The Scottish Society Of the History of Medicine

(Founded April, 1948)

REPORT OF PROCEEDINGS

SESSION 2004-2005 and 2005-2006

The Scottish Society of the History of Medicine

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CONTENTS

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THE FIFTY SIXTH ANNUAL GENERAL MEETING

The Fifty Sixth Annual General of the Society was held in the Royal College of Physicians and Surgeons in Glasgow, on the 6th November 2004. The President, Dr David Wright, was in the Chair. The minutes of the Fifty Fifth AGM were approved. The Secretary's report was accepted. The Treasurer's report, presented by Dr Wright in the unavoidable absence of Dr Jonathan Wedgwood, was accepted. Drs Rufus Ross, K Mills and D Boyd, retiring Council members, were thanked for their contributions. Dr James Beaton was proposed as a new member of Council. Dr Wedgwood, whose contribution as Treasurer had been much appreciated, was succeeded in the post by Dr Morrice McCrae. Dr Roy Miller succeeded Dr Bryan Ashworth as Vice-President. Dr Wright then passed on the chain of office to the incoming President, Dr Bryan Ashworth.

THE ONE HUNDRED AND SEVENTIETH ORDINARY MEETING

The One Hundred and Seventieth Ordinary meeting of the Society was held in the Royal College of Physicians and Surgeons in Glasgow, on the 6th November 2004, immediately after the Fifty Sixth Annual General Meeting. The President, Dr Bryan Ashworth, introduced Professor James Friend, who talked on the History of Tobacco Control and Professor Charles Forbes, who talked on the History of Haemophilia. These two interesting and contrasting lectures were much appreciated by the audience.

THE ONE HUNDRED AND SEVENTY FIRST ORDINARY MEETING

The One Hundred and Seventy First Ordinary meeting of the Society was held in the Scottish Health Service Centre, at the Western General Hospital, Edinburgh on March 12, 2005. Two excellent papers were presented, the first of which was by Mrs Susan McGann and Dr Barbara Mortimer on New Directions in the History of Nursing. The speakers, associated with the Royal College of Nursing Archives in Edinburgh, were founders of the UK Centre for the History of Nursing in 2000, which in 2004 became the UK Centre for the History of Nursing and Midwifery, based in Manchester. Their book, *New Directions in Nursing History*, (ISBN 0415-30433-4), was published by Routledge in 2004.

The second paper, by Mr David Hamilton, was on The Monkey Glands Revisited, a fascinating reappraisal of the material covered in his book, *The Monkey Glands Affair*, ISBN 0701130210, which had been published by Chatto and Windus in 1986.

THE FOURTEENTH HALDANE TAIT LECTURE

The Fourteenth Haldane Tait Lecture was held on 4th May 2005 at the Pollock Halls, Edinburgh. The speaker was Magnus Magnusson, KBE, who gave a dramatic and absorbing account of Viking healers.

VIKING HEALERS: THE HALE AND THE HALT IN THE SAGA AGE

It is a signal honour to have been invited to deliver the Haldane Tait Lecture of the Scottish Society of the History of Medicine – especially when you consider that I am a layman with no medical credentials whatsoever, except at the receiving end of the process.

I should start by apologising to the Society for the cancellation of the lecture last May due to a sudden bout of ill-health. I owe a huge debt of gratitude to the many medical stalwarts who saw me safely through a week of Intensive Care therapy when I had been pole-axed during an emergency abdominal operation; without them, as they say, I would not be here today to add an item or two of medico-historical interest to the collection of such wayside curiosities which Haldane Tait himself valued so much.

Haldane Tait was an Edinburgh man, born and bred. I was certainly brought up in Edinburgh, but I was born in Iceland, and am still a passport-carrying, flag-waving national of that country. As an Icelander I soon developed an almost obsessive interest in the great medieval literature of my homeland, the Icelandic Sagas. I studied English and Old Norse at Oxford and in Denmark and started translating the sagas almost as an academic exercise, to start with, but later *con amore*, not *con labore*. Meanwhile my late brother, Sigurður, was studying medicine at Edinburgh University, and eventually became professor of obstetrics in Iceland.

I used to rib him about the somewhat cavalier way in which people in the Saga Age treated their wounds in a society riven by blood-feuds and honour-killings. Pretty rough and ready stuff, I would say; and he would smile wryly and say things hadn't changed all that much.

I'm sure that was just self-deprecating mockery on his part. But the invitation to address this prestigious society gave me the incentive to look more closely at the whole concept of healing in the Saga Age.

What do we know about healing in the Saga Age? The evidence all tends to be literary, which means that the facts have been garnished with creative imagination. But although we may not believe everything we read or hear, there is no reason to suppose that the people of the time didn't believe everything they heard.

Certainly, they believed in the magic power of runes, either to harm or to heal. We have a spectacular case of that in *Egils saga*, the saga of the Icelandic warrior-poet, Egill Skallagrímsson. Egill lived in the tenth century, in pre-Christian Iceland, but his saga was not composed until the 13th century. He is the most remarkable and compelling character in all the Icelandic sagas, a great, hulking crag of a man, larger than life and twice as ugly. He was a man of violence and violent contrasts, a demonic, greedy, ruthless warrior with an extraordinary genius for poetry, a man of volcanic rages and merciless brutality who was still capable of deep and abiding love, a miserly, spiteful man who was also touched with a sublime nobility of soul. The saga covers an enormous canvas, from 850 to the end of the tenth century. It gives a panoramic view of the whole Norse world, from the Scandinavian countries to Britain and Iceland. It is unbelievably rich in characters and events, yet it is totally dominated by the unforgettable presence of Egill Skallagrímsson, the greatest warrior-poet of the Viking Age.

Healing, in Egill's mind, involved magic – the magic of the runes, the esoteric alphabet of the early Germanic peoples, which had allegedly been invented by Óðinn himself. An episode which illustrates this vividly occurred on one of Egill's many journeys abroad. When he was travelling on a secret and deadly mission through Värmland in Sweden, he stopped off at a safe-house in the forest. The daughter of the house, a girl named Helga, was lying in a bed on the dais, ill and in agony. Egill asked his host, Thorfinnur, what was wrong with her. Thorfinnur told him that she had been suffering from a wasting sickness for some time, and could not sleep at night, because of her delirium.

'Has anything been done to find the cause of her illness?' asked Egill.

Thorfinnur said, 'We had some runes carved. The son of a neighbouring farmer did it, but since then she has been even worse than before. Do you know any remedy, Egill?'

Egill said, 'It might not do any harm if I give something a try.'

When Egill had finished his meal he went over to where the girl lay and spoke to her. He told them to lift her from the bed and spread clean sheets underneath her. This was done. Egill then searched the bed where she had been lying and found a piece of whalebone with runes carved on it. Egill read the runes and shaved them off, and scraped them into the fire. He burned the entire bone and had her bedclothes aired. Then Egill uttered a verse:

None should write runes
Who cannot read them well:
A mystery mistaken
Can bring people misery.
I saw cut on the curved bone
Ten secret letters,
These gave the woman
Her grinding pain.

(She was doubtless not the last patient to suffer from the indecipherable runes on a doctor's prescription!)

Egill carved some fresh runes and placed them under the pillow of the bed on which the girl was lying. She felt as if she were waking from a sleep, and said that she was well again, although still very weak. Her father and mother were overjoyed, and Egill went on his way to conclude his mission of killing a few more baddies.

Egill Skallagrímsson died in the year 900, before Christianity came to Iceland. His bones were later moved into the church at Mosfell, and a century later they were translated into a newer church there. This is how the saga describes the exhumation of Egill's bones when they were being moved for a second time:

The priest ... picked up Egill's skull and put it on the wall of the churchyard. The skull was incredibly large, and its weight was even more unbelievable. The skull was ridged on the outside like a scallop shell. The priest was curious to find out how thick it was; he picked up a good-sized hand-axe and swung it with one hand as hard as he could. He struck the skull with the hammer of the axe and tried to break it. Where the blow landed the skull whitened, but it was neither dented nor broken. It shows that such a skull would not have been easily cracked by the blows of small fry while it still had skin and flesh on it.

That passage has long fascinated literary scholars – but it has only recently begun to interest

medical scientists. In December 1996 the *British Medical Journal* carried a summary of an article by Dr Thórður Harðarson, Professor of Medicine at the Landspítali (National Hospital) of Iceland; it was a long-delayed professional analysis of the somewhat rough-and-ready post-mortem examination of Egill Skallagrímsson's skull 150 years after the old warrior's death.

The saga describes Egill in his old age – he died at the age of eighty. His movements became heavy, his head swayed from side to side, he stumbled and fell, he became progressively deaf and blind, he became impotent, he trembled and he suffered from cold feet – something which had never afflicted him in the heat of battle, as the saga puts it.

All these symptoms, according to Dr Harðarson – progressive deafness, blindness and cold feet (caused by arteriosclerosis) – are consonant with Paget's Disease (*osteitis deformans*), which was identified by, and named after, Sir James Paget, an English physician at St Bartholomew's Hospital in London late in the 19th century. Paget's Disease, I understand, is bone growth gone awry, involving a quickening of the normal process of bone replacement. This leads to a huge increase in bone size – hard and misshapen bones with an irregular surface. The disease commonly affects the cranium, disfiguring the face into a vaguely leonine appearance. Egill's head, certainly, was extraordinarily massive; and his skull was corrugated and irregular like a scallop shell, and hard enough to resist not only the blows of weapons in battle but also a full-blooded swing with an axe more than a century after his death.

It's always gratifying when modern science – whether it's archaeology or linguistic studies or literary analysis – lends credence to the saga literature. So Egill Skallagrímsson had Paget's disease? It certainly explains his behaviour in his declining years. But would it have affected his character as well as his physiognomy in early manhood? Did Paget's disease help to turn him into a half-crazy homicidal maniac? And if so, could it have been treated – assuming that the requisite medical knowledge existed in the Saga Age?

Even if the knowledge, and the treatment, had existed then, I suspect that Egill Skallagrímsson would have refused medical assistance point-blank. Sometimes one can't help feeling that people didn't really care much about doctors, either way, in the Saga Age. It calls to mind a memorable episode in another of the major Icelandic sagas, *Eyrbyggja Saga* (The Saga of the Eyr-Dwellers) – the battle on a frozen fjord in the winter of 997-998. The combatants were two feuding families, iron-hard toughs all of them, the Thorbrandssons of Álftafjörður on the one side, and the Thorlákssons of Eyri on the other. It is a brilliantly described scene.

Three of the Thorbrandssons – Thorleifur Kimbi, Thóroddur and Snorri – were caught out on the ice on a journey and made a stand on a skerry which protruded from the frozen fjord. Even with a handful of companions they were heavily outnumbered and eventually, after a long fight, they were all brought down and were left there, more dead than alive. When word reached the celebrated chieftain Snorri *goði*, who lived nearby, he rushed down to the lake with reinforcements to help his friends the Thorbrandssons. He was too late: the battle was over, and the Thorlákssons were away.

The Thorbrandssons were carried to Snorri *goði's* home and their wounds were seen to – in a manner of speaking. It probably looked a bit like the Out-Patients Department of a Glasgow hospital on a normal Saturday night.

Thóroddur Thorbrandsson had such a deep gash in his neck that he could not keep his head straight; well, that was all right, because when the neck-wound healed the sinews knitted together on their own and he was able to hold his head up straight (although he couldn't bend his neck very well). More to the point was his leg. This is what the saga says:

Thóroddur was wearing tight-fitting stocking-breeches and they were drenched in blood. One of Snorri's men was helping him off with his clothes, but when he tried to remove the breeches he couldn't pull them off.

'It is no lie about you Thorbrandssons being stylish dressers,' he said. 'Your trousers are so tight-fitting that they won't come off.'

Thóroddur said, 'You can't be pulling hard enough.'

The man braced one of his feet against the bench and tugged as hard as he could, but the breeches would not come off. Then Snorri *goði* came over and felt the leg, and found that a spear-blade was lodged in it between the tendon and the shin-bone and had pinned the breeches to the leg. Snorri said the man was remarkably stupid not to have thought of such a thing.

Snorri Thorbrandsson was the least seriously wounded of the brothers, and in the evening he sat at table with his namesake Snorri *goði*. There were cheese and curds for supper. Snorri *goði* thought that his namesake was making heavy weather of the cheese, and asked why he was eating so slowly. Snorri Thorbrandsson said that lambs which had been gagged for weaning were not very good at eating. Snorri *goði* felt his throat and found an arrowhead lodged in the throat at the base of the tongue; he took a pair of pincers and pulled it out, and after that his namesake could eat.

Snorri *goði* knew a thing or two about most things, and his medical diagnoses were right on the button. He wasn't bad at prognosis, either. At the site of the battle he found a heavy blood-stain in the snow which had been left by one of the assailants, Bergpór Thorláksson of Eyri, who had taken a spear in his middle. Snorri took a handful of the snow and squeezed it into a ball and put it into his mouth. He tasted it expertly and said, 'There is no need to pursue this one. This is the blood of a doomed man.' He was right: Bergthor died that night.

One striking aspect of all this is the sheer stoicism displayed by the wounded. I am reminded of the story of a young Icelandic poet, Gunnlaugur *ormstunga* (Serpent-Tongue), who went abroad to seek fame and fortune at the Norwegian court like so many other young Icelanders on the make in his day, at the end of the tenth century. He was sixteen years old at the time.

The ruler of Norway then was Earl Eirík Hákonarson, who had his residence near Trondheim. Gunnlaugur was granted an audience with him after dinner one evening, and dressed to the nines for the occasion: he was wearing a grey tunic and white stocking-breeches. The only thing which marred his sartorial splendour was that he had a boil on his instep, and blood and pus spurted out through the white stockings with every second step as he marched up the hall to the earl's table.

The earl said, 'What is wrong with your foot, Icelander?'

'There is a boil on it, my lord,' said Gunnlaugur.

'But you are not limping, Icelander?'

Whereupon Gunnlaugur drew himself up to his full height (five-foot-whatever) and uttered the immortal words:

Eigi skal haltr ganga meðan báðir fœtr eru jafnlangir ('Men do not limp while their legs are the same length').

It's preposterously heroic stuff, and I love it. But Earl Eirík spoiled it a bit by saying, in effect, 'Any more of that, sonny, and they won't be!'

As far as I can gather from the sagas, the main medical treatments practised included bone-setting, the cleaning and cauterising of wounds, bandaging, lancing boils and the use of herbal potions and ointments. Water was heated before being used in medical treatments, possibly (but not certainly) to sterilise it. Angelica was widely used for digestive and other ailments, and some mosses were recognised to have antiseptic properties. Charms and spells and protective amulets were used to reinforce the efficacy of these rudimentary treatments. Diagnosis of the severity of wounds was made through an early form of barium meal: patients were given a plate of onion porridge, and if the wound subsequently began to smell of onions it was a sign that the bowel was perforated and the inevitable prognosis was that the patient would soon die of peritonitis.

Much of the surviving evidence of medical treatments involves wounds sustained in battle, because they tended to provide the most dramatic settings for a good story. Surprisingly, perhaps, it is clear from the sources that, in Saga times, the doctors on the battlefield were usually women.

In *St Ólaf's Saga*, in Snorri Sturluson's epic *History of the Kings of Norway* (*Heimskringla*), there is a vivid episode in Snorri's description of the Battle of Stiklestad on 29 July 1030 when King Ólaf was killed during an eclipse of the sun. There were heavy casualties on both sides, and one of them was one of the king's court-poets, the Icelander Thormóður Kolbrúnarskáld, who was fighting at the king's standard.

Thormóður had been wounded so severely that he could no longer wield his weapons, and could only stand beside his comrades to give them moral support. Then he took an arrow in his left side, and reckoned that was probably enough. He snapped off the shaft and, with his naked sword in his hand, walked to a barn which had been turned into a makeshift field-hospital. It was full of wounded men, yelling and screaming in pain. One of the victors, a man named Kimbi, came swaggering out, sneering at all the king's-men who were lying inside, groaning in their death-throes. He noticed that Thormóður was wearing a gold arm-ring, which the king had given him that very morning. Kimbi demanded the arm-ring as protection-money for hiding Thormóður from the vengeance of the victors.

'Take it, if you can,' said Thormóður, and as Kimbi reached out for it, Thormóður sliced his hand off with his sword; and the saga notes, grimly, that 'it is told that Kimbi behaved no better under his wound than those he had been sneering at before'.

Thormóður now wandered inside. A woman doctor was busy heating water on a fire to wash wounds before bandaging them. When she saw Thormóður coming in she told him to make himself useful and get some more firewood from outside. When he brought it in she noticed that he was looking deathly pale, and asked him what was wrong. Thormóður, as was the wont of true saga heroes, tripped off a quick verse:

You wonder, wonder, at me,
A man so hideous to see:
Wounds can rarely mend a face,
A crippling blow adds little grace.
The arrow-shower o'ertook me, girl:
A fine-ground arrow in the whirl
Went through me, and I feel the dart
Sits, sweet wench, too near my heart.

The woman doctor, in the usual no-nonsense way of women doctors, just said, 'Let's have a look at the wound, then.' Thormóður stripped off his tunic and she studied the wound in his side. She could feel the iron arrow-head inside, but could not be sure of the path it had taken. She told Thormóður that she was going to give him a bowl of onion porridge, to find out how deep the

wound was. But Thormóður said he had no appetite for porridge. The doctor took a pair of forceps (or tongs, anyway) and tried to pull the arrow-head out, but the wound was so swollen that she couldn't get a proper grip on it. Thormóður grew impatient and told her to cut into the wound and then give the tongs to him.

When the cutting was done, Thormóður took the gold arm-ring from his arm and gave it to her – pretty good payment for a consultation, even in those days; then he took hold of the tongs and pulled the arrow-head out himself. The saga says:

The arrow-head was barbed, and from the barbs hung shreds of tissue from around his heart, some white, some red. When he saw this, Thormóður said, 'The king has fed us well. I am fat even to the roots of my heart.' And with that he fell back, dead.

They don't die like that any more, do they?

My own favourite woman doctor in the sagas is Hildigunnur the Healer in *Njáls saga*, because she is rather an inscrutable character. There isn't much to tell about her. She was the daughter of the belligerent Starkaður of Thríhyrningur. Starkaður also had three sons who were renowned trouble-makers; trouble-making was their occupation, you might say. They owned a good chestnut stallion, and they kept boasting that no other horse could match him in a horse-fight. I reckon that their sister, Hildigunnur, had a secret crush on the hero of *Njáls saga*, Gunnarr of Hlíðarendi, because she upped and said, 'I know someone who would dare to pit his horse against yours'. 'Name him!' they bellowed. 'Gunnarr of Hlíðarendi has a black stallion,' she said, 'and he would dare to pit him against yours or anyone else's.' 'You women all seem to think that there is no one like Gunnarr,' they sneered. And they were probably right.

We can guess the outcome of Hildigunnur's innocent, or not so innocent, remark. Her brothers challenged Gunnarr to a horse-fight which ended in a brawl, as horse-fights usually did in the sagas. The brothers decided to ambush Gunnarr and his two brothers with a gang of thirty men. Before they left, Hildigunnur's eldest brother, Thorgeirr, said to her, 'This hand will bring you proof of Gunnarr's death tonight'; whereupon Hildigunnur tossed her hair and said, 'My guess is that your hand will hang as low as your head when you come back from this encounter.' She was right. Gunnarr fought like a demon, and one of the Starkaðarson brothers was killed. The survivors limped home, where Hildigunnur *læknir* could not resist a quick 'I-told-you-so' dig: 'You would give a lot now,' she said, 'never to have fallen foul of Gunnarr.' 'You can say that again,' they replied.

And then, according to the saga, 'Hildigunnur treated their wounds'. It doesn't say *how* she treated them – but I'll bet she didn't go out of her way to be gentle.

And that's all we know about Hildigunnur the Healer. Neither she nor her brothers appear in any other saga. And I regret that. I have always fancied her as a battlefield angel of mercy, beautiful and tender at the same time. Ah well!

One of the most remarkable and unorthodox cures recorded occurs in another of the major Icelandic sagas, *Laxdœla saga*, the Saga of the People of Laxdalur. It concerns a man named Án *svarti* (the Black), who was a boon companion of one of the tragic heroes of the saga, Kjartan Ólafsson. Án *svarti* was riding down Svínadalur with Kjartan Ólafsson when they were ambushed by his cousin and foster-brother, Bolli. Án had dreamed a bad dream about the journey, that an ogress had slashed his belly open and pulled out his entrails and stuffed brushwood in their place. His friends, in the way friends have, had laughed at him, and gave him the nickname Án *hrísmagi* – Án Brushwood-Belly. But Án had the last laugh: at that fatal encounter in Svínadalur, when Kjartan Ólafsson was killed, Án was (apparently) mortally wounded, and his entrails were hanging out; but that night, when he had been laid in a mortuary, he suddenly sat up, to the alarm

of those who were keeping vigil over the bodies. He told his friends that he had been having another dream, in which the ogress had returned and removed the brushwood from his belly, and put his entrails back in. As the saga says, laconically, 'Án's wounds were now dressed, and he made a complete recovery.'

The *locus classicus* in the saga literature, which gives practical and more orthodox instances of medical and surgical treatment in the Saga Age, is a much less celebrated work: *Hrafns saga Sveinbjarnarsonar* (Saga of Hrafn Sveinbjarnarson), which was written around 1230 and was incorporated into the great 13th century contemporary compilation known now as *Sturlunga Saga*. Hrafn Sveinbjarnarson, the eponymous hero of the saga, who was killed in 1213, lived in the Vestfirðir (Westfjords) and was an important chieftain in the civil wars of the 13th century. I should point out that with the coming of Christianity to Iceland in the year 1000, foreign monks introduced more advanced surgical techniques to Scandinavia and founded the first hospitals. Hrafn Sveinbjarnarson seems to have been the first physician in Iceland to have learned his trade abroad, and was revered as the greatest *medicus* of Scandinavia of his time.

Hrafns saga Sveinbjarnarsonar is not, however, a story about a Saga Age doctor. It is, rather, a one-sided account of a respected Sturlung Age chieftain, one of whose many accomplishments is said to have been the practice of medicine through divine assistance. It is not a medical treatise.

This is how Hrafn Sveinbjarnarson is described in the saga:

From an early age, Hrafn was a man of great accomplishments. He was a master craftsman, both in wood and iron, and a poet, a fine doctor, a well-schooled man who had earned a monk's tonsure, eloquent and well-versed in the law, blessed with a good memory and extremely knowledgeable. He was a tall man with regular features and dark hair; he could swim well and was athletic and agile in everything he did, a fine marksman with both bow and spear.

Hrafn spent his youth travelling and studying in Europe, during which he seems to have learned something about medicine – probably at the university of Salerno, in Italy, which had a renowned medical school at the time. He went on pilgrimage to Canterbury, St Gilles and Compostela. He also trained as a priest, as so many chieftains' sons were encouraged to do as a career move in those days.

Two early pages of his saga describe, in graphic detail, four of the surgical operations which Hrafn is said to have performed: two cauterisations, a phlebotomy and a lithotomy. Cauterising and bleeding were apparently not uncommon from the 12th century onwards, to such an extent that an early law code, *Grágás* (Grey-Goose), compiled in the middle of the 13th century, allowed for immunity from prosecution if the treatment did not succeed:

If a man cauterises someone or bleeds someone for the good of his health, and whatever a man does for the good of another person's health, as long as he wanted him to get improvement and not infirmity by it, then if he suffers death or harm from it, the man whose aim was to cure him is under no penalty.

I'll bet there are a few doctors in America, in particular, in these litigious times, who wish that a law like that still operated in modern Vínland.

Hrafn's first candidate for cauterisation suffered from a disease which made his whole body swell – head, torso, arms and legs. It was probably elephantiasis, although some have suggested dropsy. Hrafn applied cauteries in the shape of a cross on his chest and on his head and between his shoulders. In a fortnight the swelling had gone down and he regained his health completely.

Another patient went mad and had to be restrained by force. Hrafn cauterised him in a number of places in the head, and his mania subsided immediately and he came to his senses.

Phlebotomy, or blood-letting, was another favourite method of treatment in the Middle Ages. It wasn't always successful. It is reported in *Sturlunga Saga*, for example, that at the parliament (Althingi) of 1421 a man was suddenly taken ill with a pain in his hand or forearm. A certain Helgi *læknir* was consulted, and in his view no treatment was possible. On the other hand, it was said by some that the ailment followed from a blood-letting which the poor man had already undergone at the Althingi, when blood had been drawn from an artery, or 'spouting vein' (*gjósæðr*). At all events the man died that autumn, but no prosecution could be brought against Helgi *læknir*, of course.

The phlebotomy which Hrafn performed on a woman patient is described all too laconically:

A woman came to Hrafn in great distress of mind (*mikit hugarválað*). She had long fits of weeping and was so *brjóstthung* (literally, 'breast-heavy', probably referring to severe melancholia) that she was close to utter despair. Hrafn took blood from her hand in the vein which he called *throtandi*. And after that she was at once well.

If only it were always that easy! There has been much learned discussion on which vein Hrafn was using. *throtandi* in Icelandic means 'dwindling', or 'ebbing away', which presumably would be *vena desinens* in Latin. So it could well have been a vein at the extremity of a major arm-vein, towards or between the fingers, to deal with acute depression caused by a chest complaint, of which 'breast-heaviness' was the major symptom.

Finally, Hrafn's rather dramatic lithotomy operation was performed on a man named Marteinn Brandsson, who was suffering from stones and could not urinate. He became so ill that he swelled up like a bull, and when death seemed inevitable, Hrafn decided to operate. The saga says:

He ran his hands over him and felt the stone in his abdomen and manipulated it out into the penis as far as he could, and then tied the penis behind it with a linen thread so that the stone would not shift back, and in front of it with another thread. Then he asked everyone there to chant five paternosters before he undertook the operation. Then he made an incision lengthways with a knife and removed two stones. Afterwards he applied salve in a bandage and treated the man so that he grew well again.

There is another aspect of Hrafn the physician which I find equally fascinating – the idea of medical skill being inherited. At the start of the saga we are told that Hrafn had a great-grandfather named Atli, who was a member of the army of King Magnús of Norway and Denmark when he fought against the Wends in South Jutland in 1043. King Magnús's father, King Ólaf the Saint, appeared to him in a dream and told him to pick twelve men from his army – 'the twelve with the softest touch', according to Snorri Sturluson in his *Heimskringla* account of the episode; the king said that, at his petition, God would maintain the gift of healing among the descendants of the men selected. After the battle, Atli was ordered by the king to bandage wounds – and that was his first experience of doctoring; thereafter he was a 'fully proficient healer' (*algörr læknir*) like the other eleven who had been chosen for the task. 'And that is how the power of healing, through God's mercy, first came into Hrafn's family.' His father Sveinbjörn is described in the saga as having been 'a good physician'; and many of Hrafn's descendants also practised healing.

Above all, healing in Hrafn's saga was a divine gift. Hrafn is consistently portrayed as a man

of exceptional goodness, a peaceable, just, humble, charitable and forgiving spirit, with his mind set on Heaven, not on this world's wealth or glory. He never asked for payment for his medical help, he never turned away from his house anyone who needed food or shelter, he kept a boat on which anyone who wanted to cross the fjord could travel free. In a period racked by civil disorder and ferocious power-struggles among the leading chieftains of the land. Hrafn took his duties as a local chieftain very seriously, trying to keep the peace and arbitrating fairly in local disputes.

In the end, according to the saga, he was simply too nice for his own good. Ambitious men whom he had aided and befriended in their youth conspired against him in order to get their hands on his wealth and position. In the year 1213 one of his enemies, Thorvaldur, made a night attack on his unguarded home in Lent during a snowstorm, and immediately set it on fire. Hrafn calmly said matins with his clerics while his people tried to douse the flames with water and whey as dense smoke began to fill the buildings. Hrafn then went to the door and asked Thorvaldur to grant quarter to the women and children:

'And I offer you, for myself, whatever settlement you wish. I shall hansel an agreement with you to leave the country and go on pilgrimage to Rome, for both our sakes, and never return to Iceland, if you think this will bring you more honour than before.'

Thorvaldur insisted on unconditional surrender. The men and women went out and were locked up in the church, but Hrafn was seized when he came out of the burning house. The implacable Thorvaldur now ordered him to be executed. When Hrafn knew that he was to be beheaded, he went to confession, received communion and shed tears of repentance. The man who was first ordered to execute him refused, and another was appointed.

Hrafn lay down on his knees and elbows and laid his neck on a log of driftwood, and his head was chopped off. Hrafn moved neither hand nor foot when he was martyred, but lay motionless on his hands and knees in his customary attitude of prayer.

The hagiography of Hrafn Sveinbjarnarson was complete. His death, a-glow with Christian grace, was a tragic but ultimately triumphant end for Iceland's first and foremost medieval *medicus*. I like to think that he is remembered today with respect and affection – remembered not only for the calm fortitude with which he met his unmerited end, but above all for the compassionate care with which he treated both the halt and the hale in those rumbustious times.

THE ONE HUNDRED AND SEVENTY SECOND ORDINARY MEETING

The One Hundred and Seventy Second Ordinary Meeting of the Society was held at the Tryst, Borders General Hospital, Melrose, on the 4th June 2005, and was a joint meeting with the Pybus Society of Newcastle-Upon-Tyne. 43 members of the societies were present. Dr Elizabeth Lazenby, the President of the Pybus Society, took the chair. The first speaker, Dr David Sinclair, gave an excellent talk on the History of Early Surgery. The second speaker, Dr Libby Wilson, gave a most amusing description of her experiences in family planning medicine in Glasgow, entitled Sex on the NHS.

SEX ON THE NHS

This talk is a personal overview of my experiences in Glasgow in the field of sexual health between 1967 and 1990.

Sex has two side-effects, one always unwanted, namely sexually transmitted disease (STD) and the other- sometimes unpropitious- pregnancy. The State has been involved with the former since the mid 19th century as the ravage of venereal disease (VD) sapped the health of the armed services. Lock hospitals were established nationwide but especially in garrison towns and naval ports. There, the ladies of the night were forcibly incarcerated until declared 'clean', although how this was ascertained, I don't know. Out-patient 'VD' or 'special' clinics were subsequently established which were free and confidential for both sexes. In 1948 these were absorbed into the NHS.

The State played little part in preventing unwanted pregnancy until the Act of 1974 incorporated family planning services into the NHS, a revolution indeed. In Glasgow the 'special clinic' was located in Black Street and this was how it was known until 1980 when it transferred to the Glasgow Royal Infirmary and, in the nineteen nineties it, and the two other hospital satellite clinics, were amalgamated and transferred to new premises as part of 'The Sandyford Initiative'- what a useless name!

I was invited by the consultant venereologist in Glasgow to continue working in the specialty when I left Sheffield in 1967, as he wanted me to set up a contraceptive service for the women attending the VD clinic. I enjoyed my ten years at Black Street but remember the culture shock when I first came up against the religious bigotry endemic in the City at that time. We needed separate case sheets for the family planning patients; for some extraordinary reason male patients records were pink, females blue and syphilitics white. I was asked to choose another colour. 'Green' I suggested. There was a stony silence from the two health visitors (who were also contact tracers), the other nurse, the secretary and the receptionist. 'Perhaps yellow would be better? 'All agreed. I subsequently asked why my first suggestion had been unacceptable. 'Green is the colour of Celtic, you see'. I did indeed see, but that was 40 years ago.

I had several memorable patients at Black Street. Elsie was one of our regulars- 'What can I do for you?'

'Ah need a check up'

'Why do you need a check up?'

'Well, ken, Ah wiz raped'.

'Elsie, isn't that what you told me two months ago when you were here last?'

'Oh, aye, but Ah rape awfu' easy'.

Agnes was brought from Woodielee, a large mental hospital on the outskirts of the city as several male patients had been found to have a gonococcal discharge which was easily traced back to Agnes. She had set up a one-woman brothel, being paid in cigarettes, in the linen cupboard, the wide low shelves padded with clean sheets providing a comfortable couch. Unfortunately she had also peddled her wares outside the hospital grounds, hence the infection.

I chatted to her while I was examining her' 'What happened to your teeth Agnes? Were they all rotten?'

'Nah, nah, they wiz fine but they wiz a funny shape and every time I went tae a doctor fer ma stomick or ma froat, a' they wiz interested in wiz ma moof- they got a' their pals roon tae see ma teef, so Ah jist had tae get them a' oot an' Ah've had good medical attention eversyne'.

Agnes was not so daft. She was a congenital syphilitic and had had typical Moon's molars and Hutchison's incisors!

Before 1974 contraception was available from voluntary, state and private sources. The voluntary sector included the Family Planning Association which had a UK wide network of clinics staffed by trained doctors and nurses and offering all available methods of birth control. Brook clinics, started in 1965 by Mrs Helen Brook, catered for the young and unmarried. Both asked for a modest annual fee and the cost of supplies. The Catholic Marriage Advisory Clinics catered for the devout who wanted to use the 'safe period ' or 'rhythm method', sanctioned by the Catholic Church. Most Local Authorities included a family planning clinic among the services offered by the maternity and Child Welfare service. These were free but, in many cases, poorly attended as the staff were more interested in babies than in preventing them. Hospitals had varying policies to female sterilization ; some still considered it a form of mutilation. The Domiciliary service in Glasgow, of which more later, was free.

General practitioners and private gynaecologists charged a fee, usually 7/6 for a six month prescription for the pill (other methods were not on their menus).The prescription was taken to a pharmacist and the woman attended monthly, paying for a single packet of pills and a dispensing fee on each occasion.

The Domiciliary Service

When I arrived in Glasgow the poverty and deprivation in large areas of the city were quite beyond my previous experience. I thought it imperative to establish a home visiting service along the lines already pioneered by colleagues in Newcastle and Southampton. We went to the Health Committee of the Catholic dominated Glasgow City Council with Mrs Nan Patrick in the chair. We had two pieces of ammunition- first a report by the National Children's Bureau 'Born to Fail', published in 1970, on the circumstances of 10,000 children born in one week in March 1958 and followed up thereafter. At 11 years of age, 37% were disadvantaged, either from bad housing, low income or a large family or from being a single parent. Those with all three factors were severely disadvantaged- 6% of the total. Of these, one in ten lived in Scotland and half of these lived in Strathclyde. The second report was from the Social Paediatric Research Unit of the University of Glasgow on infant mortality in Scotland in 1969. The rate was 12 per thousand in Class 1 legitimate (it is now 7 overall in the UK) but 77 per thousand in class 5 illegitimate- almost one in ten, equivalent to the third world! We were granted the £2000 we asked for to start a pilot scheme in a limited area.

We invited the relevant health visitors- the 'green ladies' in their felt hats and tweed coats, to tea at 4pm on a Friday afternoon. They were not all enthusiastic. One was heard to say as she was leaving the room- 'Sex on the rates, that's all it is!' In time the Domiciliary service employed 11 doctors, 18 nurses (all part time) and 1 to 2 full time administrators. Its success is demonstrated by a paper I published in The Health Bulletin in 1974 on *"The costs and benefits of domiciliary family planning"*, a report on our first 300 women. Before contact, they had had 1500 conceptions, resulting in 1200 live births. Of these 50 were premature, 49 seriously handicapped and 33 had died. The conception rate prior to contact, (the number of woman months since first conception to contact divided by the number of conceptions), was one every 21.5 months. The predicted total without our intervention would was 205 but the actual number was 15. It was not long before our pilot scheme had spread to include the whole city and, by the time I left, was responsible for the contraceptive needs of 3000 families.

I could fill a book with stories of 'The Dom'. One will have to suffice, Sheila Lindsay, my nursing colleague in Blackhill, was trying to contact one of our customers who would be running out of her contraceptive pills. She repeatedly visited the top floor flat and each time was greeted by the patient's husband with an excuse for his wife's absence. After ten weeks the lady herself answered the door.

'Oh, there you are Effie, where have you been?'

'Ah wiz lifted by the poliss. Ah've bin in Corntonvale a' these weeks'

'What were you 'lifted' for?'

'Shoplifting.'

'Well I wish your man had told me. I've worn out my shoe leather climbing these stairs' Quick as a flash came the reply

'What size do you take? Ah'll get you a pair next time Ah'm oot'

After 1974

Family planning became free at the point of delivery. General practitioners were paid to provide a service, but only if they had been trained and had the necessary certificate. FPA clinics were incorporated into the NHS – but not in Glasgow, as the GGHB and the FPA could not agree on the value of the main clinic building at 2 Claremont Terrace. This was not resolved until 1980, when I was asked by Dr George Forwell, the Chief Administrative Medical Officer, to coordinate the FPA clinics and the Local Authority clinics in their 5 different districts. It took two years, but resulted in centralised staffing, common policies, unified procedures, information leaflets, supply of contraceptives etc.

Special services at Claremont Terrace

These included vasectomy counselling and operations (40 per week) started in 1969 by Dr Alison Mack, We held two menopause clinics a week, the patients self referred and the two doctors trained by Dr David MacKay Hart who was also our consultant. Our 'Rhythm clinic' was more often used for conception than contraception but was well worthwhile as a percentage of couples conceived while waiting for an appointment at a fertility clinic. Several doctors and subsequently nurses were trained in psychosexual counselling and a number of sessions were held every week. Glasgow seemed to have a disproportionate number of couples who had failed to consummate their marriages. I felt that between John Knox and the Pope the women did not have much of a chance. Fortunately this was a problem which often responded well to treatment. I remember one couple- the wife with her coat fastened to the neck and her hat pulled down on her forehead while her caring husband held her arm and guided her into the consultation. Nine months later the receptionist asked me what I had done to the couple.

'I hardly recognised them. She was wearing a bright V necked blouse, a short skirt and no hat!' The lady had indeed become 'unbuttoned .

We were heavily engaged in abortion counselling and referral. There was a post-code lottery for terminations in Glasgow in those years, but our policy was to find an outlet for every patient who needed one if it was humanly possible. This meant twisting the arms of our friends in gynaecology and was frequently a distressing business for all those involved. A colposcopy clinic was started, which was a big step towards Dr Arthur Kitchener becoming a professor of gynaecological oncology in Manchester, as he is now.

Training and research

We had to train and assess all the tidal wave of GPs who wanted to jump on the family planning band-wagon as soon as they were to be paid and we continued to train the cohorts of young doctors wanting to work sessionally and also as part of general practice. I don't know who was the most nervous, the elderly GP who had not passed a speculum since he was a student, the family planning doctor, sometimes half his age, who was instructing him or the poor patient, a reluctant guinea-pig!

Research was part and parcel of our clinical services. We were involved in long term studies on oral contraceptives (already on the market), which sometimes involving taking fasting bloods from women before they went to work, on three separate occasions; we tested intra-uterine devices for the IUD FP network at Exeter University, and we were part of Professor Martin Vessey's major studies on the long term effects of different forms of contraception. There were numerous other investigations too numerous to list.

Methods

What about the methods women chose to use in the 1980s? The pill was the most popular, followed by the condom and then sterilisation. IUDs were only used by 10% and caps by less than 3%. I introduced the injectable Depoprovera into the Domiciliary service in the early seventies, long before it was licensed. It was almost ideal for women who did not want their husbands to know they were using contraception, and, if they found out, could not remove it. Many of these men tried to get their wives pregnant if they knew they were going to jail. I had one who removed his partner's IUD, threatening her with a knife, by means of half a toilet roll tube and a pair of eyebrow tweezers.

Well woman services

Well Woman sessions were held in many peripheral clinics and cervical smears were taken from all women who were examined vaginally, whether Family Planning or Well Woman. For example, at the main clinic in 1982, 7677 smears were taken, 78 were referred to a gynaecologist (of whom 77 attended), 23 had CIN and 9 CIN111 with an age range of 24-42. All attenders had their blood pressures taken, as did all women using hormonal contraception. Breast examinations were part of the service but no malignancies were found in those under 40.

Other services

In collaboration with the Social Work Department, a social worker was available at Claremont Terrace every Wednesday afternoon, to counsel women who were uncertain about whether to have a termination of their pregnancy. The social worker was so rarely consulted that the service was withdrawn after 18 months. Nearly all women who have steeled themselves to attend a clinic where they know their request for abortion will be sympathetically received are already determine to go through with it. Their main concern is that there should be as little delay as possible.

We were also involved in the treatment and counselling of rape victims. The conduct of the police to these women was frequently callous and degrading. Eventually they put their house in order by establishing a special unit to deal with offences against women and children and I was invited to have an input into their training.

From 1986 we actively promoted the free distribution of condoms at any outlet in touch with the vulnerable- no questions asked, no rationing. These included all Family Planning and Well Women clinics as well as needle exchange centres, rent boy clubs etc and, in 1989, the Drop-in Centre.

The Drop-in Centre

This was a combined project between the GGHB and SWD to provide a place where prostitutes, both professional and amateur, could relax, consult a doctor or nurse, enjoy a cup of coffee and a sandwich and take as many condoms as they needed for the rest of their night's work. It was sited in a dark back street near the old Finnieston bus station, close to the city centre, and was open every weekday evening from 8 pm until midnight. It was staffed by three social workers and a doctor or nurse who worked on a rota. My session was on Wednesdays. It was quite an effort

to change into my coat and skirt, (kept specially for this purpose because of the cigarette smoke from both clients and staff, and the fleas), and spend the evening in a small almost underground room with little ventilation and a considerable risk of fire! I had to hide my surprise when addressed at my first session by a young drug addict whose mother had been one of my Dom patients

'Hey, Lubby, have youse got sumfing fer ma toofache?'

The medical work was varied; I removed 18 stitches from a girl's neck whose punter had attempted, very inefficiently, to cut her throat. She 'hadn't had time' to go back to the GRI Casualty department. One cold and very wet winter evening there was a frantic banging on the outer door (kept locked to exclude men). Julie was propped up on the threshold, soaked and shivering. She had a fearsome cough and a high fever. It transpired that she had 'signed herself out', or rather, her pimp had insisted that she go back to work, after a week in Ruchill Hospital being treated for pneumocystis carinii pneumonia. Now she had relapsed and somehow reached the Drop In.

'Ah cannae go oot there t'night. Ah can hardly stand'

'Do you want to go back to Ruchill?'

'Oh aye'. A quick phone call to the ward-'It'll be after midnight, I can't bring her until the centre closes'

'No problem, just tell her to knock on the door of the ward and I'll admit her at once'.

By the time I was ready to go, she felt better.

'Can I get ma fags and some ginjah (fizzy drink)?'

'Where can we go for them? It's after midnight?'

'Och, Ah ken an all-night garidge'

So I eventually delivered her to the friendly warmth of the ward at Ruchill and went home to my bed.

The work at the Centre was interesting and, I believe, well worth while and it certainly broadened one's outlook.

In 1990, after a confrontation with the Health Board in which I had won a pyrrhic victory, I was asked if I would like to go to work for Marie Stopes International in Sierra Leone. It was a year before my 65 birthday and I had no hesitation in accepting. By doing so, I cut the umbilical cord between me and my all consuming life in sexual health in Glasgow, and was able to put my experience with the less well off in Scotland to good use in Africa.

Dr Wilson's experiences have been published as *Sex on the Rates*, memoirs of a family planning doctor (Argyll, 2004, ISBN 1 902831 70 5).

Dr Wilson has also published a book on her time in West Africa, where she worked after she retired from the Family Planning Service, *Unexpected Always Happen*, the journal of a doctor in Sierra Leone by Libby Wilson (Argyll, 1995, ISBN 1 874640 173)

This paper brought the 2004-2005 session of the Society to a close.

The Scottish Society of the History of Medicine

REPORT OF PROCEEDINGS

SESSION 2005-2006

THE FIFTY SEVENTH ANNUAL GENERAL MEETING

The Fifty Seventh Annual General meeting of the Society took place on 29th October 2005 in the Health Service Centre at the Western General Hospital in Edinburgh. 43 Members were present. The President, Dr Bryan Ashworth, was in the chair. The Secretary's report, which was presented by Dr Tony Butler, was accepted, as was the Treasurer's report, presented by Dr Morrice McCrae.

THE ONE HUNDRED AND SEVENTY THIRD ORDINARY MEETING

The One Hundred and Seventy Third Ordinary Meeting of the Society directly followed the Fifty Seventh Annual General Meeting, in the Health Service Centre on 29th October 2005. The President, Bryan Ashworth, was in the chair. Two most interesting papers were presented, one by Professor Dugald Gardner on Henry Wade and the other by Christine Short on Wilfred Grenfell. Professor Gardner's talk was based on his book *Surgeon, Scientist, Soldier*. London: Royal Society of Medicine Press, 2005. ISBN 978-1-85315-661-8

WAR AND PEACE: THE FIVE LIVES OF HENRY WADE

Most of us are grateful for one life. The distinguished Edinburgh surgeon, Sir Henry Wade CMG, DSO, FRCSEd, may be said to have had five: he was a pioneer of urology; a museum conservator and student of cancer; a war hero; an antiquarian; and a medical politician.

Early years

Wade was born in Falkirk on December 18th 1876 but because his father, Reverend George Wade, was preoccupied with his Christmas pastoral duties, the birth of his fifth and youngest son was not registered until the following month.

George Wade sent Henry ('Harry') to the recently opened Falkirk High School and then to the Edinburgh Royal High School. In 1893, Henry entered the large classes of the thriving Edinburgh Medical School and soon enjoyed the twin advantages of Rowan Anderson's new building and those of the vast 1879 Royal Infirmary of Edinburgh, the RIE. Graduating with honours in 1898, a House Physician's appointment with the Dean of the Faculty of Medicine and Chairman of the Indian Plague Commission, Sir Thomas Fraser, encouraged thoughts of a brilliant and rapid career. His plans, however, were entirely changed after the Boers of the Transvaal and Orange Free State declared war on October 11th 1899.

A medical disaster ensued. Desperate for help, the Government called for civilians to deal with the huge number of non-combatant casualties. A royalist, fearless and aware that his elder brother James was already in Africa, Wade became a civilian surgeon having, as he graphically described it, 'the rank of a captain, the pay of a major and the dress of a Hindu dispenser'. At once he saw the bodies of the typhoid victims sewn in blankets, being borne by cart to the cemeteries of Bloemfontein. A few months later, he joined the Number 9 General Hospital at

Pretoria and here gained early experience of war surgery. Photographs found in the Pilmuir Trust archives show Wade leaving an operating theatre; playing cards; smoking; and sitting beside his horse.

Museum conservation, cancer research and pathology

Returning to 'Auld Reekie', in 1902 Wade served as a Demonstrator in Anatomy under Professor William Turner. In 1903 Wade moved to a similar position in Pathology with the eminent neuropathologist, WS Greenfield. This association may explain Wade's chance introduction to the young, talented but over-ambitious William Ford Robertson who had become the first pathologist to the Edinburgh Asylums Board. However, it is more likely that Wade encountered Robertson in the laboratories of the Royal College of Surgeons of Edinburgh, the RCSEd, to which Ford Robertson had moved from the laboratory of the Royal College of Physicians of Edinburgh.

The intensive cancer research undertaken jointly by Wade and Robertson centered on the hypothesis that human neoplasms were caused by infective agents. Robertson had adopted the ideas of Gaylord, an American collaborator of Ludwig Aschoff. After small numbers of studies conducted at the limits of resolution of the light microscope and employing the silver and gold staining techniques which had become the vogue for investigations of neurosyphilis, Robertson and Wade reached the conclusion that all human cancers were caused by an organism resembling *Plasmodiodiaphora brassicae*, a fungal parasite of plants. Their views were attacked severely in the *Lancet*. Wisely, Wade left Robertson and set up individual investigations of an infective sarcoma of dogs. He demonstrated beyond reasonable doubt that the neoplasm was transmissible. His work came only 5 years before the Nobel Prize winning discovery by Peyton Rous that a chicken sarcoma, investigated by the new young recruit to the Rockefeller Institute, could be transmitted by a cell free ultrafiltrate. Wade completed a gold medal MD thesis on *Infective sarcoma of the dog* and a subsequent, influential paper in the *Journal of Pathology and Bacteriology*.

Towards the end of 1903, Wade succeeded in the examinations for the Fellowship of the RCSEd. Almost at once, supported by Charles Cathcart, William Turner and Theodor Shennan, and in competition with three other young and ambitious Edinburgh graduates, he was elected Conservator of the College's world-famous Museum. It was a time when the RCSEd was preparing for the celebrations of its 1905 quatercentenary and Wade took his responsibilities very seriously. The number of new specimens added to the collections rose quickly. He promoted Cathcart's use of the growing science of pathological histology and arranged exhibitions of bacterial cultures of the kind used by Lister and many others. Wade developed the Museum as an important part of the teaching programmes of the Extramural School of Medicine of the Royal Edinburgh Colleges where systematic postgraduate instruction was initiated in 1906 under the wise advocacy of Cunningham, Turner's successor as Professor of Anatomy. Wade resigned from the Conservatorship in 1914, was re-appointed in 1919 but was compelled to end his time in 1920 when his clinical, surgical duties became overwhelming.

In 1906, as his surgical experience and training prospered under the skilled guidance of Francis Caird, Wade followed tradition by becoming Assistant Pathologist to the Royal Infirmary. He retained this position until 1908 when he was appointed Assistant Surgeon to Leith Hospital. In the following year, he was granted a similar position in the RIE and began his epoch-making studies of the surgery of urinary disease.

War in the Dardanelles and Palestine

In 1914, world events stepped in to disrupt Wade's plans. Called to the colours after war broke out, a member since 1909 of the Territorials, Wade and 56 of his Edinburgh colleagues and students enlisted in the Field Ambulance of the Scottish Horse Mounted Brigade. With foresight,

Wade carried a camera with him for the next five years. The 1,000 photographs he made recorded not only the Field Ambulance training in Northumberland but the subsequent military campaigns in Gallipoli, Egypt, Palestine and Syria. Before embarking for the Dardanelles, Wade made a valuable contribution to the medical services by designing a Mobile Operating Car. In Egypt, his thoughts were often with Napoleon's Generale Dominique Larrey, his Flying Ambulances and camel stretchers. When the war ended Wade commissioned a new translation of Larrey's writings.

After the Gallipoli peninsula was evacuated late in 1915, the Field Ambulance became part of the Egyptian Expeditionary Force, the EEF. Recovering from dysentery and malaria, Wade enjoyed home leave before returning to Cairo. Now a Lieutenant Colonel, he was promoted to consultant surgeon. After the first of the three Battles of Gaza in 1917, he was recommended for the award of the DSO. Among his personal contributions to the care of the wounded was his strong advocacy of the Thomas splint for the mass production of which he was indebted to an astute General Allenby. The capture of Beersheba and Jerusalem opened the way for an advance on Constantinople but an Armistice was declared in October 1918 and in May 1919 Wade was at last free to return once more to Scotland. The army had suffered more than half a million casualties. Among them were cases of bilharziasis (schistosomiasis), examples of which Wade demonstrated to the Pathological Society of Great Britain and Ireland on his return.

Surgery

Aged 43, having survived five more years of active military service, Wade sought surgical renown. Re-appointed to the staff of the RIE, he was a war hero. Twice mentioned in dispatches with citations signed by the Secretary of State for War, Winston S Churchill, Wade was a member of the Distinguished Service Order. He now became CMG. With his younger colleague, friend and partner, David Percival Dalbreck Wilkie, in 1921 Wade established a distinctive Private Clinic at 35 Drumsheugh Gardens, Edinburgh, a building now the Bonham Hotel. 1924 was a turning point. Failing to gain the University Chair of Systematic Surgery, a prestigious appointment awarded to David Wilkie, Wade became one of only seven senior surgeons to the RIE, a 'Surgeon-in-Ordinary' with the charge of an entire surgical unit. He also directed the new radiological facility, the Electric Diagnostic Theatre. Before Röntgen's great discovery, a Department of Electricity featured in the hospital's amenities: under DWD Turner it became the Department of Radiology and housed a Theatre in which cystoscopy, cholangiography and other innovative methods were increasingly used in diagnosis.

It was in the field of urological surgery that Wade soon became the ultimate authority in Scotland and a national expert. His contributions to this difficult and neglected subject had originated during his time as Assistant Pathologist to the Infirmary. By 1913, his dissections of the urinary bladder and prostate gland had led to a paper in the *Annals of Surgery* that brought him international renown. He was invited by Hugh Hampton Young to visit the Brady Clinic at the Johns Hopkins Hospital, Baltimore. Wade's visit to the USA strongly influenced his choice of special instruments, X-ray apparatus and much else but was not possible until after the Peace Treaty of 1919.

The records of the RIE show that in the years between 1924 and 1939 Wade was responsible for 13,200 surgical cases. On average, even when President of the College, he performed 4 of every 10 operations himself. These were, of course, in addition to those he undertook in his nursing home. Ether and chloroform were the customary choices for anaesthesia. The 1920's were years before chemotherapy or antibiosis and an organised Edinburgh blood transfusion service was not established until 1936. After the First World War, social conditions were harsh, a mother, with 11 her 15 children surviving, suffered for many months from the innumerable complications of tuberculosis before succumbing to a paravertebral abscess and meningitis. An elderly lady sustained a fracture of the femur. Morphine was given and the leg rested for 4 weeks

between sandbags. Physiotherapy followed but there was no other treatment. A soldier, afflicted with syphilis and with pulmonary and renal tuberculosis, was admitted for amputation of a foot which was the site of tuberculous osteitis.

In 1937, the last year of his Presidency of the RCSEd, Wade's reputation led to the Presidency of the Section of Urological Surgery of the Royal Society of Medicine.

Pilmuir House

On September 15th 1924, Wade married Christian Marjorie Mary Fraser-Tytler. She was a descendent of Lord Woodhouselee whose name features prominently in Robert Chambers's 1821 *Traditions of Edinburgh*. Henry Wade and Marjorie Fraser-Tytler had met when she was sent to him as a patient. In the following year, they bought the estate of Pilmuir with Kirklands, near Haddington. Marjorie Wade died suddenly and tragically in 1929 following an operation undertaken in their Drumsheugh Gardens nursing home by Henry's friend, colleague and business partner, Professor David Wilkie. In the years of Wade's retirement - he left the Edinburgh Infirmary in 1939 – it is understandable that the now solitary surgeon devoted much of his time to a study of the antiquity of his lovely house.

Built towards the end of the XVIth century, Pilmuir House belonged at one point to the Barber Surgeon, William Borthwick. Wade described much of the history of the house in an unpublished *A Short History of Pilmuir* and in *Chronicles of Pilmuir*. The story of the house was often one of intrigue and violence. Wade's research drew him into ancient law for example, of bee boles and dovecots. A judge, testing a student in Scots law might ask 'Wae may hae doon?' (Who is allowed to keep doves?): the value of an estate could be judged by the number of dovecots. Wade and his wife spent much time re-opening ancient, built-up windows, adding modern facilities and cultivating the gardens.

With few exceptions, such as the £5,000 earmarked for his sole surviving sister and small amounts designated for housekeepers, chauffeurs and other helpers, Wade left the whole of his estate to the RCSEd. His intentions were not fulfilled. It is said that, in the course of a dinner given to mark Wade's 50 years service to the College, the Chairman, FE Jardine, lit a cigarette before the Loyal Toast. Deeply disturbed, Wade went home, cancelled the provisions of his Will and placed Pilmuir House in Trust. The Trust, on which the RCSEd is represented, has charitable status and Pilmuir House can be seen by the public.

Henry Wade died on 21st February 1955. He had been ill for some time with bronchitis. At his funeral in Palmerston Church, many erstwhile army colleagues acted as pall bearers. His grave, shared with his wife, is in the cemetery of the Dean Church. Some years later, the RCSEd established a Wade Professorship and Henry Wade's name is deeply revered.

COD AND GOD : WILFRED GRENFELL IN NEWFOUNDLAND

Way back in 1947, the Physicians' Window was about to be installed in Washington National Cathedral. An eager young lady from the New England Grenfell Association phoned a Boston Journalist to tell him the good news.

"I'm sure you'll be interested to know," she gushed. "That the right lancet commemorates Sir Wilfred Grenfell."

"Never heard of him," growled the journalist.

"Oh. Well. The left lancet commemorates Louis Pasteur."

"Never heard of him either."

"Well," retorted the now exasperated young lady. "Jesus Christ is in the middle. Have you ever heard of him?"

To be fair, an awful lot had happened in the seven years since Wilfred Grenfell's death in 1940, so perhaps the journalist can be forgiven. But in Newfoundland and Labrador the name of Wilfred Grenfell will never be forgotten, no matter what happens elsewhere.

Wilfred Thomason Grenfell was born on 28th February, 1865, the second son of the Rev. Algernon Grenfell, owner and headmaster of Mostyn House School near Parkgate, Cheshire. Most of Grenfell's childhood was spent playing on the perilous Sands of Dee or sailing with the local fishermen, with little thought for lessons and no thought for the future. Even when he went to Marlborough, sport took precedence over study. Not that he particularly excelled at any one sport, but he had an intense competitiveness which made up for any lack of skill.

Then at eighteen he received a very nasty shock. What, his father enquired, did he intend to do with the rest of his life? Grenfell was aghast. He had absolutely no idea. In desperation, he was packed off to speak to a successful local doctor. But it wasn't the big house and smart carriage with well matched horses which did the trick. Seated in the doctor's study, mesmerised by a specimen of a pickled brain, the young Grenfell decided that he would be a doctor.

But leopards don't change their spots that easily. In his first two years at the London Hospital, he attended four out of sixty lectures and even these he disrupted by spilling carbon disulphide, releasing pigeons or firing peas at the professor. He was saved from expulsion only by Frederick Treves. Treves was an extremely gifted surgeon who was to achieve his own fame early in the 20th century by successfully performing an appendicectomy on the new King Edward VII. Not only was he a successful surgeon and excellent tutor, he was, crucially for his young student, a very keen sportsman. Here at last was someone Grenfell could respect and he finally began to pay more attention to his studies. There was a lot to learn.

The London Hospital received patients from the most deprived areas of the East End, Tilbury Docks, Billingsgate, Wapping, Bethnal Green. This was Jack-the-Ripper territory, where squalid poverty and casual violence were commonplace. Yet working amongst all this social deprivation still did not move Grenfell to do anything about it. Then returning one night from a medical case in Shadwell when he was just twenty, he came across a large tent in which a noisy meeting was in progress and stepped in to see what all the fuss was about.

The speaker was a well-known evangelist and listening to his exuberant style, Grenfell was fired as he had never been by the sobriety of the established Church. In his childhood religion had consisted of a twice-on-Sunday trudge to church, where he had leavened the lump of a tedious sermon by cooking chocolates on the steam pipes. But here was the "Manly Christianity" so beloved of late Victorians and which embodied so many of Grenfell's own values. Extolling the virtues of a hardy, outdoor life, of honesty, decency and fair play it was designed to fit young men for service in the furthest reaches of the Empire. It also engendered aggression, ruthlessness and a determination to win at all costs. In later years Grenfell described this first evangelical meeting as "crossing the Rubicon."

Now he really had his hands full. Between sports and lectures, he organised Sunday Schools and summer camps for boys who had known nothing but neglect and ill-use. He did missionary work in the East End streets and lodging houses where only his physical fitness prevented him from being seriously attacked. Against all expectations Grenfell passed his finals in 1887 but he never shone very brightly. In some subjects he was described as "indifferent" and in anaesthetics – rather worryingly – as "very poor".

In any case, he was far too restless and impatient to succeed in private practice, so Treves suggested that he join the National Mission for Deep Sea Fishermen. Fishing in the nineteenth century was not an occupation for the faint hearted. There might be 20,000 men out in the North Sea spending up to twelve weeks in crowded, airless accommodation with no bunks or washing facilities. Food was salt beef and ship's biscuit.

Crews were made up of deserters, convicts and the desperate unemployed. Boys as young as twelve were apprenticed from orphanages and reform schools. With no relatives to ask awkward questions, they were treated appallingly. TB, arthritis, rheumatic fever and ulcers could rob a man of his livelihood and send him to the workhouse. No wonder they snatched what pleasure they could from the entrepreneurs whose vessels brought out tobacco, alcohol and women to the fishing fleet.

Into this maelstrom of human misery came the National Mission for Deep Sea Fishermen in 1882, bringing warm clothing, books and a non judgmental friendship. But the men's physical health was in even more urgent need that their spiritual welfare. And so, in 1887, the Mission set up a Medical Dept. with Frederick Treves as chairman. And a year later, Grenfell joined the team.

He was in his element. Transferring patients to the hospital ship with ice and snow covering the decks; nursing pleurisy in a damp, airless cabin; stitching a cut lip on a rolling trawler during a storm were challenges which he relished almost as much as depriving the coopers of their trade.

His youth, fitness and gregarious nature soon won over the fishermen and he set about putting more into their lives than alcohol. He organised a Better Writing Association and wrote regularly to the young orphans at sea. He met them when they came ashore and encouraged them to take part in sports and summer camps. He set up a Fishermen's Institute – somewhere clean, comfortable, friendly – and alcohol free – where men could stay, instead of the insalubrious pubs and lodging houses.

These were significant achievements for a young man of 23. There was just one small problem: he never bothered to tell the Mission trustees what he was up to, often committing them to heavy expenditure, regardless of whether funds were available or not. Any criticism was brusquely dismissed. The work needed to be done. Finding the money was someone else's problem.

Attempting to turn poacher into gamekeeper, the Mission promoted him to Superintendent, but this proved something of a double-edged sword. First he was off to the Outer Hebrides, following the herring fleets, then on to Ireland and back up to Aberdeen before sailing down the east coast again. It was as much as the Mission could do to keep up with him without listening to the faint pleas for help which drifted across the Atlantic from Newfoundland.

Perched uncomfortably at the mouth of the Gulf of St Lawrence, Newfoundland was Britain's oldest colony. A place famous for its fog banks, ice-pans and winds so fierce that even the plant life seems to duck. Away from the capital of St John's, some 140,000 people lived along the coasts of Newfoundland and Labrador – collectively called simply The Labrador -. Most were of Scottish, Irish and English descent with a dash of French for good luck. When asked what they

did, they simply replied: "Live Yere" and so they became known as Livyeres. There were also 17,000 Inuit on the north coast of Labrador and some nomadic American Indians.

Fishing was the only occupation. The seas around The Labrador heaved with sole, turbot, plaice, caplin and herring. But when the Livyeres spoke of fish, they meant cod. For them, cod was God. Salted and dried and sent to Europe and South America, it was a very lucrative business - for some. About 6-7 million dollars a year poured into St John's from the cod fishing, making the merchants very well off indeed.

But for the Livyeres it was a different matter. They owned nothing. Everything was hired out by the merchants who recouped their outlay from the percentage they paid to the fishermen. Mostly, wages were paid in substandard goods from the stores which the merchants also owned. A few barrels of flour, molasses, cheap fat and tea were the only things which stood between the Livyeres and starvation. If the fishing was poor, they starved anyway. Each May, once the ice had broken up, some 30,000 men, women and children converged on St John's, desperate for a place on one of the trawlers going "down North". There was no accommodation, either in the town or on board. Whole families – including the occasional goat – lived on deck with little food or fresh water and no sanitation or privacy.

The coasts were among the most dangerous in the world and there were no buoys or lighthouses to show the way. The few charts that existed had been sketched by Captain Cook in the 1760's and hadn't been touched since. Ice-bergs, shoals, storms and the ubiquitous fog were the main hazards. And as the merchants were also the magistrates, no one paid too much attention to legislation regarding a vessel's seaworthiness. It was as close to slavery as anything could be. Then in 1892, tragedy tipped the balance.

Two hundred men set out for the fishing and ran into a blizzard. With their boat crushed by ice, the men were stranded on an ice-pan drifting out to sea. 40 men froze to death. Suddenly, everyone wanted to know. The Lord Mayor of London began a subscription for the widows and orphans; Queen Victoria contributed. Awkward questions were asked – and the Mission hit on a fiendishly cunning plan. If they sent Wilfred Grenfell to report on the state of things on The Labrador, they would be seen to be doing something while at the same time giving themselves a break from their increasingly impossible Superintendent.

For Grenfell it was love at first sight. The towering cliffs rising sheer from the churning sea; the rugged coves and inlets; the ice-bergs gleaming pale blue and green in the fitful sunlight. The fish, the game, the plants - he was entranced by it all. Less enthralling, however, was the extreme poverty he saw. He describes a typical dwelling on The Labrador:

" ... one window of odd fragments of glass. The floor was pebbles from the beach; the earth walls were damp and chilly. There were half a dozen rude wooden bunks built in tiers round the single room and a group of some six neglected children ... were huddled together in a corner. A very sick man was coughing his soul out in the darkness of a lower bunk while a pitiably clad woman gave him cold water to sip from a spoon ..."

And this wasn't the worst by a long chalk. Whole families died of pneumonia because there was no food or fuel. Their diet was salt fish and hard biscuit. With the snow melting in June and the ice forming again in September, there was no chance of growing vegetables or fruit. There were no cows; only a few goats. TB, Beriberi, flu, typhoid, dysentery, wreaked havoc in the communities. People died of gangrene because they lacked the means to clean simple wounds. Toothache could lead to necrosis of the lower jaw. An ingrowing toenail could incapacitate someone for years.

All that short summer Grenfell sailed up and down the coast, visiting isolated communities, treating the sick, distributing clothes and blankets, making rough sea charts and holding simple religious services, until the bemused Livyeres asked: "Be ye a real doctor?" The next summer, he was back bringing with him two more doctors and two nurses – the very first doctors and nurses ever to work on The Labrador. They built the first two hospitals, one at Battle Harbour on the Straits of Belle Isle and the other at Indian Harbour on Hamilton Inlet. But Grenfell, always restless, was soon off again, darting in and out of the coves as far north as he could get, charting the coasts and waters as he went.

He knew nothing about the coast; nothing about sailing a ship – although he had sailed a yacht – and very little about navigation, but this didn't stop him taking the helm – to the outrage of the Captain. This is how he loved to see himself: the intrepid explorer, sailing confidently through unknown waters. More than once he had to be rescued by local Inuit and once, when trying to make a dramatic full speed entrance to Battle Harbour, he caused $1,500 worth of damage to the ship – which the Mission had to pay for. More seriously, with the ship out of commission, a lot of outlying communities had no medical care that summer.

But it was becoming clear that medical care alone was not enough. Grenfell identified three problems which must be addressed before there could be any hope of improvement.

1. Abolition of the "truck system" whereby people were paid in sub standard goods nowhere near the value of the work given.
2. Introduction of alternative employment to provide extra income through the winter and when the fishing was poor. And it must be work which was independent of the merchants of St John's.
3. Education was the remit of the Church – each denomination providing schools, some communities had several schools where others had none at all. Non-denominational schools would ensure that every child had an equal chance of an education which would enable them to achieve new skills and improve living standards.

As can be imagined, this plan soon wiped the welcoming smiles from the worthies in St John's. Giving medical aid was one thing. Upsetting trade was quite another. Even the Livyeres were dubious. For the family to survive, even young children had jobs to do. School meant fewer people to do the work. Besides, life was hard enough without antagonising the Church and the all-powerful merchants.

Grenfell carried on regardless. He cadged 3,000 books for a travelling library from Andrew Carnegie. Children earned their schooling by performing simple tasks for the Mission or the community. He persuaded adults to start their own co-operatives, pooling what little money they had to buy goods which they could sell and plough the profits back into the project. Where, as so often happened, there was no money, Grenfell used his own funds to get them started. He took pelts from the trappers and sold them to the St John's merchants who wouldn't dare offer him the 75 cents they normally paid for a $40 fur. He gave the money to the trapper who could then buy his own equipment and work independently.

The winter of 1894, instead of returning to his duties in Britain, Grenfell set off on a fundraising tour of Canada and the USA. He was a huge success, quickly gaining the support of some very influential people who had themselves started life as penniless pioneers. And he left behind a trail of committees dedicated to raising funds for "Dr Grenfell's work." This didn't go down too well with the Mission. Not only were they being ignored by their own Superintendent, but he was now claiming sole credit for their work on The Labrador.

When taken to task, this 30 year old man sulked and threw tantrums like an adolescent. Like parents at the end of their tether, the Mission laid down a few ground rules. From now on the

Mission's work on The Labrador must be continued by steadier people. Grenfell must see to his duties in Britain. Major changes had been taking place in his absence. Sail and wood had given way to steam and steel. The boasts stayed out for no more than a week. There was no need for Mission ships anymore.

So Grenfell turned his formidable energies shorewards. He set up Fishermen's Institutes in Milford Haven, Fleetwood and Aberdeen. He campaigned for pensions for men who could no longer go to sea. And all the while, he still campaigned for his beloved Labrador. When he was finally given permission to return to The Labrador in 1899, I suspect even his mentor, Treves was relieved to see the back of him.

Was Grenfell just a bit disappointed to find that the Labrador Mission had thrived in his absence? Perhaps that's too unkind. There were now three hospitals and nursing stations up and down the coast. But this success meant that now there was a need for a base hospital where valuable resources could be pooled. The most logical place was St Anthony on the northern tip of Newfoundland, a natural gathering place for trawlers. Often in the summer the harbour was crammed with hundreds of boats. Grenfell set the locals to building their own hospital, himself dragging timber on his dog sled. He persuaded the Newfoundland government to pledge $1,500 a year for medical costs and pledged Mission funds for maintenance. As always, he never bothered to inform the trustees,

Officially, the new hospital wasn't opened until 1905 but it was operational long before that. From toothache to tumours; public health to market gardening – the staff tackled anything. A non-denominational school and orphanage were built where children who had never even seen toys were encouraged to play. One visiting churchman was deeply shocked to find children dancing – their feet actually leaving the ground!

But some of Grenfell's methods went far beyond merely unorthodox. At one Boston fundraiser, he "auctioned" three orphans to foster homes. He picked up neglected or abandoned children and deposited them in St Anthony with no idea of where he had found them, their names or even if they had any relatives. It was impossible for the orphanage staff to identify the children but Grenfell ignored their protests. He'd done his bit; the rest was up to someone else

As the new century got under way, the Labrador Mission settled into its stride. The co-ops were thriving, reducing food prices and increasing their dividends. Specialists gave up their vacations to give their services free for the Livyeres. Volunteers flocked to help; chopping wood, digging ditches, collecting fuel, crewing boats, teaching and acting as hospital assistants – all for free.

Incidentally, one of these volunteers was a certain Clarence Birdseye. He saw freshly caught trout placed straight into snow huts. When defrosted months later, the fish were as fresh as the day they were caught. He took this idea of deep freeze back to the USA and the rest, as they say, is history.

Yet for all these improvements, while ever fishing was the sole occupation, starvation was still only one bad summer away. So Grenfell put into action his plan for diversification.

Tourism – visitors and their money would be attracted by salmon and trout fishing.

Mining – not for coal but for the attractive Labradorite which could be made into jewellery.

Timber mills – to prepare wood for housing and newsprint.

Cottage industries – weaving, making gloves, moccasins and boots from skins. Jobs which women could do instead of going to the fishing or selling themselves on the streets of St John's.

Bottling of native fruits – blueberries, cloudberries, squashberries which grew in profusion and could provide much needed vitamins.

Reindeer herding – to supply milk, meat and transport.

This last was not an unqualified success. The reindeer, shipped from Lapland proved too slow for transport but quick enough to escape from their compounds. The Laplanders who came with the animals refused to stay, claiming that Newfoundland was too cold.

Always generous, Grenfell used a lot of his own money to get these projects off the ground and his enemies pounced, yelling gleefully, "Fraud, profiteering, pauperising the people!"

Grenfell's naivety didn't help his defence. He kept no records of any transactions. Money sent from fund raising committees was spent however he felt necessary. As long as the money benefited the Livyeres, he saw no problem. An investigation cleared him of any wrong doing but the Mission felt it wise to send out an accountant to keep the records in order. Grenfell resented any check on his activities and he refused to work with the people sent out – then accused the Mission of not helping him.

But in all other aspects Grenfell could do no wrong. Wherever he went he was feted like a film star, his every word recorded in the papers, his lectures a sell-out success. Honours flowed like volcanic lava. In 1906, he was made Companion of the Most Distinguished Order of St. Michael and St George. The following year he was awarded the first Honorary Doctorate of Medicine from Oxford University. In America, the National Academy of Social Sciences welcomed him into their very limited membership.

No wonder he felt invincible – and this was to almost cost him his life. On Easter Sunday, 1908, he and his dog team fell through weak ice and spent 24 hours on an ice-pan drifting out to sea. He was rescued purely by chance when a group of men saw a black speck on an ice-pan and rowed out to investigate. Grenfell revelled in all the attention; in his own account of the incident, he was pleased and proud of his adventure in spite of the fact that it had been caused by his own foolishness by taking a short cut across dangerously weakened ice.

He became even more of a liability. He employed two doctors for the same post; careful plans which had taken others months to prepare were dismissed on a whim, anyone else's achievements were upstaged by some prank or dramatic gesture of his own. And when things went wrong, he blamed others. But all this was about to change.

In May 1909, he met a Chicago heiress 20 years his junior. In November of the same year Wilfred Grenfell and Anne Elizabeth Caldwell MacClannahan were married and went to live in St Anthony. As well as managing her husband, Anne took on a lot of the fund raising duties. In spite of the nice house, she never really liked St Anthony or The Labrador. But she did enjoy rubbing shoulders with British aristocracy and famous people like Shackleton and Marconi, not to mention meeting King Edward VII and President Theodore Roosevelt.

None of this could disguise the fact that the Mission's finances were in a hopeless mess and finally, everyone lost patience with Grenfell's refusal to work with other people. In 1912, The International Grenfell Association was formed to take over full responsibility for the Labrador Mission. And Grenfell himself was expected to take a back seat. He might well have seen the outbreak of war in 1914 as the chance to go off on another jolly adventure. But he was now approaching 50 and there were younger doctors flocking to France and Flanders.

But in 1915, he finally arrived in France and to be truthful, he did make a valid contribution to the welfare of the troops. He knew how to treat the effects of cold, wet conditions. He suggested light, windproof layers of clothing rather than heavy woollen cloth and roomy, soft and, above all, waterproof boots to ward off the infamous Trench Foot. He was one of the few people who recognised "Shell Shock" as a proper psychological condition rather than "lack of moral fibre". Still, I don't think he enjoyed the experience very much. Military discipline kept him too much in order. He lasted a year and then returned to The Labrador. But things had changed, even here.

The children he had sent away to be educated had now returned as nurses, carpenters, engineers, teachers. The pioneer spirit was giving way to a more stolid professionalism. But the

honours still kept on coming. He was knighted in 1927 and installed as Lord Rector of St Andrews University. He was awarded the Livingston Gold Medal – for exploration I presume – and became a Fellow of the Royal Geographical Society.

By now, his health and that of his wife was failing. He suffered his first heart attack and she had cancer. They left St Anthony for the more congenial surroundings of Vermont and here Anne died in 1938. On October 9th 1940, as the Battle of Britain raged in the skies over his home country, Grenfell played a game of drafts with his grown-up children – and lost. In high dudgeon, he stomped off for a nap before dinner and died in his room aged 75.

What are we to make of this man who was a hero to so many and a total nightmare to others? Certainly he was a man of many contrasts.

Under a veneer of effortless amateurism, he was competitive beyond his capabilities, energetic to the point of mania, egocentric and rather immature. Reluctant to share the limelight or even give credit due to others – yet he transformed life for thousands of people. Impossible to work with, yet his personal charm and charisma brought people flocking to work with him. There was only room for one project in his life, but that received his absolute and undivided attention. He wore his religion lightly, yet compared himself to Jesus Christ, a fisher of men who worked among the poor and dispossessed.

But more important than all these things: he was an agent for profound and permanent change, taking the old order, established for 400 years and turning it upside down, giving it a good shake in the process. He was a social reformer – some would say a revolutionary – who gave back control of their lives to the disenfranchised, empowering them to make a better future for themselves. And by their very nature, social reformers are never easy to live with.

He was never to be forgotten in Newfoundland, what a pity it is that he is not better remembered in Britain. Would I have liked to have met him? Possibly – although I could have managed without the early morning swim among the ice-floes. Would I have liked to have worked with him? Thank you, but no thank you.

THE ONE HUNDRED AND SEVENTY FOURTH ORDINARY MEETING

The One Hundred and Seventy Fourth Ordinary Meeting was held on Saturday 4 March 2006 at the Royal College of Physicians and Surgeons in Glasgow. The President, Dr Bryan Ashworth, was in the chair and there were two speakers. Professor Elizabeth Craik talked on Hippocratic medicine and Dr Iona McCleery talked on Medicine and Medieval miracles.

HIPPOCRATIC MEDICINE

The historical Hippocrates: facts and fictions.

Hippocrates, doctor and medical writer, was born on the island of Cos in or around 460 BC and spent part of his life in Thessaly, where he died at an advanced age. Only these facts are certain (and even these not completely so).

The evidence for the life of Hippocrates is like the evidence for the lives of many other important characters of Greek antiquity: firstly, scanty scattered references in contemporary or near contemporary writers (in this case, in the comic poet Aristophanes and the philosopher Plato); secondly, biography of a sketchy and unreliable sort, from a much later period; thirdly, a collection of letters, allegedly written by or to him but apparently invented by adherents and admirers, also much later. From the first category, contemporary references, we learn that Hippocrates was already known as a famous teacher of medicine, who might be regarded as a representative of the entire medical profession (Plato *Protagoras* 311b-c and *Phaedrus* 270c). The second and third categories contain much anecdotal 'information': some of this may be accepted with due caution, but some is not believable. For example: Hippocrates was taught medicine by his father (very plausible); Hippocrates was a pupil or follower of the rhetorician Gorgias and/or of the scientist-philosopher Democritus (plausible); Hippocrates was called in to treat Democritus when people thought Democritus had gone mad (implausible); Hippocrates burned down the temple of Asclepius, the god of healing, on Cos after making records of the temple cures there (very implausible).

But the biggest fiction about Hippocrates is that he was the author - that is, the sole author - of the Corpus which has come down to us with his name attached to it. The writing style and medical knowledge are too diverse to belong to one author or even to one region or one century.

The nature of the Hippocratic Corpus.

The Hippocratic Corpus is an important body of prose texts written in the Ionic dialect of ancient Greek. It comprises some seventy treatises, which vary greatly in length and content. They fill ten volumes in the standard nineteenth-century edition of Littré (Greek text, with French translation and introductions). One of the shortest, and also one of the most famous, is the Hippocratic *Oath*:

Oath:

I swear by Apollo the Physician, by Asclepius, by Hygieia, by Panaceia and by all the gods and goddesses, making them my witnesses, that I will carry out this oath and this contract according to my ability and judgment. I will treat my teacher in this art like my own parents; give him a share in my livelihood; share with him my money if he is in need; consider his sons as my brothers; teach them this art without fee or contract if they wish to learn it. I will share written precepts, oral traditions and all other medical instruction with my own sons, the sons of my teacher, and with formally enrolled pupils under oath, but with no-one else. I will use treatment to help the sick according to my ability and judgment; but never with a view to their injury and detriment. I will not administer a drug to cause death, even if asked to do so; and I will not secretly advocate use of such drugs. Similarly, I will not give a woman a pessary to cause abortion. I will keep pure and holy both my life and my art. I will not use the knife, even on

sufferers from stone; in this I shall yield place to experts. Into whatever houses I enter, I will enter to help the sick, and I will abstain from all conscious wrongdoing and harm, especially from sexual relationships with women or with men, slave or free. And whatever I may see or hear in the course of my professional activities - and also things which should not be the subject of gossip arising in my ordinary dealings with people - I will never divulge, but treat as holy secrets. Now if I carry out this oath and do not break it, may I enjoy a good reputation for my life and my art for all time; but if I break it and transgress, may the opposite happen to me.

This statement of medical ethics is felt to have an immediate relevance to the modern world, for instance to the current debates on abortion and euthanasia; and is timeless in its treatment of the perennial problems of medical confidentiality, and respect for patients. This interesting document is the most famous of a group of Hippocratic writings which might be described as 'deontological' (dealing with the duties of doctors): these include *Decorum*, *Law*, *Physician*, *Precepts* and *The Surgery*. However, although the content of these works is such that they may be described as a group, their authorship, date and even original purpose may have been quite different. The *Oath* itself was regarded in later antiquity, by the lexicographer Erotian and the doctor Galen, as Hippocratic and, though many modern scholars have questioned this judgment, may indeed originate from a Hippocratic school on fifth century Cos. (For discussion of all aspects of the *Oath*, see *Journal of the History of Medicine and Allied Sciences*, special issue, 1996.)

Another very short treatise is devoted to anatomy:

On Anatomy:

The trachea, taking its origin from each side of the throat, ends at the top of the lung; it is composed of similar rings [to other creatures'], the circular parts touching one another on the surface. The actual lung, inclined towards the left, fills the chest cavity. The lung has five projecting parts, which they call lobes; it has an ashen colour, is punctuated by dark spots, and is in nature like a honey-comb. In the middle of it the heart is situated: it is rounder than [that of] all creatures. From the heart to the liver a large tube goes down, and with the tube the vessel called the great vessel, by means of which the entire frame is nourished. The liver has a similarity to [that of] all other creatures, but is more blood-suffused than [that of] others. It has two projecting parts, which they call gates; it lies in the right part [of the body]. From the liver a slanting vessel extends to the parts below the kidneys. The kidneys are similar [to other creatures'] and in colour are like [those of] sheep. From them slanting ducts reach to the top edge of the bladder. The bladder is all sinewy and large. At a distance from the bladder come, centrally, the genitals. In these six parts [bodily] nature has been arranged internally in the middle. The oesophagus, taking its origin from the tongue, ends at the belly; they call it 'mouth' for the putrefying belly. From the backbone, behind the liver, comes the diaphragm. On the false side, I mean the left, the spleen begins, and extends, similar to a footprint. The belly, lying beside the liver, on the left side, is all sinewy. From the belly comes the intestine, which is similar [to other creatures'], long, no less than twelve cubits, in coils entangled in folds. Some call it the colon, and by it the passage of the food occurs. From the colon comes last the rectum, which has fleshy tissue, and which ends at the extremity of the anus. The rest, nature has organized.

This text is a unique testimonial to the nature and extent of ancient anatomical knowledge; it offers good basic topographical or regional anatomy (the organs studied as they lie in relationship with one another in the different regions of the body). The internal configuration of the human trunk is described: two orifices for ingestion are linked by miscellaneous organs, vessels, and viscera to two orifices for evacuation. That the work is concerned with human anatomy is certain from the precise description of lung and liver, with features peculiar to human organs; and is corroborated by frequent references to comparative anatomy, with which familiarity is apparently assumed. Such anatomical knowledge, based on extensive observation of animals (probably

sacrificial victims as well as laboratory specimens), may have been corroborated by some human dissection, perhaps of the aborted foetus or exposed infant, in conjunction with opportunistic observation of war wounded and accident victims. This short treatise seems to be an unoriginal and uncritical summary of earlier anatomical descriptions, incorporating material from the works of Democritus.

These two texts - one a deontological statement, the other an anatomical survey - can readily be seen to be quite different from each other; and the longer treatises are different again. Some are primarily physiological: *On the Nature of Man* (important statement of the system of four 'humours' in the body: blood, phlegm, yellow bile, black bile); *On Flesh* (outline description of the origin and composition of the main bodily components). Some are surgical: *On Articulations* and *On Fractures* (two interrelated works dealing with the treatment of dislocations and fractures - probably intended for doctors frequenting the gymnasium or wrestling-school); *On Head Wounds* (dealing with serious blows to the skull - probably intended for army surgeons); *On Sight* (dealing with eye conditions, including cataract, trachoma and night blindness). Some deal with dietetics: *Regimen* I-IV (mainly on the relative values to the body of different foodstuffs). Some are theoretical or ideological in stance: *On Ancient Medicine* and *The Art* (two related works dealing with the evolution of the art, or profession, of medicine). Some are gynaecological: *Diseases of Women*, *The Nature of Women* (mainly on procedures to predict or promote a woman's ability to conceive; not on obstetrics, the business of the midwife). Some are case-histories: *Epidemics* (clinical case-notes, some describing the day by day progress of particular patients). Some are nosological, describing diseases rather than patients: *Internal Affections*; *On Acute Diseases* (much on the symptoms, course and interrelation of different diseases). Others are mixed in character: *On the Sacred Disease* (arguing that epilepsy, despite its strange and apparently inexplicable attacks, is no more 'sacred' than any other disease; but also ranging over the causes of disease more generally); *Dentition* (on teething; but also paediatrics more generally); *Airs, Waters and Places* (on environmental health, the practitioner's need to know the geography of his place of work; but also on ethnography).

One of the most wide-ranging, and probably one of the earliest, is *Places in Man*, of which the content can be summarised as follows:

1	Introduction
2-8	Anatomy: senses of hearing, smell, sight; vessels; cords; bones and joints; digestion
9-23	Physiology: theoretical aetiology of fluxes; seven fluxes in practice
24-30	Pathology and nosology: causes and treatment of various diseases
31-40	Precepts: practical and surgical guidance
41-46	Ideology: views on medicine and medical education
47	Gynaecology

A central idea in this work is that all illness is caused by 'flux'. It is supposed that an initial flux of digestive residues from the belly to the head leads to a secondary flux to other sites in the body. Seven fluxes are postulated: (1) to the nose, resulting in coagulated phlegm; (2) to the ears, resulting in pain and suppuration; (3) to the eyes, such that foreign matter - phlegm, mucus, blood - causes irritation and blurred vision or the condition called 'argemon'; (4) to the chest, causing a range of troubles including fevers, jaundice, pleurisy, empyema and phthisis; (5) to the belly; (6) to the back, either (a) to the spinal marrow causing phthisis, or (b) to the vertebrae and flesh causing dropsy; and (7) to the hips, causing the troubles known as 'ischias' and 'kedmata'. These notions, and variants on them, can readily be paralleled in other Hippocratic works.

Early Greek Medicine.

Presenting a portrait of Socrates in the middle of the fourth century, Xenophon makes him

remark on the existence of 'many medical works', which one might study with a view to becoming a doctor (*Mem.* 4. 2. 10). Hippocrates was a contemporary of Socrates and had already acquired almost legendary status by the time Xenophon was writing. But which, if any, treatises in the Hippocratic Corpus, as we know it, were known also to Socrates, or to Xenophon, is completely uncertain. It is certain that many other medical texts, by many other authors, were in circulation in the fifth and fourth centuries. Of these only short fragments, material quoted by later authors, has survived. The existence of other medical writers is corroborated by reputable sources. Herodotus, a fifth century contemporary of Hippocrates, born at Halicarnassus on the coast opposite Cos, names Democedes of Croton as best medical practitioner and Croton (in South Italy) as foremost medical centre of his day, with Cyrene (in North Africa) second; he does not mention Hippocrates, or Cos, in this connection (3. 125, 131-2). Celsus, writing a medical compendium in the first century AD, in a historical introduction mentions as representatives of early medicine Pythagoras, Empedocles and Democritus as well as Hippocrates. Pliny too stresses West Greece, naming Empedocles and Acron. Galen's testimony is much quoted:

In the old days there was great rivalry between the doctors of Cos and of Cnidus ... They were joined ... by the doctors from Italy, Philistion, Empedocles, Pausanias and their followers. There were these three bands of doctors competing with one another. The Coan group ... had most and best, but the Cnidian came close and the Italian too was of considerable account. (Galen 10. 5-6 K.)

The names of many early medical writers are known from a papyrus, which itself dates from the second century AD but which summarises ideas from a much earlier epoch. In this record of the views of pre-Aristotelean doctors on the aetiology of disease, twenty-four doctors, of whom seven were previously unknown, are named: these include Hippocrates (but without special emphasis) and the philosopher Plato (with a summary of the dialogue *Timaeus*). Such writers, possibly contemporary with Hippocrates, include Aegimius of Elis, Acron of Acragas, Dexippus of Cos, Euryphon of Cnidus, Hippon of Croton. Other predecessors and contemporaries with whom the Hippocratic writers might have interacted are: Alcmaeon of Croton, Anaxagoras of Clazomenae, Democritus of Abdera, Diogenes of Apollonia, Empedocles of Acragas, Gorgias of Leontini, Heraclitus of Ephesus, Philolaus and other Pythagoreans. (See bibliography, section on other primary sources.) Many of these writers lived in Italy or Sicily, in regions colonised by Greek cities. The importance of these regions in the history of Greek medicine has been underestimated.

In the fifth century, writers on 'nature' and 'origins' who might now be classified as 'scientists' or 'philosophers' were not clearly differentiated from medical theorists and practitioners: doctors and scientists alike were concerned with a quest for 'beginnings' and with an exploration of 'nature'. Often these words are almost synonymous, as may be seen in the catch-all titles shared by many treatises, simply 'On Beginnings' or 'On Nature'. Nature might or might not subsume the nature of man: Alcmaeon's book on nature was said to embrace both medicine and natural philosophy and Protagoras' book on origins probably considered the human condition. The nature of man might be regarded as the theoretical (elemental) composition of the body or its practical (anatomical and physiological) constitution. Concern with such topics exercised the intelligentsia generally: Prodicus, famous as a pedantic philologist, wrote a work on the nature of man, and Epicharmus, a comic dramatist, wrote also on veterinary medicine.

The relationship between these fragmentary works and the works surviving intact in the Hippocratic Corpus is complex. However, it can readily be seen that they share certain ideas, whether through direct interaction or the use of common sources. Two examples may be given. Firstly, there is a liking for opposing principles, for parallel pairs such as hot and cold, wet and dry, thick and thin, rare and dense, rest and motion. Secondly, there is a concern for the relation of microcosm to macrocosm, of human life to the universe. When these ideas are developed in

medical terms, we find health seen in terms of the balance of opposing principles; for instance, an excess of cold or of heat is regarded as upsetting the balance of the body. And we find that theories explaining physical function and malfunction are based on the same premises as conjectures on cosmological or astronomical phenomena, and expressed in similar language.

Philolaus, a Pythagorean 'philosopher' who was also a medical writer, may be taken as an example of the many writers whose thought impinges on that of the Hippocratic Corpus. In an attempt to comprehend the workings of the human body in illness and in health, he borrowed the concepts of contemporary physics to explain physiological processes and drew also on more abstract speculations of the day. He regarded bodily phlegm as hot; he described it as compressed from the rains; he believed that diseases arose when compression of the flesh made the blood thick, or conversely slackening of the flesh made the blood thin; and that contributory causes were an excess or deficiency of heat, chill, and food. The important scientific concept that pressure (or compression, constriction) causes change in volume and displacement of matter is here applied to the body; and used as a basis for the theory of bodily thickening (density) or thinning (rarity) with corresponding blockage or release of matter. Similar language was used by the early atomists Leucippus and Democritus, with reference to motion into empty space; and by the mathematician Archimedes of the compression of fluids. The idea that phlegm, a constituent of the human body, was connected with rain indicates an association between human physiology and meteorology; between the constituents of the body and those of the cosmos. It is clear that these ideas of Philolaus resemble those propounded by the author of *Places in Man* and other Hippocratic texts.

The view that the qualities thick and thin, dense and rare, hot and cold precipitated disease led to the canvassing of various combinations and permutations: hot might be associated with dry and cold with wet; or, conversely, hot with wet and cold with dry. And in the theory of the humours, which was to dominate western medicine for many centuries, related associations were made: phlegm might be associated with heat, as by Philolaus and the author of *Places in Man*; but it was commonly regarded as the coldest of the humours. Similarly, the view that food played a part in causing disease was propounded in various guises by the Hippocratic writers. Dietary theory required that there should be balance, harmony and mixture in food - especially with regard to the elements hot, cold, wet and dry - in order to maintain balance, harmony and mixture in the body. Further, to maintain health, this qualitative balance must be accompanied by a quantitative balance: equipoise in surfeit and abstinence, or repletion and depletion. The aim was to ensure that food ingested was neither too much nor too little, but in proper proportion to the body. It was commonly supposed that an upset in digestive balance, whether in qualitative terms (upset in ideal elemental composition of food for the individual's requirements) or quantitative terms (upset in ideal amount of food for the individual's requirements) would cause a flux of noxious fluids from belly to head; and that the head would then transmit the peccant matter to other parts of the body. This medical fluid motion centred on the head, streaming down and resulting in disease, might be presented in terms broadly analogous to those used to describe meteorological fluid motion, centred on the heavens, streaming down and resulting in rainfall.

We see, then, that health depended on maintenance of harmony and balance; illness resulted from disruption of harmony and balance; the individual could maintain health and avoid illness by careful dietary monitoring. Further, the body was viewed as a microcosm of the physical world, subject to similar change and motion, and its processes were seen as analogous to the processes of the entire universe. Such were the answers to fundamental questions about health, disease and the workings of the human body in the age of Hippocrates, when philosophy, science and medicine were inchoate and inseparable.

Practice and Ideals.

References to 'teaching' in the Corpus reveal little about how medicine was taught, but much

about attitudes to training and practice. The verb 'teach' occurs three times at the beginning of the *Oath.* The nature of this teaching is unspecified, but the tenor is plain: quasi-filial obligations are due to teachers in medicine. It is stressed in many texts that practical experience is as important as, or more important than, theoretical knowledge. Many works were probably intended for immediate pupils, at least notionally – typically the doctor's son(s) and an associated group. But names of dedicatees, like names of authors, are lacking.

General medical practice can be glimpsed in *The Surgery*: the doctor's office is merely a suitable room in the home where father and son(s) work with their assistants. The more prestigious activity of the public physician was carried out in an office in the centre of the town. Orthopaedic surgery was practised at gymnasium and wrestling school, also at the national games. The doctor attended patients at home in cases of serious illness or accident.

Here is an excerpt from the beginning of *Physician*, a short and vivid deontological text:

Physician:

This is appropriate to a doctor: to cultivate dignity; he will have a good complexion and a good build, in accordance with his natural endowments – for those who are not themselves in good bodily condition are generally considered to be unable to take care of others. Then he must be clean in person and wear good clothes and fragrant, but not obtrusive, lotions ... In mental disposition he should be disciplined, not only in maintaining silence, but also in having an altogether well-organised way of life. ... In character he should be a good person, the sort of man who is respected by and kindly to everyone ... he should be fair in all his dealings ...

The qualities of appearance and character desiderated in the ideal doctor are specified (health, cleanliness, discretion, seriousness, fairness); both physical and mental attributes are outlined before the essential elements of basic medical education are set out (orientation of the surgery, proper ways of bandaging and appropriate types of instrument).

Hippocratic Medicine and Traditional Chinese Medicine.

There are many general resemblances between the theories of traditional Chinese medicine and those of Hippocratic medicine; notably both attach great importance to bodily balance. More specifically, in both systems anatomical structures and orifices are seen in terms of the channels which link them to one another and to other areas of the body. Greek *phlebes* and Chinese *mo* are significant in physiology (normal – carrying blood and *pneuma* or *qi*) and pathology (abnormal – carrying noxious matter, inducing disease). Their supposed paths do not exactly coincide, but several are broadly similar (and more similar to each other than either is to the observed paths of arteries and veins). In particular, the route of the Chinese *du* channel ('governor vessel') from spine to back of head carrying life force is similar to that of the Greek vessel carrying vital *myelos*. Greek evidence for this vessel tends to be disregarded by commentators because it does not correspond with Harvey's vascular realities. The *du* channel has been highly significant in Daoist asceticism and self-cultivation thought. Daoist ideas about the desirability of sexual abstinence and Hippocratic theories about the consequences of over-indulgence in sex are centred on belief in a similarly located bodily duct. Early Greek ideas about the routes of the *phlebes* have been much discussed, but always mapped against the system of veins and arteries, now known. It is natural that Harvey should be invoked in assessments of the accuracy of Hippocratic models of vascular anatomy. However, accuracy is not their main thrust and their theoretical or pragmatic slant renders a comparison with Chinese systems more apposite. And although the development of Chinese 'channels' is now being systematically studied, this is primarily in relation to later acumoxa practice. A thorough comparative representation of different Greek and different Chinese theories is a desideratum. Meantime, certain parallels are here noted; the parallel between the Greek channel carrying *myelos* and the oriental *du* channel bearing the life force is particularly striking. Originally in China there was no elaborate system of acupuncture points with measurements, any more than in Hippocratic practice. In sum, we see similar channels, with similar paths and similar contents, the focus of similar treatment for similar medical conditions.

It is perhaps paradoxical that Hippocrates, viewed as the founder of western medicine, has this eastern analogue.

Editions of Hippocratic Corpus:
(Standard) E. Littré (10 vols, Paris, 1839-61); F. Z. Ermerins (3 vols, Utrecht, 1859-64)
(First) F. M. Calvus, Latin tr. (Rome, 1525); F. Asulanus, Greek *editio princeps* (Venice, 1526)
(Early) J. Cornarius (Basle, 1538); A. Foesius (Frankfurt, 1595); J. A. van der Linden (Leiden, 1665)
Other primary sources:
Die Fragmente der Vorsokratiker, ed. H. Diels and W. Kranz
The Medical Writings of Anonymus Londinensis, ed. W. H. S. Jones

General works: J. Jouanna, *Hippocrate* (Paris, 1992; English translation London, 1999)
W. D. Smith, T*he Hippocratic Tradition* (Ithaca and London, 1979)
Vivian Nutton, *Ancient Medicine* (London, 2004)

MEDICINE AND MEDIEVAL MIRACLES

The text that follows is an abbreviated version of Dr McCleery's paper

Dr McCleery opened her talk by presenting two manuscript accounts, the first from the early medieval period, relating to Bede's account of St Cuthbert (d.867 and the second from the late medieval period, relating to St Thomas of Canterbury, (d.1170)

Miracles

She described how the concept of the miracle had been first developed by Augustine of Hippo, (d. 430), who suggested that the Creation could be seen as the greatest of miracles. Thus all nature's workings were miraculous, including all the marvels and contrivances worked by 'God's created beings.' However people have become accustomed to the miracles of creation and need to be reminded to reflect on the daily miracles of life and their meaning. There are "miracles" of the natural wonders, which appear marvellous to those who have no understanding of their principles, for example magnetism.

Thomas Aquinas, (d. 1274), developed a distinction between miracles and marvels and described three different types of miracles a) those that achieve something that nature would not be able to do b) those that are not in the natural order of events, such as the blind seeing or the dead becoming alive again and c) those that nature would be able to do, but happen spontaneously, such as the curing of a fever.

Healing miracles

Healing was important in the Gospels and in the Old Testament. Miracle cures can also be found in the lives (*vitae*) of the Western saints, from the late 4th century onwards, together with associated *topoi (*literary motifs). Medieval miracles did not have to be concerned with healing, but may instead have been associated with punishment or with protection (of crops, animals, liturgical objects, and churches). An increasing emphasis on cures can be perceived from the 12th century, coinciding with the growth of learned medicine as well as with more sharply defined canonization criteria.

Problems of belief

Modern observers were influenced by 18th century scepticism, especially David Hume's rational rejection of miracle stories in his *Enquiry into human understanding* (1748). Hume made a number of points.

a) That miracles are irrational, by the very fact that they are called miracles.

A miracle is a violation of the laws of nature; and as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined. Why is it more than probable, that all men must die; that lead cannot, of itself, remain suspended in the air; that fire consumes wood, and is extinguished by water; unless it be, that these events are found agreeable to the laws of nature, and there is required a violation of these laws, or in other words, a miracle to prevent them? Nothing is esteemed a miracle, if it ever happens in the common course of nature. It is no miracle that a man, seemingly in good health, should die on a sudden: because such a kind of death, though more unusual than any other, has yet been frequently observed to happen. But it is a miracle, that a dead man should come to life; because that has never been observed in any age or country. There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full proof, from the nature of the fact, against the existence of any miracle; nor can such a proof be destroyed, or the miracle rendered credible, but by an opposite proof, which is superior.

b) The lack of reliable testimony by acceptable witnesses.

When anyone tells me, that he saw a dead man restored to life, I immediately consider with myself, whether it be more probable, that this person should either deceive or be deceived, or that the fact, which he relates, should really have happened. I weigh the one miracle against the other; and according to the superiority, which I discover, I pronounce my decision, and always reject the greater miracle. If the falsehood of his testimony would be more miraculous, than the event which he relates; then, and not till then, can he pretend to command my belief or opinion.

c) That there were contemporary prejudices towards the 'ignorant' reporting such stories.

It forms a strong presumption against all supernatural and miraculous relations, that they are observed chiefly to abound among ignorant and barbarous nations; or if a civilized people has ever given admission to any of them, that people will be found to have received them from ignorant and barbarous ancestors, who transmitted them with that inviolable sanction and authority, which always attend received opinions.

However, medieval people were also quite capable of scepticism, doubt and fraud. There was concern with reliability of witnesses and the production of written documentation from the 12th and 13th centuries and this intensifies in the early-modern period as a result of the criticism of humanists and reformers (this is when many collections were first compiled and examined)

Historians can use miracle sources without believing in them, but should accept that on the whole medieval people did believe in them. Finucane has noted *'the problem is not the definition of 'miracle', which seldom arose at this level; it is a question of the definition of health and illness.'* Historians should beware of the temptation to rationalize and explain away medieval miracle cures. The retrospective diagnosis of medieval diseases and conditions has limited value. There is a desire to explain away: for example Kupner's book on paintings of around 1200 AD, in a shrine centre at St Aignon-sur-Cher in central France, tries to identify all cures as consequences of ergotism.

Palaeo-archaeology and an understanding of skeletal disease can be very helpful, but great care must be taken when applying modern epidemiological, diagnostic terminology to medieval contexts. It would no doubt be very interesting, from modern epidemiological and demographical points of view, to know whether people really had TB, syphilis or bubonic plague but this should not distract us from trying to understand how medieval people thought about their bodies and illnesses.

Changing attitudes towards miracles and the lives of the saints

Two useful historiographical studies are Finucane's 'Use and abuse of medieval miracles' (1975) and Geary's, 'Saints, scholars and society: the elusive goal' (1994).

Dr McCleery agreed with Geary's view that the 1960s and 70s appear crucial to a wider awareness of miracles as sources in social, and by extension, medical history, with the 1980s particularly rich in studies using miracles to understand medieval healthcare.

There has been much less interest in institutional and political history. The *Annales* school of French history has included influential medievalists such as Le Roy Ladurie who used inquisition records to build picture of beliefs, attitudes, practices of 14th century French peasants, and Schmitt who studied the 13th century cult of St Guinefort, which specialized in healing children. Roy Porter did pioneering work in this area in the 1980s as did medieval medical historians such as Michael McVaugh. Another pioneer in new approaches to the cult of saints was Peter Brown, in a number of studies in the 1970s on cults in early Christianity which put saint and shrine at the centre of society and politics. More recent work emphasises the continued practice of medicine by the clergy and the use of medical analogies by theologians, and argues for cooperation as well as rivalry in the medical sphere (McVaugh, Ziegler). These more complex relationships can be seen in miracles throughout the Middle Ages.

Which historians were first to exploit miracle sources for medical history?

Dr McCleery referred to a number of historians who have used writings about miracles to explore medical history. These include the early-medievalists (up to the 11th century), Byzantinists and French historians including Rouselle (1976), Rouche (1981), Flint (1989) and Pilsworth (2000), Magoulias, who produced a study of Byzantine saints' cults as sources for medical history (1964), which stood for long on its own and, more recently, Hordern (1981). English historians of the 12th-13th century, such as Finucane (1977), Ward (1982) and Gordon (1986) were strongly influenced by French models, often using Anglo-Norman materials. There is a Portuguese study of late-medieval cults (13th century and later) and an early study, by Wickersheimer (1922), of the miracles of the 14th century cardinal Pierre de Luxembourg. Flint and Geary point out that without the writings which describe saints' lives, very little would be known at all about early medieval society. They are the main narrative sources for Merovingian Gaul, early Ireland and Scotland. The lack of late-medieval interest may be related to a much greater variety of archival sources, far more medical texts and a preference for secular sources. However, late medieval miracles shed light on a wide range of issues, including the medicalisation of society, and the effect of increased literacy in a period in which physicians were far more involved in canonization processes, thus leaving far more detailed evidence than had previously been available. Pilgrimages and shrines remained important even in 16th century England on the eve of the Reformation.

Flint (1989) noted '*Hagiographical material is full of traps for the historian and is hard to use; but it is full, also, of gold if only one can learn to sift it out'* The material should be used because it can shed light on healing, it is abundant, it can provide an image of the medical practitioner at a time when they were few and far between, and because it can allow access to emotions and anxieties about disease and health.

How do historians use miracles? What questions can be asked?

Various elements can be explored, such as illness or disease, age, gender, status and locality. This can provide good information about children and women and groups such as the elderly and the poor, who have been neglected by medical writers except when dealing with specialist texts. Other elements which can be considered include the role of medical practitioners, aftercare, the occurrence of a relapse, how the miracle had its effects, whether it was achieved by medical or surgical means, where it took place, whether it was at a shrine or at a distance, and whether the cure affected the physician's or surgeon's view of their own skill in curing.

Conclusion

Finally, Dr McCleery considered two examples from medieval Portugal, Gil de Santarém (d.1265) and Isabel of Aragon (d.1336).

She concluded by saying that saints' lives and miracles were not straightforward sources but they should be used by medical historians, if for no other reason than that they had significance to the medieval people whose health and illness were being explored. They were reflections and products of the healthcare systems of previous times.

THE FIFTEENTH HALDANE TAIT LECTURE

The Fourteenth Haldane Tait Lecture was held on 3rd May 2006 in St Leonard's Building at the Pollock Halls, Edinburgh. The speaker was Sir Kenneth Calman, Vice-Chancellor of Durham University, who gave a fascinating and well illustrated talk on the History of Cartoons and Medicine. The Lecture was followed by an excellent meal and the evening was much appreciated by those attending.

THE ONE HUNDRED AND SEVENTY FIFTH ORDINARY MEETING

The One Hundred and Seventy Fifth Ordinary Meeting of the Society was held at King's College Conference Centre in Aberdeen, on 10 June 2006, where two excellent papers were presented. The first, by Dr Agnes Walker, was on a History of Highland Medicine. The second talk, given by Professor Ian Poxton, was entitled The Decline of St Kilda (and Neonatal Tetanus) Was the Fulmar to blame?

Unfortunately Dr Walker's paper is not available for the Proceedings but a summary of Professor Poxton's paper follows.

THE DECLINE OF ST KILDA (AND NEONATAL TETANUS) WAS THE FULMAR TO BLAME?

Professor Poxton introduced his talk by explaining that in the latter part of the nineteenth century most babies born on the island of St Kilda developed tetanus and died at around the age of eight days, the "sickness of eight days." Accurate infant death records, kept between 1855 and 1876, showed 41 deaths out of 56 births, most of the deaths being ascribed to the "sickness of eight days". It became clear that the deaths were due to tetanus or lockjaw, though it was not known how the infants had become affected. In 1885 Robert Connell writing in the Glasgow Herald noted that *"a great gun of the Free Church..... was not ashamed to say that this lockjaw was a wise device of the Almighty for keeping the population within the resources of the island"*

The life threatening effects of tetanus come from a spastic paralysis resulting from the action of tetanospasmin, a neurotoxin produced by the bacterium Clostridium tetani, after it infects a wound. Clostridium tetani is an anaerobic, gram positive, spore forming organism, which occurs in the gastrointestinal tract of man and other animals and is widely found in animal faeces and soil.

If an infant is affected, for example when the organism contaminates the wound of a cut umbilical cord, spores germinate in the wound and neurotoxins are produced. These affect the release of inhibitory neurotransmitters, resulting in over stimulation of motor neurones in the central nervous system. The head and neck muscles are usually the first affected and by three days the infant may be unable to suckle. It becomes irritable and then develops convulsions that increase in frequency and intensity. Eventually this progresses to increasing problems with breathing, exhaustion and, in most cases, death.

Currently neonatal tetanus kills more than 450,000 infants each year in rural parts of the Third World. If the mother has not been immunised, nearly 40,000 mothers also die from tetanus infection acquired during delivery. The disease can be prevented if women have been immunised with at least two doses of tetanus toxoid vaccine before childbirth, and if clean practices are used during delivery and in the care of the infant's umbilical cord after delivery.

In 1890, the Rev Angus Fiddes, a Free Church clergyman working on the island, thought that the infant deaths were in some way due to the practices which attended birth. He asked for a nurse

to be sent from Glasgow to assist in the delivery of infants. Within a short period of time, the situation improved dramatically and the last case of neonatal tetanus was recorded in 1891.

One of the possible sources of infection that had been suggested was Fulmar oil, which was used in dressing the cut umbilical cord. The Fulmar is a tubenose sea bird which is common on St Kilda. Fulmar oil is produced in the stomachs of the birds and regurgitated by them as a defence mechanism to deter predators. It was collected by the St Kildans and kept in the stomachs of Gannets, which were used by the islanders for storage purposes. The Fulmar oil was used for lighting and was also thought to have medicinal properties, which was why it had been used for dressing. Could it have been a source of Clostridium tetani?

Professor Poxton had an opportunity to investigate this in April 2004, when he visited St Kilda and was able to collect samples of the soil, and in the summer of the same year when, with the help of the Lothian Bird Ringing Group, 40 samples of material regurgitated by Fulmars were collected from birds nesting in the Firth of Forth. The St Kildan soil samples and the Fulmar material were cultured anaerobically and then examined microscopically for Clostridium tetani organisms and, using PCR (polymerase chain reaction) methods, for the Clostridium tetani neurotoxin gene. All soil samples were positive both for the organism and the neurotoxin gene, but the organism could not be cultured from any of the Fulmar samples, which were also all negative by PCR for the neurotoxin gene. Professor Poxton's team also looked at the possibility that Fulmar oil might have antimicrobial qualities, but were unable to demonstrate that it had any effect on the growth of Clostridium tetani.

Thus, while there can be doubt that neonatal tetanus occurred in the latter half of the nineteenth century in St Kilda and had serious consequences for the population, the Fulmar appears innocent as the source of the infection. Once Clostridium tetani had been acquired from the surroundings, however, it is possible that the Fulmar oil helped to provide an anaerobic environment around the wound, leading to conditions which facilitated the consequences of the infection.

Members of the Society may be interested to know that there is a paper on the same topic as Professor Poxton's talk by Dr Peter Stride, in the Journal of the Royal College of Physicians of Edinburgh, (2008, volume 38, pages 70–77). This is entitled

St Kilda, the neonatal tetanus tragedy of the nineteenth century and some twenty-first century answers.

It can be found online at http://www.rcpe.ac.uk/journal/issue/journal_38_1/stride.pdf

With the papers by Dr Walker and Professor Poxton, the 2005-2006 session of the Society came to an end.

The Scottish Society of the History of Medicine

Constitution as revised at AGM of 1999

The Society shall be called "THE SCOTTISH SOCIETY OF THE HISTORY OF MEDICINE," and shall consist of those who desire to promote the study of the History of Medicine.

A General Meeting of Members shall be held once a year on the last day of October or within four weeks of that date, to receive reports and to elect Members of Council and (when required) Office Bearers. The quorum shall be 20 members and decisions shall be taken by a majority. The President shall have a casting vote, and there shall be no proxy voting.

3. The management of the affairs of the Society shall be vested in a Council, comprising a President, a Vice-President (serving as Deputy President and President-Designate), a Secretary, and a Treasurer (the four Office-Bearers), along with nine other members ("Ordinary Members of Council"). The immediate Past President may also be included as a member of Council, as provided below. The quorum at Council meetings shall be six and there shall be no casting vote.

4. The President and Vice-President shall be elected at an Annual General Meeting, to serve normally for a tenure of three successive years, and shall not hold their post for more than three successive years, but shall be eligible to serve again after the lapse of one year if re-elected. In addition, the immediate Past President may remain a member of Council for two years after the end of his or her term of office as President.

The Secretary and Treasurer shall be elected at an Annual General Meeting, to serve normally for a tenure of three successive years, and shall be eligible to serve again if re-elected, but should not normally hold office for more than six consecutive years.

The names of all candidates for election as Office-Bearers and of their proposers shall be made known to the Secretary before the Meeting at which election is to take place.

5. Any Office-bearer may be required to retire from office by resolution at any AGM, but the proposer and seconder of the resolution shall give a month's notice in writing to the Secretary (or in the case of the Secretary to the President), and the resolution must be pre-circulated to Members in the papers for the AGM.

6. Three Ordinary Members of Council shall be elected at each Annual General Meeting, to serve normally for a tenure of three successive years, and shall not be eligible for re-election at the end of their tenure until a year has elapsed; each year, the three Ordinary Members most senior by date of election shall demit office. If an Ordinary Member is otherwise unable to complete his or her term of office, the Council shall co-opt a replacement to complete the term, and this replacement shall be eligible at the end of the term to be elected for a further full term, despite having already served part of a term.

7. The Council shall have power to co-opt at any time other members who in their opinion are fitted to render special service to the Society. Such co-opted members shall be in addition to those in clause 6 above, and the co-option shall require the approval of each subsequent Annual General Meeting if it is to continue further.

8. To recognise outstanding service to the Society or to Medical History in general, upon occasion an Honorary Member of the Society may be elected at any Annual General Meeting. Any name proposed (with the name of a proposer and seconder, and details of the case) must be intimated in writing at least three months before the meeting to the Secretary, so that they are included in the pre-circulated Agenda for the meeting. Honorary Members shall pay no subscription.

9. The Annual Subscription shall be reconsidered from time to time by Council and reported to the Society at the Annual General Meeting. The Subscription (or revised Subscription) will fall due immediately following the AGM. A Member whose subscription is outstanding for a full year shall cease to be a member of the Society.

10. The Council shall ensure that full and punctual Accounts are kept for the Society and shall cause to be prepared once a year a Statement of Accounts and a Balance Sheet for the previous year.

11. The Society's funds shall consist of funds in the hands of the Treasurer, together with other sums of money and securities. These funds shall be held by the Treasurer, acting with the President and the Secretary (the Trustees), in trust for the Society's aims and objects, and in furtherance of this purpose the three Trustees shall have the following powers:

(a) Payments shall be made out of income or capital of the Society as the Trustees shall determine; all cheques shall require the signatures of two of the three Trustees.

(b) The Trustees may purchase and sell stocks, bonds, securities and other investments.

(c) The Trustees may delegate the management and investment of the Society's funds to the Treasurer and will consult with him on a regular basis as to the performance of the investments and assets comprising the Society's funds.

12. The Secretary shall keep brief Minutes of the proceedings both of the AGM and of the Council, shall prepare Agenda, and shall conduct the correspondence of the Society.

13. Meetings shall be held at least twice yearly, and the place of meeting shall be in any of the University centres, or elsewhere, as the Council may decide.

14. This Constitution may be amended at any General Meeting of the Society on four weeks' notice of the proposed amendment being given by the Secretary, such amendment to be included in the Agenda circulated for the Meeting. No such alteration or amendment shall have the effect of prejudicing the Society's charitable status in law.

15. The Council may resolve that the purposes for which the Society's funds are held can no longer be carried out by them or could be carried out more efficiently by some other body, fund or institution, and shall so report to a General Meeting of the Society; and if the General Meeting agrees, require the Trustees to make over the Income and Capital of the Society's funds to that other body, fund or institution whose aims and objects most closely resemble those of the Society, and so bring the Society to an end.