

CAMBRIDGE MEDICAL STUDENTS AT LEYDEN

by

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HISTORIANS of medical education at Cambridge during the seventeenth and eighteenth centuries (Rolleston 1932; Winstanley 1935, 1958) have rightly drawn attention to the inadequacy of university provision for medical teaching. They have criticized, with some inconsistency, both the failure of the University to revise its outmoded statutory requirements and its failure to enforce them. Until the nineteenth century the Faculties of the University functioned largely as examining bodies and teaching was the responsibility of individual colleges. Cobban (1969) in his studies of King's Hall in the later middle ages has shown that as early as the middle of the fifteenth century colleges had taken over undergraduate teaching. Cobban regards the foundation of the Regius Professorships of Divinity, Civil Law, Physic, Hebrew and Greek in 1540 as a belated attempt to regenerate university lecturing. The fact that more than one Professor of Medicine during these centuries was absent from Cambridge for the greater part of the year and seldom or never lectured does not therefore necessarily imply that no effective teaching was available. There is no doubt that certain colleges were particularly attractive to medical students at certain periods and the attraction can sometimes be reliably attributed to one or more medical Fellows of the college, known to be actively interested in teaching (Rook 1969, 1971). Nevertheless it is impossible to claim for any college any sustained tradition of medical teaching and certainly none which readily explains the subsequent distinction in clinical or scientific medicine of many of the students. The accepted explanation is that such men received their medical education in universities in France, Italy or the Netherlands, and in many instances this is undoubtedly true. However there are many men who appear to have received all their medical training in Cambridge, or at least in England, who later achieved fame.

Of some we have too little biographical knowledge to claim confidently that they never travelled in search of education, but there are many others, of whom William Heberden (1710–1801) is the most eminent, who beyond any reasonable doubt never left England. It is possible that in the seventeenth and eighteenth centuries some Cambridge men received some clinical teaching in London, as did so many of their successors after about 1820. Rolleston (1933) speculated that Heberden may have spent some time at St. George's Hospital, opened in 1733, but no hospital records to substantiate this suggestion have survived. A detailed study of medical teaching in London during this period would be rewarding (Crellin 1971). The lack of references in the Grace Book of the University to work in London before the nineteenth century may be due to the fact it was frequently undertaken at private schools.

The part played by Edinburgh in the medical education of these men is less difficult to determine, for the records are abundant. The first Cambridge man to study medicine

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at Edinburgh was Richard Mason, who in 1644 was ejected from his Fellowship on religious grounds. The next was George Sewell, the political pamphleteer who went to Edinburgh nearly 70 years later, and the next were Colligan and Beevor in the 1740s. During the period with which this paper is concerned, the contribution of Edinburgh to the education of Cambridge men was not significant. Only in the last decades of the eighteenth century, after the decline of Leyden, did it become important, and by that time medical teaching at Cambridge was struggling for survival.

Although in its broad outline this controversy has aroused interest and discussion the facts have never been thoroughly investigated: there has for example been no detailed study of the Cambridge medical students who matriculated at Leyden and of the possible influence of Leyden on Cambridge medicine. The present investigation was prompted by the discovery that although more Cambridge men matriculated in medicine at Leyden than at any other foreign university the relationship between their studies there, at Cambridge and sometimes at other universities was often strangely complex, and followed no single consistent pattern.

The definition of a medical practitioner in the days when statutory qualifications either did not exist or were not strictly enforced presents great difficulties. To include only those men with university degrees in medicine is misleading since many men who left the university without taking a degree were shortly afterwards admitted Licentiate of the Royal College of Physicians of London, which during part of the period demanded at least as high a standard as the University authorities. Graduates, Licentiate and Extralicensates are therefore accepted as qualified practitioners. The definition of a medical student at Cambridge is even more difficult; often only subsequent graduation in medicine identifies a man as such. Some men who are known to have studied medicine in the University subsequently practised without degree or diploma. Others who became established as physicians in reputable practices in country towns soon after leaving Cambridge had presumably studied medicine there, but there is rarely any conclusive evidence that they did. Even the presence of a man's name on one of the few surviving lecture lists of the eighteenth century does not prove him to be a medical student for it was not unusual for students of arts or theology to attend medical lectures.

For the purposes of the present investigation all men who had both matriculated at Cambridge and inscribed on the physic line at Leyden have been included, as 'Cambridge medical students', although some of them were probably not serious students of medicine and had visited Leyden in the course of a Grand Tour of Europe. Following Innes-Smith (1932) and Underwood (1969) a few men who matriculated at other universities in the Netherlands, but not at Leyden have been accepted as presumptive Leyden students.

In calculating the total number of Cambridge medical students during the same period there have been added all men who had matriculated at Cambridge who held degrees or diplomas in medicine, and a small number who engaged in regular medical practice without statutory qualification (see Rook 1969). The resulting figures necessarily lack precision but so great were the informality and flexibility of the medical curriculum in the 17th and 18th centuries that they are likely to provide a truer picture than a study artificially confined to graduates.

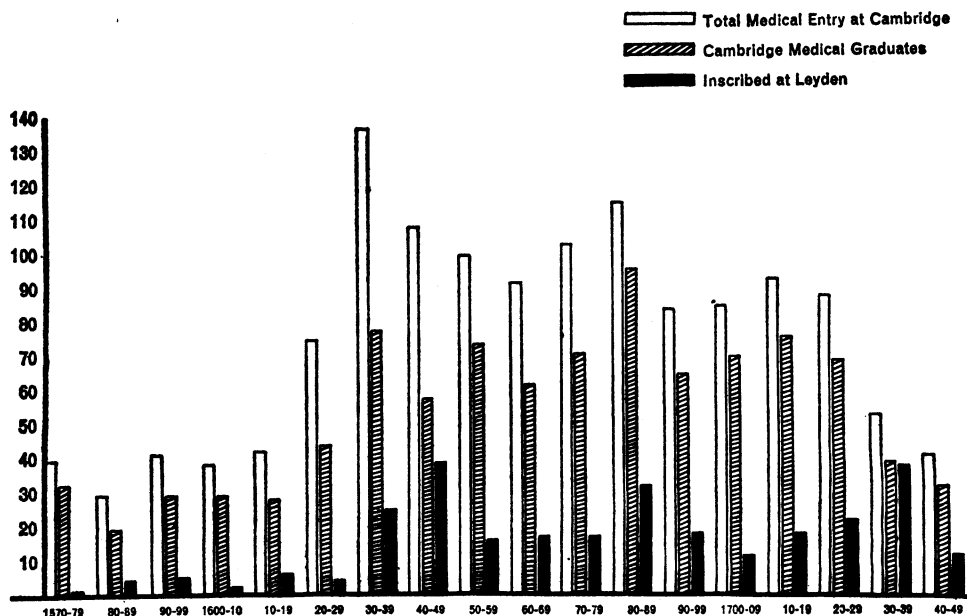


TABLE I

The number of Cambridge Medical Students at Leyden

Table I shows the total number of medical students matriculating at Cambridge in each decade from 1570 to 1749, the number graduating in medicine at Cambridge and the number inscribed on the physic line at Leyden. John James, the first Cambridge man to be entered in the Faculty of Medicine, was also the first of any nation to do so. He matriculated at Trinity College in 1564 and spent fourteen years at Cambridge, graduating M.A. in 1571 and M.D. 1578. In September of that year he went to Leyden where he spent three years before graduating again as M.D.

During the next half century, from 1580 to 1629, the proportion of Cambridge men visiting Leyden remained small. The number of students at Cambridge increased considerably in the early years of the 17th century, yet in the decade 1620-9 only about 5% inscribed on the physic line at Leyden. In the following decade the proportion suddenly increased to over 20% and in each decade for a century thereafter between 12 and 35% of Cambridge medical students found their way to Leyden. Between 1730 and 1739 about 70% did so. After 1740 the number declined rapidly, absolutely and in relation to the now small number of students at Cambridge. After 1760 there was never more than one Cambridge student at Leyden in any decade.

It would be easy to attempt to explain these statistics partly in terms of the political and religious disputes which so gravely disturbed the life of the English universities and partly in terms of the obvious attractions of the Leyden school. Such explanations have indeed often been proposed and are undoubtedly to some extent justifiable. They must however be reviewed in the light of the detailed analysis of the changing pattern of medical education in Britain and in particular the very different significance of a period of medical study in a foreign university in the late seventeenth century and in the mid eighteenth century.

Cambridge Medical Students at Leyden

CAMBRIDGE STUDENTS INSCRIBED AT LEYDEN 1578 - 1599

A	M. D. Cantab.	1	Subsequently M. D. Leyden
B	M. D. Cantab.	NONE	Subsequently M. D. elsewhere
C	M. D. Cantab.	1	
D	M. A./B. A. Cantab.	3	Subsequently M. D. Leyden
E	M. A./B. A. Cantab.	2	Subsequently M. D. elsewhere
F	M. A./B. A. Cantab.	1	No medical degree
G	M. A./B. A. Cantab.	NONE	Subsequently M. B. or M. D. Cantab.
H	Matriculated Cantab.	NONE	Subsequently M. D. Leyden
I	Matriculated Cantab.	NONE	Subsequently M. D. elsewhere
J	Matriculated Cantab.	2	No medical degree
K	Matriculated Cantab.	NONE	Subsequently M. B. or M. D. Cantab.

TABLE II

CAMBRIDGE STUDENTS INSCRIBED AT LEYDEN 1600 - 1699

	1600-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
A	M. D. Cantab.					1	1	1	Subsequently M. D. Leyden	
B	M. D. Cantab.			1					Subsequently M. D. elsewhere	
C	M. D. Cantab.			1				2	5	6
D	M. A./B. A. Cantab.	3		4	2	4	8	3	Subsequently M. D. Leyden 1 1	
E	M. A./B. A. Cantab.	2	3	1	5	7	1	2	Subsequently M. D. elsewhere 3 1	
F	M. A./B. A. Cantab.			1	6	14	6	2	No medical degree 5 2	
G	M. A./B. A. Cantab.			1		1			Subsequently M. B. or 3 M. D. Cantab. 1	
H	Matriculated Cantab.			1	3	2	1	4	No medical degree 5 1	
I	Matriculated Cantab.				2	4			Subsequently M. D. elsewhere 2 2	
J	Matriculated Cantab.				3	9	2	6	No medical degree 2 2	
K	Matriculated Cantab.							2	Subsequently M. B. or 8 M. D. Cantab. 2	

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CAMBRIDGE STUDENTS INSCRIBED AT LEYDEN 1700 - 1799

	1700-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
A	M.D. Cantab.				NONE					Subsequently M.D. Leyden
B	M.D. Cantab. 1									Subsequently M.D. elsewhere
C	M.D. Cantab. 1	2	9	4	3					
D	M.A./B.A. Cantab.									Subsequently M.D. Leyden 1
E	M.A./B.A. Cantab.				NONE					Subsequently M.D. elsewhere
F	M.A./B.A. Cantab. 3	2	2	9	3					No medical degree
G	M.A./B.A. Cantab. 1	1	4		1					Subsequently M.B. or M.D. Cantab.
H	Matriculated Cantab. 1	1	3		1	2				Subsequently M.D. Leyden
I	Matriculated Cantab. 2	1		2	1					Subsequently M.D. elsewhere
J	Matriculated Cantab. 5		1	9	3			1		No medical degree
K	Matriculated Cantab. 2	4	3	14	1	1	1			Subsequently M.B. or M.D. Cantab.

TABLE IV

PATTERNS OF MEDICAL EDUCATION

There were no fewer than eleven different variations in the relationship between a man's education in arts or in medicine at Cambridge and the period he spent at Leyden. These variations were possible because there was no fixed minimum requirement of previous education or experience for inscription, admission to the examination or graduation at Leyden. In particular no evidence of clinical experience was required (Lindeboom 1969).

A. Medical Degree at Cambridge, subsequently M.D. Leyden.

The precedent set by John James, Leyden's first foreign medical student, was never precisely followed; indeed only three other men took a degree at both universities. John Spranger M.B. of Caius College in 1649 was admitted M.D. Leyden in 1656; Thomas Forres M.B. of Christ's in 1669 was M.D. Leyden in the same year and Charles Goodall M.L. of Emmanuel College in 1665 was M.D. at Leyden in 1670. All three men had advanced to a higher degree. Spranger spent five days at Leyden and Goodall only two weeks. Forres spent up to ten months at Leyden where he inscribed before taking his M.B. at Cambridge. John James was a postgraduate student in the modern sense. Spranger and Goodall spent too short a period at Leyden to have derived any benefit from the teaching there even if they in fact attended lectures. Forres on the other hand probably obtained an important part of his medical training from Leyden.

B. Medical Degree at Cambridge, inscribed at Leyden, subsequently M.D. elsewhere.

Only one man followed this course; Thomas Attwood, who had previously been at Oxford, was M.B. Caius in 1696, inscribed at Leyden in 1702 and was M.D. of Utrecht in 1705. He may well have spent much of his time at Leyden.

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C. Medical Degree at Cambridge, inscribed at Leyden.

Francis Wiseman who entered St. John's College in 1629 and was B.A. in 1632, M.A. in 1635 and M.L. in 1638 inscribed in the Faculty of Philosophy at Leyden in June 1638, then returned to Cambridge for his M.D.

During the period between 1670 and 1749 thirty Cambridge medical graduates subsequently inscribed at Leyden. There appears to be no means of establishing how long they stayed there. Some of them later proceeded to the Cambridge M.D.

D. Arts degree at Cambridge, subsequently M.D. at Leyden.

This procedure was followed by 30 men and found favour especially between 1630 and 1679. The surprisingly short period most of them spent at Leyden is discussed below.

E. Arts degree at Cambridge, inscribed Leyden, subsequently M.D. elsewhere.

For 27 men a Cambridge arts degree was followed by a period at Leyden after which they took the M.D. of some other university. The procedure was invariably followed from the late sixteenth and throughout the seventeenth century and was most favoured from 1630–49. Joseph Lister, M.A. of Trinity College, inscribed at Leyden on 6 November 1596, but can have spent only a short time there for later in the same year he inscribed at Basel where he later proceeded M.D. He no doubt travelled with William Clement, also M.A. of Trinity College, who inscribed at Leyden on the same day and then at Basel. However his stay at Basel must have been short for before the end of the year he was at Padua where he later took his M.D. Until the middle of the century Padua was the most favoured university, but gradually universities in the Netherlands, Groningen, Franeker, and in particular, Utrecht, increased in popularity. During the century one more in this group graduated at Caen, one at Basel and one at Orange.

F. Arts Degree at Cambridge, inscribed at Leyden, no medical degree.

The 56 men in this somewhat controversial group were first attracted to Leyden in the third decade of the 17th century and continued to inscribe there until the middle of the following century. Some of them subsequently became Licentiate or Extra-licentiate of the Royal College of Physicians, a few others are also known to have practised medicine, but unless further evidence comes to light the majority cannot be accepted as serious students of medicine.

G. Arts Degree at Cambridge, inscribed at Leyden, subsequently M.B. or M.D. Cambridge.

Ten of the 13 men in this group inscribed at Leyden during the Boerhaave period. There is no consistent pattern. Some are known to have spent several years at Leyden. Charles Milner of Christ's College, for example, was at Leyden for the greater part of the four years between his B.A. in 1721 and his M.A. in 1725, but he did not proceed to the M.D. until 1734. Others such as George Boulter of Magdalen College remained at Cambridge until after the M.A. and then spent only a few months at Leyden before returning to Cambridge to take the M.D.

There remain the classes who matriculated at Cambridge but took no degree there before their stay at Leyden. In many instances we do not know how long they were in residence at Cambridge; the fact that the time elapsing between matriculation at Cambridge and a medical degree was usually between three and six years is suggestive but there is no proof that this period was actually spent at Cambridge.

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H. Matriculated Cambridge, subsequently M.D. Leyden.

Between 1620 and 1759, 26 men who had matriculated but not graduated at Cambridge took the Leyden M.D. The interval between matriculation at Cambridge and inscription at Leyden averaged about 6 years and was usually between 4 and 8 years. In two cases it was as long as 11 years. The interval between inscription and graduation ranged from 5 days to 2½ years and in 9 cases was less than a month.

I. Matriculated at Cambridge, inscribed at Leyden subsequently M.D. elsewhere.

The 17 men in this group like those in Group H inscribed at Leyden some 5 or 6 years after matriculating at Cambridge. After staying at Leyden for a period which was sometimes only a few days but in some cases may have exceeded two years, they inscribed and graduated at another university, frequently at Padua in the first half of the 17th century, and later more often at Rheims or Utrecht.

J. Matriculated at Cambridge, inscribed at Leyden, no medical degree.

Bartholomew Adrian entered Trinity College in 1581, and inscribed at Leyden 3 years later. He certainly practised medicine, attending Sir Philip Sidney at Zutphen, but although he is said to have been M.D. no record of his degree has been traced. He provides an appropriate example of this numerically important group of 48 men. About most of them little is known and it is probably true that many were not serious students of medicine. However others apart from Adrian practised medicine, some also claiming medical degrees which have not been traced.

K. Matriculated at Cambridge, inscribed at Leyden, subsequently M.B. or M.D. at Cambridge.

The 37 men in this group matriculated at Cambridge where they remained for from 2 to 6 years. They then inscribed at Leyden where they usually spent up to 2 or 3 years before returning to Cambridge to take the M.B. or M.D. degree.

DURATION OF STUDY AT LEYDEN

Except in the cases of those few men whose careers have been so carefully studied that adequate biographical information has been assembled, the length of the period of study at Leyden is difficult to determine; the archives at Leyden provide no means of

DURATION OF STUDY AT LEYDEN

	- 1649		1650 - 1699		1700 -		Totals
	M. D. Leyden	Others	M. D. Leyden	Others	M. D. Leyden	Others	
Under 1 week	1		5		1		7
1 week to 1 month	4	5	11		3		23
1 - 3 months	2	1	1	2			6
3 - 6 months	4	1	2		3		10
6 months to 1 year	3	4	3	2		4	16
1 to 2 years		1	5	1			7
Over 3 years	1		4		1		6

TABLE V

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doing so (Lindeboom 1969). It can be reliably assessed in those who graduated at Leyden. The interval between inscription and graduation for the Cambridge men who graduated at Leyden is shown in Table V.

For those men who inscribed at Leyden and later inscribed at another university the interval between the two dates clearly indicates the greatest possible duration of their stay at Leyden. These figures are also given in Table V.

For the men in Group K who matriculated at Cambridge to which they later returned to graduate, the period of study at Leyden cannot be estimated with any confidence. The interval between inscription at Leyden and graduation at Cambridge was usually between 2 and 3 years but some men may have returned to Cambridge many months before their graduation.

THE ATTRACTION OF LEYDEN

From its foundation in 1575 the University of Leyden did not confine its teaching to theology but extended it to 'all the honest and liberal arts and sciences'. As Huizinga (1968) reminds us scholasticism made its presence felt and Aristotle at first reigned supreme, but the University was not encumbered by the weight of a medieval past. The Netherlands abandoned witch hunting a century before her neighbours and anticipated by a century their provision through Christian charity of reformatories, workhouses and orphanages. At the end of the 17th century Dutch culture declined and the age of Boerhaave, which brought the Netherlands international fame in medicine, was an age of cultural decadence.

When John James went to Leyden in 1578 Pieter van Foreest was professor of medicine; he had trained at Bologna, Padua and Paris. Associated with him was Geraert de Bondt (1536–99), a Padua graduate, the first Professor of Mathematics and Physics, who transferred to the Chair of Anatomy and Botany in 1581, and organized the Botanic Gardens. In 1589 he handed over the teaching of Anatomy to Pieter Paaw (1564–1617) who had studied at Padua under Fabricius. In 1581 Jan van Heurne (1543–1601) succeeded van Foreest, and in 1591 attempted unsuccessfully to establish bedside teaching (Snapper 1956). The attraction of Leyden for the men who went there from Cambridge during the first half-century of the school's existence was no doubt the regular teaching in anatomy and in medical botany. In Cambridge anatomy was taught only sporadically and there was no botanic garden.

Otto van Heurne (1577–1652) who succeeded his father as Professor of Medicine was allowed to introduce clinical teaching in 1637, largely because it had recently been introduced by the rival University of Utrecht. The teaching was confined to demonstrations without discussions, for the students refused to be interrogated during ward-rounds (Snapper 1956). The large increase in the number of Cambridge students at Leyden between 1630 and 1649 may be in part the result of van Heurne's teaching but many were no doubt eager to escape the political and religious conflicts which so disturbed the English universities at this period. Academic as well as political appointments remained insecure and the succession of changing regimes throughout the Commonwealth and for some years after the Restoration, and political and religious considerations must have influenced many of the students who left Britain. Nevertheless the positive attractions of Leyden had increased with the appointment of

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Franciscus de le Boë (Sylvius) (1614–72) as Professor of Anatomy in 1658. He attempted to integrate into medicine the discoveries in the developing science of chemistry and he established bedside discussion on his ward rounds. Although some men of ability succeeded Sylvius, teaching at Leyden declined during the last decade of the seventeenth century and fewer Cambridge students were attracted. In general the faculty was weak and negligent when Boerhaave was a student and as a physician he was almost totally self-taught (Lindeboom 1968). He received little clinical teaching.

Boerhaave taught at Leyden from 1701–1738, and was Professor from 1709. The quality of his teaching is reflected in the growing number of Cambridge men who inscribed at Leyden between 1701 and 1738, although the total number of students at Cambridge was in fact declining. After Boerhaave's death clinical teaching continued only until 1744 after which it was not revived until 1787 (Lindeboom 1968).

THE INFLUENCE OF LEYDEN ON CAMBRIDGE MEDICINE

Although many Cambridge students visited Leyden, especially during the Boerhaave period, many spent only a few weeks or even a few days there. Even the possession of a Leyden M.D. did not imply that a man had received any significant part of his training in that University. Underwood (1969) has suggested that an arbitrary period of four weeks may be considered sufficiently long 'to give a student some idea of the Leyden ethos'. Perhaps any such arbitrary assumption is unnecessary. The works of the greatest teacher of the Leyden school were widely read in Cambridge. The later careers of men who visited or even graduated at Leyden were no more successful as measured by worldly or scientific achievements than those of Cambridge contemporaries who did not visit Leyden or any other foreign university or indeed receive any important part of their education outside Cambridge. Leyden long occupied a key position in the complex and variable pattern of medical education in Europe and directly and indirectly influenced the development and gradual transformation of that pattern. A man who had read Boerhaave's works, perhaps corresponded with him,* and who followed his principles was as much his pupil as the man who had spent some months at Leyden.

The Cambridge medical school barely survived the last decades of the eighteenth century. The remarkable revival of the school in the nineteenth century was initiated by John Haviland, a Cambridge graduate who had spent only a short time at Edinburgh. The immense influence on him of the Leyden tradition, transmitted through Edinburgh (Guthrie 1959) cannot be assessed merely in terms of the length of his residence there.

*The extent to which Boerhaave contrived to influence his pupils is well illustrated by his later correspondence with them, in which he often gave advice on diagnosis or treatment (Power 1918; Lindeboom 1962).

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