reform which, like the remainder of their report, was never adopted. *Ibid.*, p. 257.
39. Commission, 1858, *Report*, p. xvi.
40. *Ibid.*
41. Mackie, *op. cit.*, pp. 293-4.
42. Commission, 1889, *Report*, p. xxxviii; Records of the Universities Commission, 1889-1900, West Record House, Edinburgh, File ED/9/88; list of lecturers in the University Ledger for 1900-01.
43. Minutes of the University Court, Vol. V, pp. 21-2, 39-40, 106-7, 122-5.
44. Commission, 1889, Records, File, ED/9/23.
45. Mackie, *op. cit.*, p. 293.
46. *Ibid.*, pp. 296-7.
47. Lists of lecturers in the University Ledgers for 1900-01 and 1913-4.
48. Lists of chairs and of their patrons are given near the beginning of each year's *Glasgow University Calendar*.
49. Mackie, *op. cit.*, pp. 280-1.
50. *Ibid.*
51. Commission, 1876, *Returns and Documents* (B.P.P., C.-1935-III, 1878), pp. 200-01; Minutes of the University Senate, Vol. 95, pp. 295-300; Mackie, *op. cit.*, p. 284; "Abstract", 1882-3, Stock Account.
52. Michael Sanderson, *The Universities and British Industry 1850-1970* (London: Routledge and Kegan Paul, 1972), pp. 167-71.
53. Paul L. Robertson, "Technical Education in the British Shipbuilding and Marine Engineering Industries, 1863-1914", *Economic History Review*, 2nd Series, Vol. XXVII, 1974, pp. 222-35.
54. See lists of patrons in the *Calendar* for 1974-75, p. xlii; Commission, 1858, *Report*, pp. xvi-xvii.
55. Minutes of Senate, Vol. 96, pp. 204, 217-8, 232-3, 315; Vol. 97, pp. 126-7,

- 168-70, 213, 220, 254-7; *Transactions of the Institution of Engineers and Shipbuilders in Scotland*, Vol. 24, 1880-81, p. 183; Vol. 25, 1881-82, p. 11; Vol. 27, 1883-84, p. 63.
56. Sanderson, *op. cit.*, pp. 160-2, 170, 174-6; Mackie, *op. cit.*, p. 304.
57. Minutes of the University Court, 1901-02, pp. 17, 23; 1902-03, Appendix I, p. 3; Appendix II, p. 6; "Abstract", 1913-4, p. 4.
58. Davie, *op. cit.*, p. xix.
59. Sheldon Rothblatt, *The Revolution of the Dons* (London: Faber and Faber, 1968), pp. 65-75.