

organized to carry the benefits of vaccination to the New World. It was to proceed not only to Mexico, but also along the Venezuelan coast, over the Andes, and across those vast stretches which led to the Spanish settlements on the Rio Plata. In 1803 Francisco X. Balmis, a surgeon from Alicante, set off on that amazing voyage. Preservation of the virus was a problem, overcome in a practical manner. Sailing with the ships were 22 boys; at the outset one was inoculated. From arm to arm, from boy to boy, the virus was carried to the Indies.

At Caracas, the expedition subdivided. The leader of the party which traversed the South American continent was Dr. Salvany, a graduate from the College of Surgery in Barcelona. From Venezuela, Balmis made his way to Havana, sent a detachment to Guatemala, and led his men to Mexico. But that was not all; on went Balmis, with another 26 boys, to the Philippines, Canton, around to Lisbon and back to Madrid. But why these diversions from surgery to public health? Dr. S. F. Cook [2] informs us that seldom, perhaps never, in the history of medicine has there embarked an expedition so grandly conceived, so well executed, and so uniformly successful. Its preparation left nothing to be desired and the chairman of the first Scientific Advisory Committee was Antonio de Gimbernat. Having studied surgery at St. George's under Mr. Hunter, Gimbernat surely kept an eye on the activities of Dr. Jenner.

To select Gimbernat's main contribution presents difficulties; he had so many interests. Perhaps it was as an organizer, as a dean. For years Gimbernat advised with outstanding wisdom on all kinds of surgical and medical matters. Quite late in life he was occupied on the planning of yet another contemplated medical school at Pamplona, which was to benefit from the experience of the Barcelona and San Carlos successes.

Gimbernat had responsibilities at Court and responsibilities at the Universities and hospitals, but the anatomy commenced at Cadiz remained as a relentless study, in an alert and observant way. Surrounded by increasing administrative activities, Gimbernat continued to train surgeons and to justify his favourite and oft-quoted remark, "mi autor más favorito es el cadáver humano".

As a co-ordinator of medical practice Gimbernat will be remembered. "Medicine for the surgeons and surgery for the physicians" were his actual words. Gimbernat's interest in vaccination showed that he meant what he taught.

These are but some of the contributions of one of the masters of Medicine in Spain. As the founder of Schools of Anatomy his place is secure. Since, however, this great Catalan—pioneer in ophthalmology, vascular surgery and urology—has more than once been described as a herniologist, we must add that it was at a time when that peculiar term put one in good company; it had been applied to Antonio Scarpa, to Astley Cooper, and even to Pieter Camper.

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Eighteenth Century Medical Care: A Study of Roxburghshire

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IN some respects the medical history of the eighteenth century is almost too rich—rich to the point of deception, for it has been written up so fully and well in certain directions that it is all too easy to lose sight of its deficiencies.

One of its lacunæ is its failure to give any clue to the real availability of medical care in the period, or, to put it plainly, to show how the common people received medical advice and treatment. Relatively speaking our knowledge of the way the art of medicine reacted to the more scientific and liberal outlook that dates from about the mid-century leaves little to be desired. The effects of that intellectual renaissance on the practice of medicine have been closely studied. Innumerable examples spring to mind—Lind's code of hygiene for the Navy, Pringle's specialized Army Medicine, Hunter's contributions to surgery and

Smellie's to midwifery, a new school of clinical teaching in Edinburgh under Cullen and Andrew Duncan the Elder, the establishment of hospitals and dispensaries and the spread of preventive medicine practices generally.

All this contrasts strangely with the slenderness of our information about domiciliary medicine in the same period. While historical research has floodlighted the great advances in medicine we would still be hard put to it to show clearly whether the majority of the subjects of George III, urban and rural, sought or received medical advice as freely as those of either Anne or the young Victoria.

It may be said the very fact that in the course of the century some dozens of general hospitals were founded in London and the main provincial centres and that they were quickly followed by the establishment of dispensaries and special hospitals such as fever hospitals is a good measure of the growth of a healthy contemporary interest in medical care. It may be felt that the records of these institutions, where they have survived, contain all the information we need for a reasonable reconstruction of the medical care position; and it is perfectly true that hospital and dispensary records do reveal a good deal about *town* medicine. But unfortunately these institutional records being related, with very rare exceptions, to urban conditions and urban populations, throw very little light on what was going on in rural and semi-rural areas where the great bulk of the population lived—as much as 80% of it even at the end of the century according to Weber [1]. So that eighteenth century town medicine is scarcely more representative of the position in the country as a whole than rural medicine would be to-day. That being so, is there any way of getting closer to the social relations and economic significance of medicine in the rural, and consequently the more typical, England or Scotland of the eighteenth century? The answer depends on whether the surviving local records for small market towns, villages and hamlets contain the kind of information we need.

It would be ridiculous to expect any great wealth of relevant information from these sources, but there are two questions which are fundamental in relation to the medical care of any community at any date and if local records from appreciable areas in different parts of the country could provide answers, or even partial answers, to these questions the net result might be illuminating. The questions are these: What was the proportion of doctors to the population? and, How were they distributed? This paper is primarily the record of an attempt to find answers to these questions for one "appreciable area" during the latter half of the eighteenth century; it tests from the medical standpoint, so to speak, the utility of local records and other contemporary sources in one fair-sized rural county. It was as a matter of personal convenience that the county selected for the experiment was the Scottish county of Roxburghshire.

ROXBURGHSHIRE

This county occupies almost 1,000 square miles of the south of Scotland. Throughout the eighteenth century its economy was based entirely on agriculture and despite marked differences in the quality of land that ranged from the heights of the Cheviots to the fine valley of the Tweed no district benefited more from the "improved agriculture" of the period; so that though it comprised no more than 3% of Scotland's total area it accounted for at least 10% of her "valued rent" [2].

As well as becoming a prosperous county it was always a beautiful one.

'Tis Beauty all and grateful song around
 Joined to the low of kine and numerous bleat
 Of flocks thick nibbling thro' the clovered vale.

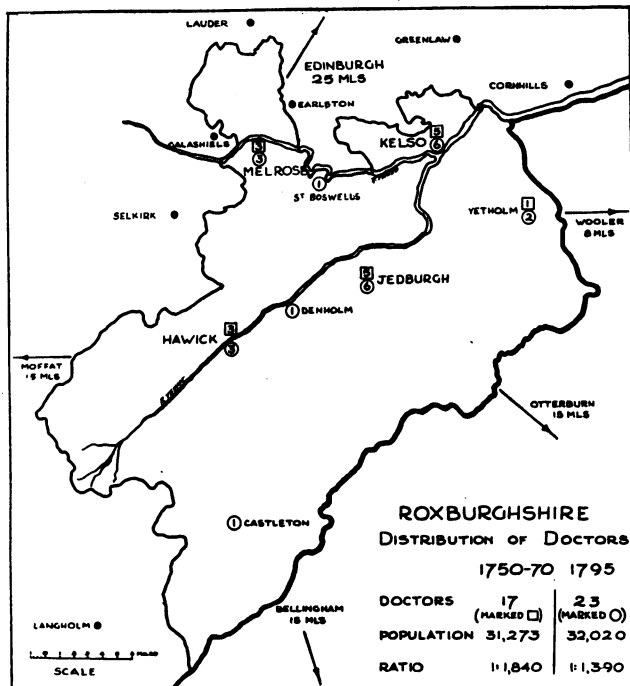
So wrote James Thomson, the county's native poet, in 1730. And if, presently, it seems that the county attracted a disproportionate number of doctors to settle there the inducements of a district both prosperous and pleasant must be borne in mind.

Prior to about 1770 movement through the county was hampered by lack of decent roads and bridges. But after that date mobility was improved by the opening of four good stretches of turnpike road and by an increase in the number of bridges over the Tweed and the Teviot to two in each case [3]. It will be shown that these changes, which must have meant a good deal to the doctors, do correspond in time with a definite alteration in the scatter of doctors over the county.

As to population, there are fortunately two reputable eighteenth century estimates of Scotland's population by counties—Webster's in 1755 [4] and Sinclair's in 1795 [5]. According to these, Roxburghshire's population remained very stable over half a century: Sinclair's figure of 32,020, or about 2% of the whole country, being only 747 more than Webster's early estimate.

The county contained no large town during the century and though the nearest was about 45 miles, or a good day's ride, from the centre of the county, it was Edinburgh—Edinburgh in the heyday of its glory as a medical centre and not without its influence on medical care

even at this distance. Of its own four small towns Kelso, the largest, had a population of 4,324, Jedburgh, 3,288, Hawick, 2,928 and Melrose 2,446 [5]. The landward part of the county was divided into 31 parishes. Generalizing with the aid of Sinclair's Statistical Account of Scotland, a typical lowland parish consisted of a principal village of some 200–300 inhabitants, fifteen to twenty farm hamlets with 30 to 40 inhabitants in each, the mansions of three or four resident landowners and a variable number of isolated small farms and cottages, giving the parish a total population of rather under 1,000. In the hill



parishes there was hardly anything that could be called a village and the number of hamlets and small farms was rather greater.

From all this description Roxburghshire emerges as an ideally uncomplicated setting for the study of eighteenth century rural medicine.

In the period under review local government, such as it was, was mainly carried out for each parish separately by the Kirk Session—a body that corresponded roughly to the Vestry of an eighteenth century parish in rural England. One of the principal responsibilities of the Kirk Session was to provide for the parish poor and in consequence the Session was involved to some extent in questions of medical relief. Medical relief at times meant the services of a doctor and it is these Sessions' records, their minutes and accounts (too lightly regarded storehouses of social history but in the main miraculously preserved) that form one of the key sources of information about local doctors in Scotland. Emmison [6] in a study of a Bedfordshire parish has already noted that the comparable material, the minutes of the Vestries and the accounts of the overseers of the poor, contains the best surviving and untapped sources of information about doctors in eighteenth-century England.

THE NUMBER OF DOCTORS AND THEIR DISTRIBUTION

The map shows the number of doctors residing and practising in Roxburghshire, and the way they were distributed over the county at two different periods, in 1750–70 and again in 1795.

It will be appreciated that the nature of the source that will yield evidence of the existence of doctors may differ not only from place to place, but from time to time in the same place. When Kirk Session records fail for any reason the clue may come, for example, from a local newspaper, a biography, Masonic Lodge records or from the records of some other local society or institution. Even so there are places where the trail can only be picked up spasmodically over the years and it is generally impossible to pin down the number of doctors for all places to *precisely* the same year.

It is for this reason that the earlier phase covered by the map has had to be quoted as

referring to a twenty-year span, 1750–70. In the case of the 1795 phase the difficulty is minimized by that social history windfall, Sinclair's Statistical Account of Scotland. Published in 21 volumes between 1791 and 1798 it makes the evidence so much clearer for those years that it can be brought to a focus at what may be called "circa 1795"; and since "circa 1795", when there is evidence of the presence of 23 doctors in the county, is the better founded of the two phases it will be simpler to consider it first.

Sinclair's Account has something to say about every parish in Scotland; a separate report was made on each, as a rule, by the minister of the parish. The reports on the different parishes vary enormously in size and in value. Some of them mention the health of the parish and its prevalent diseases, and about one in ten has a word to say about the presence or absence of doctors in the parish. Fortunately, in the accounts of four of the Roxburghshire parishes—Kelso, Jedburgh, Castleton and Yetholm—we are told about the doctors.

Take Jedburgh—the minister in his account to Sinclair states that there are "three physicians and three surgeons" in the parish [7]. The minister of Castleton mentions that there is "a surgeon in the parish" [8]. The Yetholm minister says there are "two doctors in the parish" and adds "one of them has given over business" [9]. For some reason it was not the parish minister but Dr. Christopher Douglas, the leading physician of the town, who wrote the Kelso account for Sinclair. He gives a list of occupations and includes "medical practitioners—6" [10]. It was a typically gracious gesture on the part of Dr. Douglas to use a phrase that included the inferior surgeons and apothecaries in the same category as himself.

On the face of it there is no reason to doubt the accuracy of these statements: but they can be checked, and mentioning how this can be done will show what sources of information about eighteenth century rural medical practice can still be found.

In the case of Kelso checking is particularly easy, for in 1795 there had been a public dispensary in the town for nearly twenty years; its records have all survived and in them are several indications of the number of doctors practising there [11]. Confirmation of Castleton's one doctor comes from a letter written to the local newspaper, the *Kelso Mail*, in 1798; the writer refers to inoculations against smallpox being carried out "by the surgeon who resides in the parish" [12]. It is the *Kelso Mail* that confirms the presence of two doctors at Yetholm, shows it was a father and son partnership and even reveals what lay behind the Minister's remark that one of the doctors there "had given over business", for three years later the paper announced [13] that, though Dr. Walker "who had been so long in practice at Yetholm had died there at the age of 83", his son would continue to practise there. Checking the presence of three physicians and three surgeons in Jedburgh is a more complicated business. Three of them can be traced through Kirk Session records (using the records in a way that will be described in detail in relation to St. Boswells), one through an obituary notice in the *Kelso Mail* [14], another through a reference in Robert Burns' diary [15] to his hospitality to the poet during a journey through Roxburghshire and the last through the autobiography of the same minister who wrote the Jedburgh account for Sinclair [16].

Sinclair's Account, alas, gives no further help and doctors in any of the remaining parishes have to be tracked down by other means.

St. Boswells offers a good example of the way in which this aspect of the medical history of even a small village can be pieced together from its Kirk Session records. On going through the St. Boswells Session disbursement accounts for the last decade of the century it is found that occasional small payments have been made to Dr. John Mein. In these records, as in all session records, references to medical relief are scant, but one such reads: "August 13th, 1796. To Dr. John Mein for attending Mary Muir per receipt £1 0s. 0d." [17]. The records show that Mary Muir is an old parish pensioner who has been receiving 5s. a month for some years, but, unfortunately, they tell us nothing about the nature of her illness or what attendance Dr. John Mein gave for his £1. That Dr. Mein lived at St. Boswells is confirmed by the parish baptismal roll where the names of his children are registered. No other doctor is referred to in the parish records during Dr. Mein's time: but it is needless to speculate about the possibility of there being a second doctor at St. Boswells for it is surprising enough to find one man making a living there when the population of the whole parish was only 500 and when there were doctors in the neighbouring parishes of Melrose and Earlston in Berwickshire.

The poorness of the practice at St. Boswells is dramatically confirmed on examining the Session's accounts for subsequent years. They reveal the experience of the doctor who succeeded Dr. Mein in about 1803, a Dr. Oliver, to whose skill a local biography bears testimony [18]. Yet after twenty years there Dr. Oliver himself became a pensioner of the parish, receiving regularly from the Kirk Session his coals, firewood and meal and, occasionally, gifts such as a few shillings in cash, a pair of shoes, a hat or a great coat (noted as costing 19s., and 6d. for carriage). Though there is evidence that forty years earlier one of the

Hawick doctors reached a similar degree of destitution [16], poverty was not the typical experience of a Roxburghshire practitioner of the period. On the contrary, when the matter can be tested, they seem to have prospered, for at least four retired to comfortable little estates in the county; another became a considerable property owner in Kelso and there are several examples in the half-century of sons succeeding happily to their fathers' practices.

Denholm, where the map shows one doctor, has no eighteenth century session records of its own for it was not then a parish. But after 1775 the neighbouring parish of Minto, which up till then had occasionally employed a surgeon from the much more distant town of Jedburgh, began to use the services of Mr. Turnbull "surgeon in Denholm" [17] and that is also his address in the list of the Hawick Subscription Library in 1790.

In the case of Hawick it happens to be easier to find the local doctors from the town's valuation roll for the poor rate in 1789 [19]. The roll covered all the dwellings and followed the good old-fashioned custom of putting a man's occupation after his name. It shows one physician and two surgeons in the town with assessed rentals of £7 5s., £4 5s. and £3 respectively and since the highest assessment was £12 10s. and the lowest 10s. it furnishes a rough indication of the status of the doctors. The names of these three men are also to be found in the records of the neighbouring Kirk Sessions showing that they were all in active practice.

After every other known source of information has been tapped Melrose remains as the one parish not already mentioned in which there were practising doctors. There, as it happens, the records are poor and the important cash accounts of the Kirk Session have not survived, but those of the neighbouring parishes of Galashiels and Bowden [17] refer to a physician and a surgeon who were evidently practising in Melrose in this period. There is less satisfactory evidence of a second surgeon who appears to have practised in the town at the same time. He is named as a father, and is designated surgeon, in the baptismal roll for 1793 and again for 1794 and he lived right in the town, a thing he was most unlikely to have done had he been of independent means. Further it can be shown both for an earlier period and subsequently that Melrose was a three-doctor town, so that it seems proper to mark it on the map as such in 1795. With this single exception the evidence for every one of the 23 doctors of the date being in active practice is unequivocal; an important point in view of the number of retired doctors living in the district who must be rigidly excluded from any list that purports to show only practising doctors.

Given 23 as the number of doctors and 32,020 as the population of Roxburghshire it is still not permissible without considering one further point to say that 1 to 1,390 truly represents the district's doctor/population ratio in 1795. The county boundary meant nothing to the doctors. The real doctor/population position could be very different if Roxburghshire was a county that was a greater or lesser exporter or importer of medical services, so to speak, than the neighbouring counties. Fortunately something can be done to assess the significance of this factor.

Just as it is generally possible to show for Roxburghshire where each parish drew its medical services from, so with adjacent parishes in the neighbouring counties. When the position is examined in this way it is found, for example, that Kelso doctors penetrated deeply and regularly over the county border into both Berwickshire and Northumberland. While, on the other hand, it is found that doctors from a circle of places in neighbouring counties, from Lauder and Earlston in Berwickshire, from Selkirk and Galashiels in Selkirkshire and even from Langholm in Dumfriesshire at times rode over the boundary, but only into the fringes of marginal parishes in Roxburghshire. To the south where the Cheviot Hills and the barren moors of north Northumberland lie, the question did not arise. Certainly the overall impression is that Roxburghshire's medical service exports and imports were near a balance and that a ratio of one doctor to every 1,390 inhabitants in 1795 is a fair representation of the position.

To enumerate the practising doctors for 1750 to 1770, or roughly a generation earlier than the period just considered, is a more difficult and a less satisfactory task. There is nothing like Sinclair's Account or a county newspaper for this earlier period and the ravages of time have reduced the number and lessened the decipherability of the Kirk Session records. Some slight compensation, however, comes from two sources not so far mentioned. The one, containing innumerable references to local doctors and their work is the diary for 1755-61 of George Ridpath, minister of the Roxburghshire parish of Stichel [20], who, like so many parish ministers of his day, was well versed in medicine and treated by the doctors almost as a colleague. The other is a report on inoculation in Scotland prepared in 1765 by Alex. Monro, Sen. [21], which with its list of doctors practising inoculation, has value in confirming that certain doctors about whom there might otherwise be doubt were in active practice. Without entering into tedious and space-consuming details of the way the figures for this period, which add up to 17 doctors as against the 23 in 1795,

have been pieced together, it can only be said that from the evidence available they are the maximum numbers of doctors found practising in each place at any time between 1750 and 1770. If this figure of 17 be accepted for the doctors and Webster's estimate of the population in 1755 is used the doctor/population ratio at 1 : 1,840 is definitely less favourable than it was in 1795, as the following table shows:

MEDICAL PRACTITIONERS RESIDING AND PRACTISING IN ROXBURGHSHIRE				
	<i>Circa</i> 1750-1770	<i>Circa</i> 1795	1837	1939
Kelso	5	6	7	4
Jedburgh	5	6	7	3
Hawick	3	3	5	6
Melrose	3	3	3	2
Castleton	0	1	2	1
Denholm	0	1	1	1
St. Boswells	0	1	1	2
Yetholm	1	2	2	1
Total practitioners	17	23	28	20
Population of Roxburghshire	31,273 (Webster's estimate)	32,020 (Sinclair's Account)	43,663 (Census 1831)	45,788 (Census 1931)
Ratio of practitioners to population	1 : 1,840	1 : 1,390	1 : 1,560	1 : 2,290

But whatever significance may be attached to the altered doctor/population ratio, surely the more important feature is the poorer scatter of doctors in the earlier period observable both in the table and in the map, for in rural medical practice it is on the scatter of doctors that the availability of medical services so largely depends. Three villages, it will be noted, Castleton, Denholm and St. Boswells, each of which had a doctor in 1795, had none in the earlier period. Nor is the evidence of this merely negative, for the relevant Kirk Session records¹ show that prior to 1790, 1773 and 1780 respectively these three parishes when arranging medical relief for a parish pensioner had to call on a doctor from a distance whereas after those dates the doctor in the parish itself was used.

What led to doctors setting up practice in these parishes can only be surmised. The reason would have been plain enough had there been significant increases in the populations of these parishes, but there were not [3]. In Castleton there was an actual decrease: but it was a hill parish without anything that could be called even a village in it until 1793 when the Duke of Buccleugh planned and built one [22], and it seems probable that it was the talk of a village that attracted a man there sightly in advance of its foundation. In the case of Denholm and of St. Boswells the likely factor is that following a Turnpike Act of 1768 [3] both became well sited from a doctor's point of view on new and important roads. Setting aside the cause, an interesting effect which can be observed from the table is that the scatter pattern for Roxburghshire's doctors that was adopted in the late eighteenth century became fixed in that form and has remained unchanged to this day. This century and a half old arrangement has been less affected by such changes in the doctor's *modus operandi* as the motor car and the telephone, than might have been expected, and it remains to be seen whether health centres or group practice will presently prove revolutionary enough to alter such a stable feature.

The table clearly invites comparisons between the doctor/population ratios in the eighteenth, nineteenth and twentieth centuries, but any that are made must be heavily qualified. No attempt, for instance, has been made to ascertain whether the position in 1837 was typical of the nineteenth century; 1837 figures have been given simply because Pigot's Commercial Directory of Scotland, which was published for that year only, provides a unique ready-made, and so far as it has been tested, reliable list of practising doctors for each county. Nor is it clear how far it is reasonable from the point of view of medical care to equate the work of a present-day rural general practitioner with that of an eighteenth century doctor who, in name at least, was either a physician, a surgeon or an apothecary and whose travelling time on his country round, taking 7 miles an hour as fair riding, was roughly four times greater than to-day. On classifying eighteenth century Roxburghshire's 23 doctors in an attempt to elucidate this point it is found that they comprised ten who were regularly styled "Dr." and called physicians, eleven who were always referred to as "Mr.—surgeon" and two who were sometimes referred to as surgeon and sometimes as "Apothecary—". Theoretically they should have restricted themselves to their traditional spheres: the physicians should not have taken apprentices nor performed inoculations nor

¹The relevant records for Denholm are the Minto Kirk Session records.

treated such obviously surgical conditions as fractures nor done midwifery, but to quote only from Kelso's experience the physicians there did some or all of these things during the latter half of the century. One advertised for an apprentice [23], another inoculated [24], a third was paid by the Kirk Session of the near-by parish of Smallholm to treat a fracture [17] and a fourth continued to attend confinements some time after he had taken his M.D. degree and become styled physician [20], while the Kelso apothecary was also a competitor of the surgeons, at least in the matter of fractures [20]. It is true that one of the gentry would still have his physician's, his surgeon's and his apothecary's bills to meet at the end of the year [24], but on economic grounds exclusiveness in practice was obviously incompatible with rural conditions, and for the wider public the local doctor, whatever his strict professional status, was virtually a general practitioner: where there was a choice of doctor, as in the towns, it was the size of the patient's purse rather than the nature of his illness that determined which type of doctor he called in. Dr. Douglas was after all in tune with the times when, in writing an account of Kelso for Sinclair, he discarded the old terminology and grouped all the doctors under the single heading "medical practitioners".

Even so there are too many differences in the circumstances of the two periods to justify comparisons and it can only be said that it speaks well for eighteenth century Roxburghshire's attitude towards medical care that it supported such a surprising number of local doctors. And this surely is the crux of the business, this getting closer to the eighteenth century's attitude towards medical care: for the accumulation of figures showing the numbers of doctors one hundred and fifty years ago or information about their distribution can be of little or no value unless it leads to a better understanding of the contemporary outlook and ideas. In this respect this particular experiment has been gratifying. Its main purpose, and the one described in this paper, was to locate doctors. But in the process a good deal has been learnt about the wider aspects of medical care in this part of Scotland and as the task of following up some of these by-products of the investigation proceeds it is becoming possible to trace the evolution of a local policy of medical care that by the end of the century took practical shape in the establishment of two dispensaries, the one at Kelso and the other at Jedburgh, that were functionally different from the contemporary town dispensaries and well adapted to the special needs of this rural community.

Roxburghshire in this period, it must be borne in mind, was recognized to be politically and culturally progressive and until there is evidence from elsewhere it is wiser to assume that in its socio-medical developments it was also ahead of the times.

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