AMAZING
DOCTORS & NURSES

INSPIRATIONAL STORIES

DR CHARLES MARGERISON

The Amazing People Club®

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We recognize there are different conventions on the spelling of words in what we shall call British English and American English. Within our titles, we have chosen to adopt the spelling style the featured individuals would have used to ensure the BioViews are as authentic as possible.

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BioViews®

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The Author

Dr Charles Margerison is a Chartered Psychologist, a member of the Royal Institution and the Royal Society of Literature. He is Chairman of Viewpoint Resources Ltd, a publishing organization and the founder of the Amazing People Club. Previously, he was Professor of Management at the University of Cranfield, UK and also at the University of Queensland, Australia. He is the co-founder of Team Management Systems and the Chairman of Bell Hughes Music Group.

The author of more than ten books on management issues, he has also written an innovative continuing professional development system, called *The Communication and Problem Solving Resource*. This provides the educational support resources for the use of the Amazing People Series in schools and colleges.

The Amazing People Club Series commenced when Dr Margerison wondered what people like William Shakespeare, Marie Curie, Abraham Lincoln, and other great achievers would have said if he had interviewed them about their life and work. Therefore, he decided to research the known facts about their lives and write up what he thought they would say. In particular, he focussed on the psychological issues associated with their personalities and how they used their time and talents well in order to achieve. The stories give us an insight into their motivation and relationships with other people.

This unique range of stories is presented via a new concept called BioViews® that combines a biography with a virtual interview. The stories are an interpretation of the lives of amazing people, as in a theatre play. Each one is presented as if the person is talking to you personally. Every line of a BioView® has a meaning that provides a fact or an interpretation, or raises a question. There are no full stops, as in traditional writing, except at the end. The intention is to create the flow of conversation as in an interview.

BioViews® offer new and interesting ways of understanding major contributions to our world by amazing people. The stories are inspirational and we hope they can help you achieve your ambitions in your own journey through life.

Introduction

Thousands of babies are born each day. If they are fortunate to live in countries with a high standard of living then normally a doctor or nurse or both will be there to assist the mother. For those who are not so fortunate, then nature is usually left to take its course, sometimes for the best but often for the worse.

That was the situation for most mothers until about 100 years ago. Medical facilities were poor or nonexistent, as indeed they are in many parts of the world today. This book records, in a unique way, how doctors and nurses have changed our lives. The revolution in health care started after 1850 when people like Semmelweis tried to persuade other doctors to wash their hands in carbolic. At that time, many mothers were dying in childbirth.

About the same time, Florence Nightingale took 38 nurses to the Crimea to try and help wounded soldiers. They were often ignored or harassed by army surgeons and military people. Indeed, the profession of nursing at that time was regarded as a low level occupation. On her return to England, Florence Nightingale set about changing that and improving the life of many by developing nurses for the new profession.

It was some years before Pasteur explained how germs spread and caused infection. It required considerable efforts by Lister and others to improve hygiene in hospitals and surgeries. The medical profession was backward in learning and reluctant to change old practices. Despite opposition in many quarters, standards began to improve. Each one depended on time being spent on research and development.

This book provides an insight into how doctors and nurses, over the years, have developed the remarkable skills and methods to help patients, linked to support from researchers in many fields. The stories are presented as biographical interviews, called BioViews®. It is as if each of the doctors and nurses has returned through time to tell me their story and their amazing achievements. I hope that you find the stories of interest and value.

Charles Margerison

Christiaan Barnard
1922 2001

Many hours of my life were spent in the operating theatre
My job was to help give people some extra years of life
In the process, I conducted the first heart surgery replacement
You may ask what motivated me to do such work
No doubt, experiences in my early years influenced me
I had four brothers
One of them, Abraham, died of heart failure
He was only four years old
There was little we could do but pray, but it was to no avail
My father, a missionary preacher, led us to his grave
I realized that life and time is precious and to value it
There was time to think about those issues
Each day, I walked five miles to and from school
We lived at Beaufort West, a small town
It was in the semi-desert Karoo region of South Africa
My mother gave me ambition
My father taught me tolerance and I worked hard
By 1946, I qualified as a doctor
In my work, I met Aletta Louw
She was a nurse, and we were attracted to each other
By 1948, we were married and started our family
We had two children, Andre and Deidre
Therefore, I needed a more secure income
I practiced in Ceres, a poor area, until 1951
In that year, we moved to Cape Town
It enabled me to gain my Master of Medicine degree in 1953
The same year, I completed a doctoral thesis
Tuberculous meningitis was the topic
Then, I commenced long hours of work at the Groote Schuur Hospital
In the process, I was intrigued by the pump we call the human heart
Memories of my brother's death from a heart problem haunted me
How could I help those whose life blood pump was not working?
In 1956, I went to the USA to study cardiothoracic surgery
It was an exciting time, at the forefront of new developments

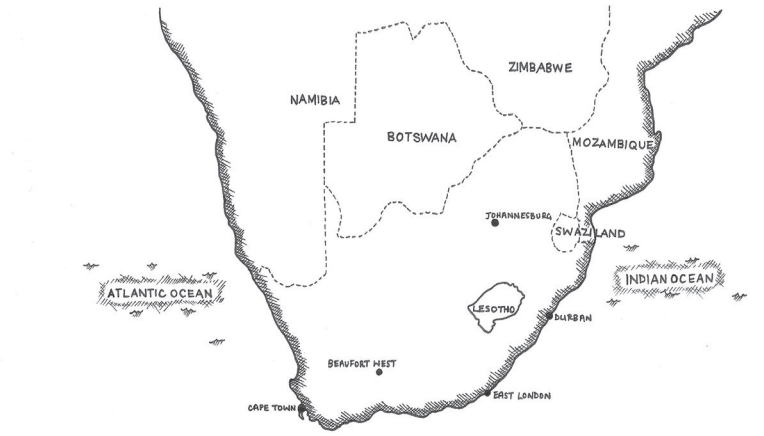
Christiaan Barnard

Dr Norman Shumway and colleagues were helpful
I completed a PhD thesis on the aortic valve
Research with animals showed that we could replace diseased hearts
But, replacing the human heart was in most places a taboo subject
Ironic, considering that we replaced other organs in the body
Therefore, I focused on replacing kidneys
In 1959, I performed the first kidney transplant in South Africa
Taking from the dead to give to the living
Should not the same principles apply to heart transplants?
Opposition from religious groups and politicians was strong
In addition, many medical colleagues expressed ethical concerns
It was not an easy decision
Further trials with animals, particularly with dogs, were conducted

They confirmed that a heart transplant was possible
The operations were successful, albeit the dogs died later
There were major immunological rejection issues
Would it work if we tried a heart replacement on a person?
Louis Washkansky, aged 53, was dying from heart failure
He agreed to have a heart transplant
But, how could we find a human heart?
It was a delicate subject of discussion
Should we take the heart of a dead person to help someone live?
Colleagues in the Emergency Department were supportive
They knew the issues involved in using replacement organs
Patients in their care died, despite their best efforts

We agreed they would assist when a tragedy occurred
On December 3rd 1967, Denise Darval died at the hospital
Aged 25, she was fatally injured in a car crash
Her heart became available for transplantation
Thirty people, including my brother Marius, were ready
My team was trained to transplant her heart
Five long hours of surgery followed, then days of careful nursing
The operation was a success and we were pleased
We had proved a human heart transplant could be done
We had given Louis hope, but only for a short time
He lived for 18 days before his body rejected the new heart
News of the operation was given to journalists
The world's press, radio and TV stations made me an overnight celebrity
Although a team effort, they wanted to promote me as the lead surgeon
The news spread like wild fire giving new hope to many
It was also news to the Groote Schuur Hospital management
I had not informed the top people in advance
Maybe I thought they would say no
After all, I was trying to save a life, not discuss policies
On January 2nd 1968, we tried again
My team gave Philip Blaiberg a new heart
On that occasion, we dealt with the rejection issues more effectively
Philip lived for 19 months
That operation was the second of my 165 heart transplants
With each operation, we learned how to improve the survival rate
The fifth person to receive a new heart lived for 13 years
The sixth person, Dorothy Fisher, lived for 24 years
Success rates improved with our increased understanding of immunology
Other innovations were needed to give people new life
I developed the 'two hearts in one body' approach
Then, I tried artificial hearts
Experiments were made with the hearts of monkeys and pigs
However, other breakthrough work was not well publicized
Before the adult heart transplants, I had operated on children
Many of them had heart defects
It was important to do corrective surgery before things got worse
The reconstruction of a congenitally abnormal heart was complex
But, it was rewarding to help a child, giving them a chance of a full life

However, we needed a better solution to the replacement of hearts
Therefore, I initiated research on artificial heart valve development
That stirred up even more passionate debate
Religious groups opposed artificial hearts
Politicians were split on the issues with so many points of view expressed
Academics argued the ethical issues
To me, it was simple
Everyone had the right to live
Therefore, I spoke out on TV and radio
In the process, I became well known internationally
Most of my work was controversial and involved risk
My support for passive euthanasia stirred more debate



South Africa

But, there was a larger argument in South Africa
It involved equal rights
Politically, I was against the Government on the apartheid issue
Some of the newspapers overlooked my views on that
Instead, there was much talk about my nightclub lifestyle
Indeed, it was clear that I enjoyed female company
While I saved other people's hearts, I lost mine a number of times
Maybe that is why I had three marriages and many affairs
The one with the film star Gina Lollobrigida was well publicized

Therefore, Aletta and I grew apart and we divorced in 1969
The next year, I married Barbara Zoellner, an heiress
She was aged 19 and I was 48 years of age
We had two children and were married for 12 years
But, strains between us led to a divorce in 1982
My third marriage, in 1988, was to Karin Setzkorn
She was a model and 40 years younger than me
We were married also for 12 years and had two children
In affairs of the heart, age did not matter to me
However, when operating on the heart it did
Rheumatoid arthritis affected my hands
In 1983, therefore, I retired from surgery
But, my wider work as a medical advocate continued
Also, I wrote two autobiographies
In addition, there were many radio and TV interviews
People asked me what were the most important issues in medicine
Coronary heart disease was of course a main problem
But, in my view rheumatic heart disease was more important
It has affected millions of young children as well as adults
Therefore, I established the Christiaan Barnard Foundation
It helped children in need of food, water and medication
My book, *50 Ways to a Healthy Heart* provided income to it
Plus, there was income from a winery in which I was involved
In my life, I saw the highs and lows, the good days and the bad
Many talented people helped me make medical breakthroughs
Through surgery and nursing, we helped people enjoy more years of life
However, there were others less fortunate who did not need surgery
Starving children needed food and clean water
Maybe I could have done more
Maybe we can all do more to help
I was given many opportunities in life
So should those who are poor and ill
My work and lifestyle led to fame and fortune
But, none of us last forever
Aged 78, I had a pain in the chest area
It seemed ironic that I should have a heart attack.

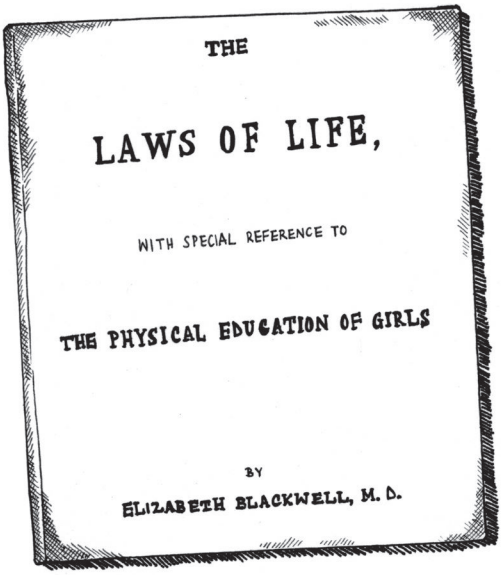
Elizabeth Blackwell
1821 1910

Crossing the Atlantic in 1832 was a great experience
The waves raged against the side of our boat
As an 11 year old, I enjoyed it, though others felt ill
The experience reflected the future of my life
Riding the waves of anger and opposition
For I decided that my life would be devoted to helping others
My father was opening a new sugar refining venture in Ohio, USA
Our family of nine was sailing to a new land and new life
Born in Bristol, England, we were moving from the city to the country
Father was a Quaker and had all my brothers and sisters educated
The process helped me think about my aims and aspirations
It provided me with an objective, something to engross my thoughts
Helping others could prevent the sad wearing away of the heart
When finishing school, I did not just want to be married off
It was important to make a difference
Particularly, as I saw my father taking ill and dying
When I suggested that I become a doctor, it was seen as silly
That was work for men, I was told
Through contacts, I arranged to work with Dr S. Dickson
Living at his home in South Carolina, he tutored me in medicine
The problem was how to gain a University qualification
Writing letter after letter, I waited eagerly for the responses
17 medical schools rejected my applications
Some did not give a reason, others were very clear
Medical education was reserved for men
Those who replied said it was not a job for a lady
Dealing with disease and surgery was men's work, they said
Eventually, I wrote to the Faculty at Geneva College, New York
The staff were no doubt amused that a girl had applied
They sent the application to the students, to allow them to decide
Fortunately, they voted for me, despite opposition from the faculty
The education course was far easier than gaining entry
In 1849, I graduated as head of the class, two years after starting
So becoming the first woman to qualify as a medical doctor in the USA

Elizabeth Blackwell

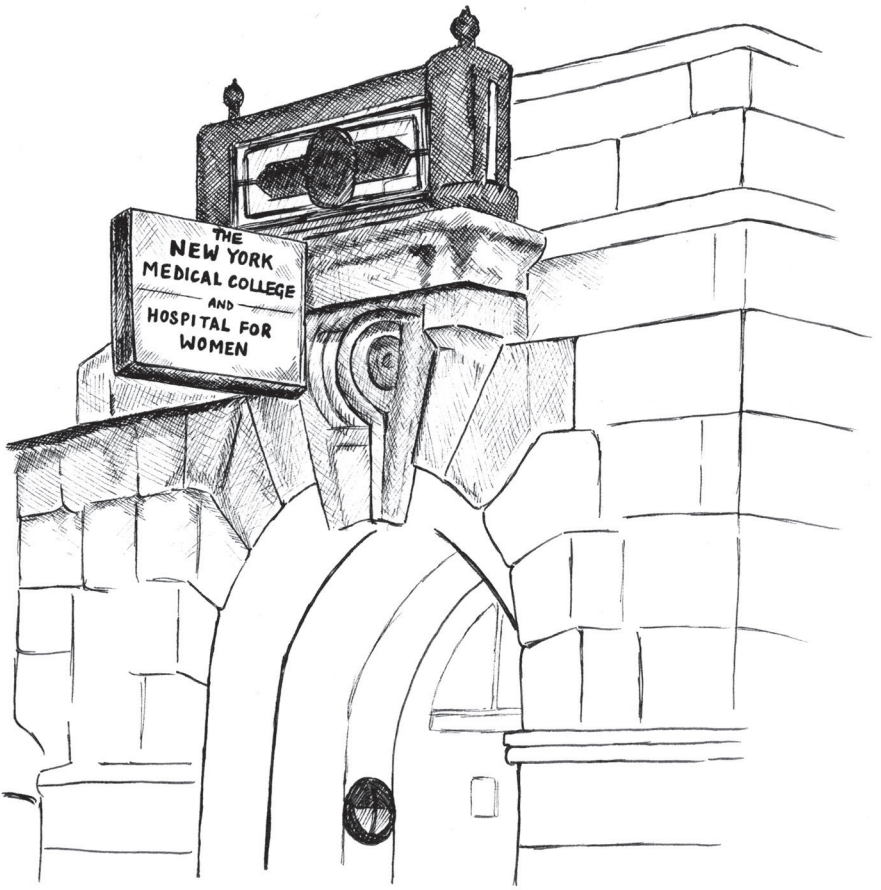
En route, there was prejudice and some bizarre incidents
One of the surgery classes was on male organs
The tutor in charge asked me not to attend
Maybe to spare my blushes, or restrict my education
I offered to remove my bonnet and attended
Qualifying as a doctor did not mean I could gain work
Most hospitals barred me because I was a female
Therefore, I decided to train in a subject helpful to women
My decision was to go to France and become a midwife
There, I studied at La Maternité, the children's hospital
Treating a child with an eye infection, I contracted purulent opthalmia
It spread dangerously and surgeons had to remove one of my eyes
That cut short my training and stay in Paris
I went to England and worked in London with Dr Puget
Establishing links that would, in due course, develop further
Returning to America in 1851, I resolved to work with children
In the process, I was able to help many mothers
Indeed, although not married, I became a mother by adoption
Katherine Barry was a three year old orphan and in need of help
It was the least that I could do and she brought joy to my life
Kitty, as she became known, was my lifelong companion
With the passing of the years, she helped me, as I had helped her
Medical facilities for women and children were poor
Hospitals and pharmacies still refused to employ women
Therefore, I purchased a house in New York to set up a clinic
Even then, women were reluctant to visit a woman doctor
In 1852, I therefore wrote a book
The Laws of Life
With Special Reference to the Physical Education of Girls
It was a small start to improve the health of females
At that time, they were not supposed to talk about their bodies
As a result, many illnesses went undetected
Taking the clinic to the slums of New York was vital
The need was greatest there, with so many people and so few doctors
In 1853, with some help from friends, a small dispensary was set up
The people who came to visit were most thankful
It encouraged me to continue
Our medical work was combined with social work

The focus on education and hygiene was a vital part of social medicine
That was in contrast to the focus other doctors had on surgery
In 1857, I established a new type of hospital
The New York Infirmary for Indigent Women and Children
It was a small start for a large and growing problem area
Eventually, the United States Sanitary Commission was established
It was based in many ways on the work we did in the New York slums
News of my work spread to Britain and a lecture tour took place in 1859
As a result, I became the first woman on the British Medical Register



But, ironically, women were not allowed to qualify as doctors there
More prejudice in the land of my birth
On my return to the USA, the Civil War commenced
To assist, I trained nurses to tend injured soldiers
It was a sad time, with nearly 1,000,000 casualties
Two-thirds of those were due to disease, rather than battle wounds
The Women's Central Association of Relief was also established
After the war, most hospitals refused to hire me
In 1868, I therefore set up an organization to resolve the problem

The Women's Medical College of the New York Infirmary
The name made a clear statement of intent
My sister, Emily, and Dr Marie Zakrzews joined me
It was a precursor to similar work in England
Friends, like Elizabeth Garrett, promoted women's rights
Setting sail to the land of my birth again, I resolved to assist
The boat bravely rode the waves, reminding me of my early days
During the voyage, I made a plan of what to do
In 1869, I helped form the National Health Society in England
With an influential group of women, we made a start
The London School of Medicine for Women was also established
As Professor of Gynaecology from 1875 to 1907, I helped mothers
By 1899, we had trained 364 women doctors
Despite this, there was continued opposition to women doctors
It was vital to convince politicians that changes were needed
Influencing those with power could provide more resources
In 1876, Parliament agreed to register doctors, regardless of gender
It was an important milestone
Writing and tutoring were equally important
My book, *The Moral Education of the Young*, was published
Also, I wrote to help women become professionals
Pioneer Work in Opening the Medical Profession to Women
That was the title I gave to my autobiography
My parents would have approved
But, more needed to be done through social medicine
Most homes were basic and in need of repair
In England and America, people crowded into the cities
The social conditions were the cause of much disease
In the USA, slavery was the red hot political issue
I campaigned with others to have slavery abolished
Poverty and city slums were key issues
On my return to America, I campaigned to make improvements
Better housing and food could cure many ailments
Beliefs and principles were important to me
Periods of time were spent as an Episcopalian
Then, I became a Dissenter, and later a Unitarian
Eventually, I joined the Christian Socialist group
Seeking not only a church but a community of activists



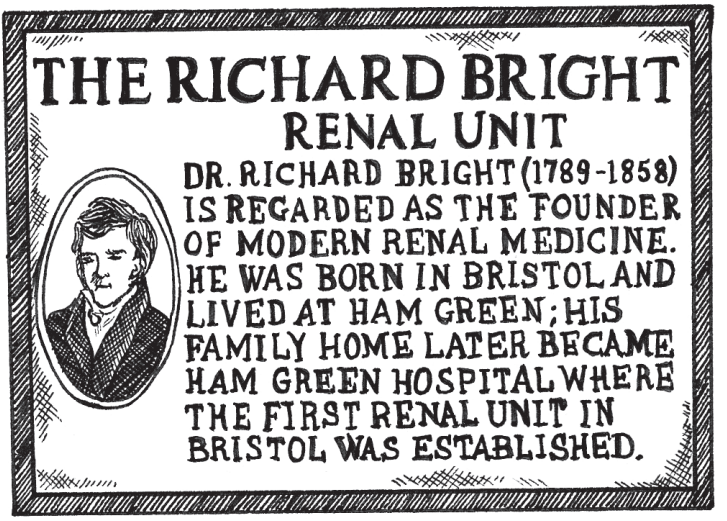
Prayer by itself was not enough
Practical action to bring about social change was needed
Doctors focused more on curing illness
Hygiene and prevention was more of a priority for me
Helping educate women on how to manage their families' health
These were the issues that touched my heart
Some say I was married to my work
Maybe so, for the cause was worth it.

Richard Bright
1789 1858

My father shared with me his interest in science
He was a wealthy merchant and banker
I was his third son, and we all had a sound education
In 1808, I gained entry to Edinburgh University
Initially, I decided to study Philosophy, Economics and Mathematics
Science, in the form of medical research, was on my mind
In 1809, I changed course to qualify as a doctor
Medicine in those days was basic
We had few diagnostic tools
Even if a correct diagnosis was made, we had few therapies
Also, I went to Iceland to study nature with Sir George Mackenzie
It confirmed my scientific interests in zoology and botany
On my return, I went to Guy's Hospital, London
After two years, I returned to Edinburgh
On graduating in 1813, two months were spent at Cambridge
Dissatisfied with life there I set out on a European tour
It was a chance to write and draw, as I was talented in both skills
The result was a 642 page book, with an appendix of 102 pages
It dealt with my travels from Vienna to Hungary, and was published in 1818
As you may imagine, attention to detail was important to me
The social conditions in the cities were similar to those in England
Many people took ill
About one-third recovered naturally
Albeit, some felt prayers to the Almighty had been answered
One-third continued to live on without a cure
In many cases suffering great distress from pain
One-third of the people succumbed to their illness
On my travels, I enjoyed visiting Hungary
Festetics Castle in Keszthely was a special place
Time was spent drawing the scenery nearby
It now hosts a plaque to my memory
Reflecting my depiction of Lake Balaton
In Vienna, I met Beethoven and attended a concert
Returning via Belgium, I visited Waterloo

Richard Bright

The great battle had finished two weeks earlier
Many good men lay injured or dying
Thankfully, they stopped Napoleon and his army, but at great cost
On my return to England, I worked at the London Fever Hospital
Contracting a severe fever, I almost died
My recovery was supposed to be aided by visits overseas
Travelling to Germany, France, Italy and Switzerland
Long journeys on bumpy roads in rain, hail or shine
Learning a lot about medicine in each country



Having a talent for drawing, I recorded scenes *en route*
This talent I used for drawing kidneys
Working at Guy's Hospital, research was encouraged
Between 1827 and 1836, I made important discoveries
Dropsy and coagulable urine were linked to kidney diseases
John Bostock assisted with the chemical analysis
Bright's Disease was named after me
Albeit, it covers nephrites, neuroses and nephroscleroses
A spoon and candle to heat urine were the basic tools

Albumin is indicated by a milky substance
Signs of kidney malfunction
Pathology requires detailed tests to detect changes
Day after day, hour after hour, measurements must be made
Publishing results is also essential
The medical reports I published in 1827
Separating renal dropsy from other causes
Further work was published in Guy's Hospital Medical Reports
Reflecting my studies of other body functions and diseases
Such as diabetes, epilepsy, malaria, peritonitis
Also, ear infections, brain abscesses, whooping cough, and jaundice
In addition, I wrote a book with Dr Thomas Addison
Queen Victoria appointed me as a Physician Extraordinary
An honour that gave me the opportunity to serve and advise her
However, I could not minister to myself
Heart disease was little understood
My heart, for a long period, had given me problems
On December 11th 1858 it ceased to function
My drawings and research lived on
As did my two sons, one of whom also became a doctor
Continuing the important work of saving lives.

Edith Cavell
1865 1915

I broke a law, but I was not a criminal
It was a German military law, and I disagreed with it
At the time, I was a nurse working in a Belgian hospital
The First World War was raging all around us
The Germans took over the hospital
From that point on, my life was in danger
In addition to caring for soldiers, I helped them to avoid capture
The penalty for helping soldiers escape was death
I was a long way from where I was born in Swardeston, Norfolk
My family had strong religious and humanitarian values
Each day, I was reminded of these
My father taught me the importance of helping others
Belief in God and the Ten Commandments were the simple rules
For 45 years, my father was the village vicar
It was a quiet place and, aged about 20, I went in search of a new world
At school, I did well at French and wanted to use it in my work
To gain international experience, I moved to Brussels
There, I worked as a governess and tutor for the Francois family
In 1895, my father became ill and I returned to nurse him
We discussed my work and career
Most girls of my age were married and were having children
Although I had some friendships, there was no prospect of marriage
What should I do?
I did not want to marry just to get a wedding ring
I realized that route would bring me unhappiness
Equally, some dull, repetitive job would have the same effect
However, I wanted to work where I was needed and there was a challenge
Father suggested that I could help many people by training as a nurse
When he died, the following year I decided to go on a training course
It was called The London Hospital Nurses Scheme
Upon qualifying, I gained valuable experience in hospitals
It was challenging work and I was both needed and appreciated
In 1901, I became the Night Supervisor at St Pancras Infirmary
Then, I moved to Shoreditch Infirmary

Edith Cavell

As a result of a meeting, I was asked to return to Belgium
Dr Antoine Depage had established a non-denominational nursing facility
That is how I joined the Berkendael Institute, near Brussels
Gradually, we built up a successful centre for training nurses
Life was once again quiet but still demanding
Devoted to my work, I had not married
In 1914, I returned home to have a holiday with my mother
The newspapers proclaimed that the First World War had commenced
Action was needed to tend the wounded
As a nurse, I could contribute
Therefore, I volunteered for service with the Red Cross
The Berkendael Institute was converted to a hospital

Given my experience in Belgium, they asked me to return as the Matron
Soldiers of all ranks were sent there with terrible injuries
We worked hard to help them recover
Each day, more soldiers arrived
Their description of life at the battle front was horrific
Many suffered as much mentally as they did physically
They had seen sights that no one should see
Fighting hand to hand for their lives
Facing gas, as well as grenade weapons
Some felt guilty
Their comrades were still fighting, while they were in hospital
Surprising as it may seem, they wanted to return to the Front
That was a regular source of conversation and planning
In September 1914, Herman Capiau came to see me
He said some British soldiers were trapped behind enemy lines

They had been separated from their units
Sympathetic locals were hiding them, but the soldiers had to escape
If the Germans found them, they would be treated as spies
As a result, both the soldiers and the families would be shot
I agreed to house the soldiers, but there were risks
The Germans would say our organization was harbouring spies
The first two soldiers were Dudley Boger and Frank Meachin
They were disguised as Belgian labourers
Once Herman Capiau returned home, he spread the word
Other escapees started to arrive
At one point, we had 35 of them in the building
Some injured soldiers wanted to escape to Holland
From there, they could make their way back to England
However, the Germans had captured Brussels on August 14th
Many of their troops were also injured
They were brought in and given nursing care
The German officers told me to convert the training unit into a hospital
More injured German soldiers began to arrive, plus our own troops
We soon had more than 200 British, German and French patients
As the Red Cross, we were honour-bound to help all victims
However, the Germans heard about some soldiers who had escaped
Colleagues warned me that the German officers were suspicious
On July 31st 1915, they arrested my colleague, Phillipe Baucq
Six days later, they returned and arrested me
After a period in solitary confinement, the Germans interviewed me
An officer said that he knew that I was helping British soldiers to escape
If I made a confession, he said he would spare my colleague's life
I told them what I knew
But, they did not honour their word and used the information against me
After nine frightening weeks in a dreadful prison, they put me on trial
It was a court martial open only to the German military
The trial only lasted two days
The German judge declared me guilty
He showed no mercy and I was sentenced to death
In the next few days, the British Government did little to help me
The Americans made vigorous protests
The Spanish Ambassador also protested, but it was all to no avail
The Rev. Stirling Gahan, an English Chaplain, came to see me

I told him that, "I know now that patriotism is not enough.
I must have no hatred towards anyone."
Saving lives was the most important thing for me
That is the work to which I had dedicated my life
He said that he would pray for my life
At dawn on October 12th 1915, I was put in front of a firing squad
Philippe Baucq had also been declared guilty and was there
I became light-headed and felt faint
The German soldiers were instructed to shoot me
In the silence, not in the heat of battle, they raised their guns
Preparing to conduct a cold-blooded murder.

Postscript

The British Government used Edith Cavell's death for propaganda
They wanted to introduce conscription
Her murder was used to further raise emotions
Yet, the Government had done little to assist her
Many monuments were created in her memory
Hospitals and schools were named after her
They reflected the values for which she stood.

Elizabeth Garrett
1836 1917

As a young girl, I saw the dreadful effects of poverty
My father was a pawnbroker in the east end of London
People in desperate need of money would bring their valuables
Not that they were always of any major value
Father would give them the going rate
He did not ask what they were going to do with the money
Too often, it was wasted on drink, rather than helping their families
I was one of 12 children
My father paid for all of us to be educated
Having seen the problems of poor families, I resolved to help them
My ambition was to be a doctor
It was unheard of, at that time, for a woman to do so
The applications I made to medical schools were all rejected
Not deterred, I enrolled as a student nurse at Middlesex Hospital
Prejudice was rife and reflected in many ways
Male doctors had me barred from the classes they attended
Gaining a medical qualification was almost impossible
Looking around for other avenues, I noticed another organization
The Society of Apothecaries
Their rules did not specifically forbid women from taking examinations
Therefore, I enrolled as a member and served five years as an apprentice
In October 1862, I went to St Andrew's University in Scotland
Dr Day, the Regius Professor of Medicine, invited me to attend lectures
Dr Simpson, in Edinburgh, also supported me
Others were opposed to my efforts and one official wrote to me
"I must decline to give you instruction in Anatomy
The entrance of ladies into dissecting-rooms and anatomical theatres
Is undesirable in every respect, and highly unbecoming…
It is not necessary for fair ladies to be brought into contact
With such foul scenes…
Ladies would make bad doctors at the best"
However, in London, I was able to work as a nurse in hospitals
The conditions were appalling
Surgeons conducted operations without much, if any, hygiene

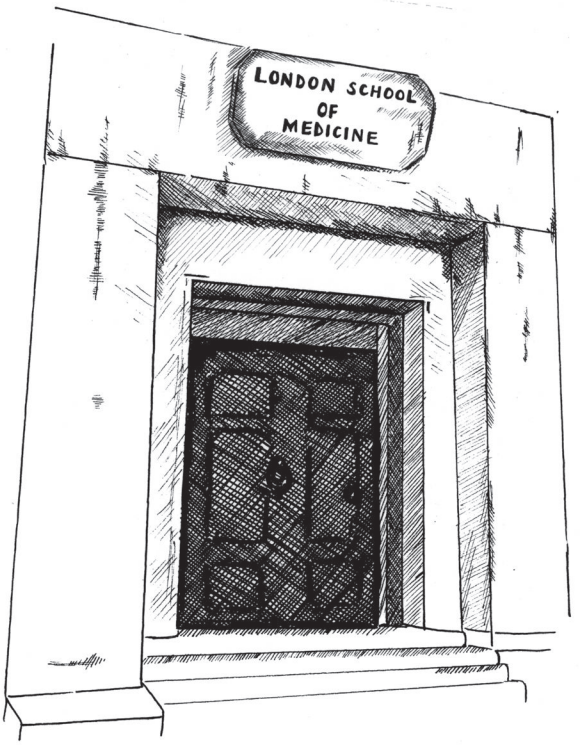
Elizabeth Garrett

Death was all around, but I sought to preserve life
After serving my apprenticeship, I was ready to qualify
The Society of Apothecaries tried to stop me taking their examination
They changed their view when Father threatened legal action
In 1865, I answered their examination papers and qualified as a doctor

Afterwards, the Society changed its rules to exclude other women
However, they could not take away my qualifications
My father helped me establish a dispensary for women in London
It was a small beginning to address the massive problem of health care
Fortunately, I met some like-minded women

Elizabeth Blackwell had qualified as a doctor in America
Together, we set about organizing medical facilities for women
In 1865, I started the Kensington Society with Emily Davies and others
We put a petition to Parliament to gain the vote for women
Its rejection led to the National Union of Women's Suffrage Societies
An organization that pressed for women's rights
Henry Fawcett, Member of Parliament, listened to our proposals
A shooting accident had made him blind
He invited me to dine with him, the first of various meetings
I enjoyed his company, but decided against his proposal of marriage
Instead, he married my sister, Millicent
My focus and priority was to help women and children
Therefore, I established the St Mary's Dispensary in 1866
Located near Harley Street, it proved very popular
Poor people visited for advice and assistance
As a result, I became well-known in the area
More knowledge and skills were needed to assist people
To do so, I had to qualify as a medical practitioner
In England, it was clear that the opposition to this was strong
Oxford, Cambridge and London universities refused to admit me
However, the French had facilities for women to become doctors
Therefore, I boarded a boat and sailed across the English Channel
Learning how to speak and understand French was my first problem
Once that was achieved, my studies began
At the University of Paris, I earned a medical degree
At last I could commence my career, or so I thought
On returning, the British Medical Register refused to recognize it
Political action, in addition to qualifications, was required
My first move was to be involved in education
In 1870, local people voted me onto the East London School Board
The first woman to be elected to such a post
The Chairman of my campaign was James Anderson
He held a senior role in the Orient Steamship Company
As a successful businessman, he supported my work
Before long we were partners, and married in 1871
Given my feminist views, the vow of obedience was omitted
Within a short time, I became a proud mother
We had three children: two girls and a son

Sadly, one of my daughters died of meningitis during infancy
In 1872, I founded the New Hospital for Women
Raising money, finding staff, developing facilities; all were vital
Staffed entirely by women, it opened in 1874
A major step forward to improve women's health
My work was as much political as educational

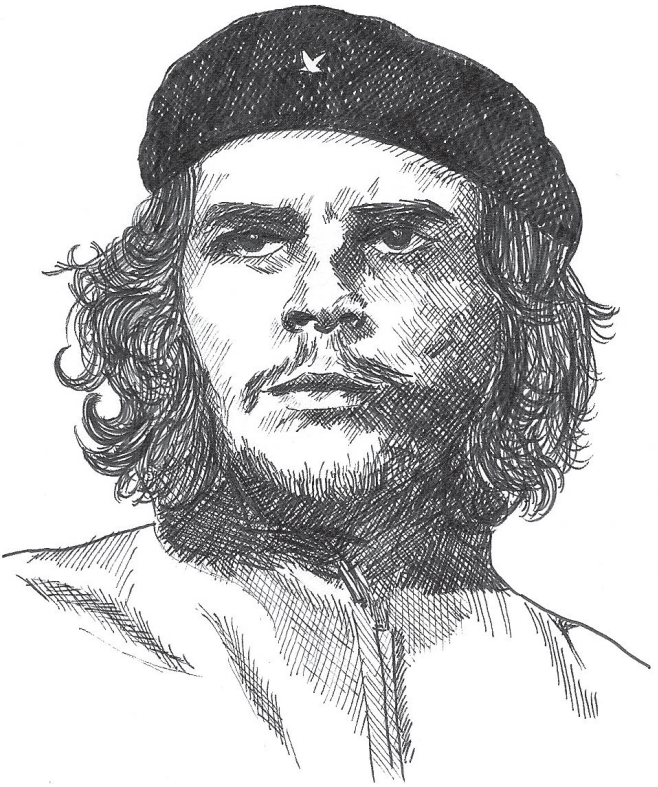


Persuading politicians to open opportunities for women was difficult
In 1876, Parliament passed a law allowing women to qualify as doctors
That encouraged girls to study related subjects
Universities began to establish more medical courses
Nevertheless, change was slow
In 1883, I became Dean of the London School of Medicine

It was a time of great hope, but I knew medicine was not sufficient
The social conditions of family life had to be changed
The housing was poor and sanitation facilities insufficient
Both were breeding grounds for infection and disease
I continued my efforts until retirement
In 1902, aged 66, we moved to Aldeburgh in Suffolk
Realizing there was much to do, I became involved in politics
My husband was the mayor
At the age of 70, the citizens selected me as his successor
I became the first female mayor in England
It was an opportunity to improve social conditions for all
On the national scene, I joined the Women's Social and Political Union
In the marches on Parliament, many were arrested
As I was nearly 75 years of age, the police did not imprison me
My daughter Louisa also played an important role in the struggle
We both fought for women's and children's rights
To improve health, we had to raise finance and support
Building a hospital was a major organizational task
At the educational level, it meant training myself and others
At the political level, it meant changing attitudes
My approach was more one of persuasion than violence
Other women took more direct action
It was a life of struggle for causes that were of importance
Despite major improvements, the struggle continued
So many women, in so many countries, were restricted
Education in all areas needed to be improved
The fight continued on.

Ernesto Che Guevara
1928 1967

To understand you must see for yourself
To appreciate others' experience you must share it
To improve their situation you must take action
As a result of doing so, I became a Marxist revolutionary
It was not my original intention
In 1947, I applied to enter university medical school
My parents had given me a good education
We lived in Rosario, Argentina
In many ways, I had a privileged upbringing
Although I suffered from asthma, sport was a central part of my life
I played rugby, soccer, golf, and swam
Perhaps most of all I enjoyed cycling
So, my life was a busy one
Father taught me how to play chess and I enjoyed poetry
From a young age, I had strong beliefs and philosophy interested me
In particular, I thought about the poor people
There were many of them near where I lived
What could I do to help?
That was one of my main reasons for choosing medicine as a career
In 1948, I went to the University of Buenos Aires
The war in Europe had recently finished
But, I felt there was a silent war in South America
To understand it, I set out on a long journey
The first trip was to the northern provinces of Argentina
My bicycle had a motor attached, but progress was slow
The following year, 1951, I did a nine month tour
It enabled me to see most of South America
Ecuador, Colombia, Venezuela and Panama were places I visited
In particular, I spent time working at the San Pablo Leper Colony in Peru
The patients lived in dilapidated buildings
But, so did thousands of others who were healthy
In village after village and town after town, I saw severe poverty
Yet, all around I could see wealth
Yes, there was wealth in the fields, in the mines and factories



Ernesto Che Guevara

So, why were so many people poor?
Why were diseases rife and the death rates so high?
The poor people could not afford good houses, food and medicines
I came to the conclusion that poor people were exploited by the rich
When I got to Chile, I saw more examples
Men at the copper mines worked in appalling conditions
It was just another example of what needed to be changed
The Motor Cycle Diaries was the title of my notes
They recorded what I had seen and what I understood
On returning to my medical studies, I resolved to take action

By 1953, I qualified as a doctor
But, I did not want a conventional medical practice
Therefore, I set out to provide help in poor communities
I soon found out medicine depends on economics
My anger rose as I struggled to provide the basics
Money for the drugs and surgical tools was not available
Arriving in Costa Rica, it was clear who had the money
The United Fruit Company was making a fortune
'Capitalist octopuses' is what I called them
They paid their workers poor wages and took big profits
In Guatemala, it seemed the Government was more in control
They gave the poor people land on which to farm
But, the USA Government sponsored a coup against their system

The plan to give the poor a chance was killed, along with many people
I spoke out against the coup and became a marked man
Eventually, I managed to escape to Mexico
Hilda Gadea Acosta, an economist and protest leader, was with me
In due course, we fell in love and married
We were both committed to helping the poor
The USA action convinced me that it was necessary to fight for rights
Politics made people poor and others rich
Dulles, the US Secretary of State, was a shareholder of United Fruit
The poor needed a voice and a direction
That is why I became a revolutionary
To earn a living, I gave some lectures on medicine
Also, I did what I could as a doctor to assist those in need
But, my thoughts were more on politics
That is how I came to meet Fidel Castro
He said the same problems existed in Cuba
We planned guerrilla warfare to take over the island
It was called the July 26th Movement
Living rough and training hard, we made progress
But, harsh decisions were necessary
At times, I had to give orders to kill enemy prisoners
Also, the same applied to our soldiers who deserted or committed treason
Eutimo Guerra gave information to the enemy, so I had him shot
We needed to split the island from Batista's Government forces
Although outnumbered ten to one, we succeeded
On January 2nd 1959, I led our troops into the capital, Havana
Fidel Castro, who was fighting elsewhere, arrived six days later
An asthma attack forced me to rest
During that time, I wrote my book *Guerrilla Warfare*
It was a time of great excitement in Cuba
A chance to put my ideals into practice
Instead of being revolutionaries, we became government ministers
As a key player, I introduced new policies, particularly on health
I was also asked to take on international representative responsibilities
During the invasion, I had fallen in love again
Aleida March had been close to me in the battles
When my wife arrived in Cuba, I told her and we agreed to a divorce
It may seem hard, but it was necessary for us both to move on

On June 2nd 1959, I married for the second time
In all I had six children, one of whom was born outside marriage
However, there was little time for a comfortable home life
The work to develop Cuba was hard and harsh
Many former enemies were put on trial and executed
We could not risk them preventing our reforms
Land reform limited farms to a maximum of 1000 acres
Foreigners were not allowed to be owners

South America

But, I was asked to tour foreign countries and gain support
Without international aid we could not have survived
By then, I no longer had time to be a doctor
But, on my return to Cuba I had to do so at a big explosion
Our enemies blew up a boat in the harbour
Worse was to come on April 17th 1961

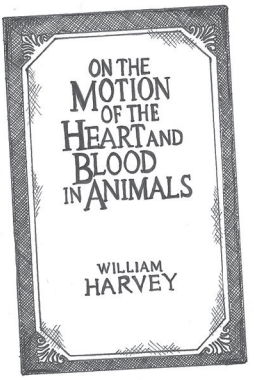
The USA supported an invasion by 1400 Cuban exiles
Our new military force won the day
After that, we felt much stronger and the Russians supported us
They wanted to have a nuclear missile on our shores
President Kennedy, in the USA, made the Soviets back down
However, before long I was in New York at the United Nations
The world at last was listening, but action was slow
My visits to Europe and Africa brought promises of help
I even celebrated St Patrick's Day in Ireland
After all, I had Irish ancestors who were no doubt radicals
But, I wanted to see more direct action to help the poor
After a period of preparation, I tried to export the Cuban model
During 1965, I went to Africa and lived in the Congo
It was a poor African country, but rich in minerals
'Yankee imperialism' wanted to exploit the working people
Could I help them create another Cuba?
We tried hard, but a white mercenary army beat our local forces
They relied on '*dawa*' witch doctor potions rather than discipline
Local leadership was lacking and after seven months we withdrew
The expedition was a failure and I was fortunate to escape
On returning to Cuba, I wrote a book called *The African Dream*
After time to recover, I tried to start another revolution in Bolivia
My name was changed to Adolfo Mena Gonzalez
A guerrilla force of 50 fighters was organized
The peasants working in the mines and fields had long been exploited
But, to my surprise, they were reluctant to fight for their rights
After 11 months, we were in difficulty
The Bolivian Government forces were supported by the USA
It was only a matter of time before we were caught and executed
Was it all worth it, you may ask
I felt the poor deserved a better life and had to fight for it
Could I have done more by remaining as a doctor?
Could I have done more by educating people?
Perhaps, but my beliefs determined my actions
Will the poor be helped more by communism or capitalism?
Will a dictatorship or democracy speed up improvements?
The battle to end poverty and inequality continues.

William Harvey
1578 1657

I lived through troubled times and saw much blood spilt
Most of it was in battles and conflicts
Yet, the medical profession liked to see blood flow
There was a view that bleeding patients could help them
A way to release the bad humours in the body
My interest in blood was for a different reason
I wanted to see how it flowed around the body and why
To my surprise, that had not been recorded by others
It was also a surprise that I did such kind of work
My early years did not involve medical training
Born in Folkestone, I had the salt of the sea in my face
I was the eldest of seven children in our family
Father was the local mayor and handled legal issues
Maybe he expected me to do the same
My education in Latin was a good start
After leaving school, I studied at Caius College, Cambridge
With an Arts degree, it did not look as if I would become a doctor
However, that changed when I went to Italy
Father supported me with funds
'This is the start of your real education,' he said, laughing
It was a long journey through France and Germany
As a young man looking for adventure, I enjoyed it
Albeit, there were many days walking and riding in the wind and rain
Finding a good horse for the journey was a blessing
Locating a decent place to sleep was a bonus
Hearing so many languages and accents was confusing
Hoping that my ability to speak Latin would help
The Romans had done their best to make it the common language
But, apart from the educated class, they had failed
It was only when I arrived in Padua that I felt more at home
It was a good place to rest and study
So, I enrolled at the local university
There, I met a man called Hieronymus Fabricius
We became friends and he told me about his work

William Harvey

‘Most of my time is spent teaching anatomy,’ he said
He had developed a special room for studying animals
The students gathered around to see him dissect the creatures
He was a fine surgeon and researcher
I learned a lot from him
We discussed many issues including how blood flows
He thought that the arteries pumped blood around the body
Most of all, I learnt about my own interest in medicine
That became the focus of my studies
Three years later, I graduated with a medical degree
What should I do with my new qualification?
Father was surprised and amused when I told him



‘What is there to be gained by studying anatomy?’ he asked
‘Understanding of how we as humans work,’ I replied
But, in truth, I did not know that
Once again, I went to Cambridge University
There I did further studies on medical issues
It enabled me to join the College of Physicians in October 1604
At the age of 26, I felt ready to make a contribution to the profession
But, before doing so, I made a big decision
Elizabeth Browne had been introduced to me
We enjoyed each other’s company
After many walks and talks, I proposed to her
It was the start of a good marriage
Albeit, we had no children

Within a short time of marrying, I gained a medical job
In 1609, I became Physician in Charge at St Bartholomew's
It was not well paid, but the work was interesting
The terms set out were quite clear
'And you shall take no gift or reward... for your counsel...'
'This you will promise to do as you shall answer before God'
A fixed annual payment and house came with the role
Most of my time was spent in diagnosing illnesses
We had few drugs or means of curing the patients
Often, the best that I could offer was hope
To improve patient care, we needed to know more
My priority was to conduct research
That meant long hours doing surgery on corpses
Not the most pleasant work, but very illuminating
There was a lot to be learned from the dead
In my lectures, my principles were set out
In 1616, I gave the Lumleian Lectures
The aim was to increase the knowledge of anatomy
Time was allotted to specific areas
Such as the abdomen, the thorax, the brain and other body parts
My reputation for communicating clearly reached King James
On February 3rd 1618, he appointed me as Physician Extraordinary
It proved a role of influence and my income increased
Many signatories made their way to my surgery for advice
In truth, many of them were exposing themselves to grave risks
Their lifestyles, eating and drinking caused problems
Most wanted instant solutions without changing their ways
Doctor I was, but not a magician
My research focused more on the flow of blood
After all, without that none of us can live
It supplies all our organs with the food of life
I remembered my discussions with Fabricius
Was there another explanation of how blood flows around the body?
Maybe it was the heart, not the arteries, which acted as a pump
By 1628, I had gathered a lot of information
It was time to publish the findings
On the Motion of the Heart and Blood in Animals was the title
Many physicians doubted my conclusions

Opinions could ruin a reputation
Mine suffered as a result, albeit critics did not have the facts
However, I was re-elected as Censor of the College of Physicians
It was important that the profession had clear guidance
The King also wanted my assistance
In 1630, he asked me to go to France and Spain
War was raging and our country had to preserve its interests
I went with the Duke of Lennox
It proved a miserable experience to see so much poverty
Plague was rife and danger everywhere
In 1632, I was relieved to return to England
King Charles I greeted me, saying he needed me
Wherever he went, I had to be there

On his hunting trips, I studied the deer carcasses
Valuable information on anatomy was gained
But there were many areas we did not understand
One of them was how new life was created
There were many theories
Mine was that a female egg and a male sperm were required
However, during my time it was hard to prove
Indeed, as a new generation was born a new war started
Trouble was brewing in the country
The King had married a Roman Catholic in 1625
His new wife was French and it raised anxieties
It was the start of continuing discontent
Particularly of people in Scotland and Ireland
Also, many in England were angry
The King dissolved Parliament and ruled for 11 years

Eventually, Civil War started
The Cavaliers, directed by Oliver Cromwell, led the way
Of course, all the conflict made it difficult for me
As the King's physician, I was deemed to be a Royalist
In 1642, the King made me Warden of Merton College in Oxford
Indeed, I was paid by him and protected his children
I also aided families of many others
During the Civil Wars, I treated people from both sides
That did not stop a mob entering my house
They wrecked the place and many scientific papers were lost
It was all emotionally disturbing and I found it hard to sleep at night
At the age of 67, I was no longer strong and old age lay before me
Three of my brothers and my wife had died
Was I the next to go?
The Civil War was taking its toll on many good men
It was a tragic day when I heard King Charles had been executed
The sweat of fear broke out over my body
Not from illness or disease, but because men were killed in cold blood
It was a dangerous time
For the next eight years I lived quietly with my other two brothers
My work on anatomy was increasingly recognized
In particular, more attention was paid to the flow of blood
In 72 pages and 17 short chapters, I outlined the facts
The left ventricle pulsing and the right one contracting
The blood flowing through the arteries
Distributing oxygen and other nutrients to the body
Information gained from deer, cows, sheep, birds and even fish
Blood circulated in a circle
It was not possible to get it to flow in an opposite direction
The heart was a pump
What could be made of those discoveries?
It was not possible to replace worn-out arteries or the heart
Nor was it possible to replace the loss of blood
Albeit, the body did that naturally if bleeding stopped
But, it was gout that caused my problems
That, and the difficulty of sleeping, caused me unrest
So it was that I took more time to observe the birds
We can learn a great deal from them if we try.

Edward Jenner
1749 1823

I had been told of the horror
Long before they locked me in the school stable
The teachers said we all had to be 'variolated' to prevent us from dying
Bleeding and starving, we were isolated in the stable
We had been deliberately given a form of smallpox
The dreaded disease
For days, we had the frightening fever
As an adult, I resolved to find a better way of protection
I qualified as a doctor
The horror of the pox visited me regularly
I saw the tears and terror of parents and children
They had not been variolated
Fever first, headaches, backache, vomiting
Then the rash and blisters all over
Contortions of suffering and death for most
Also, it was often a death sentence for those who tended them
The pox did not respect rich or poor
It attacked Mozart, Elizabeth I, Washington and Lincoln
I feared for the life of my family and myself
Catherine Kingscote became my wife by chance
We had met when I was chasing a hot air balloon
It fell in Kingscote Park, owned by her father
She came out to see it and we met
It was as if the balloon attracted us to each other
We married in 1788, and had a son and daughter
How could I protect them from smallpox?
Should I variolate them?
Many who received the pox died anyway
As an army surgeon, I saw the effects of the disease
Later, as a country doctor in Gloucestershire, I saw more
'The Speckled Monster', I called it
One in three children died of it
In the cities, 20 per cent of adults were felled
It spread to the villages

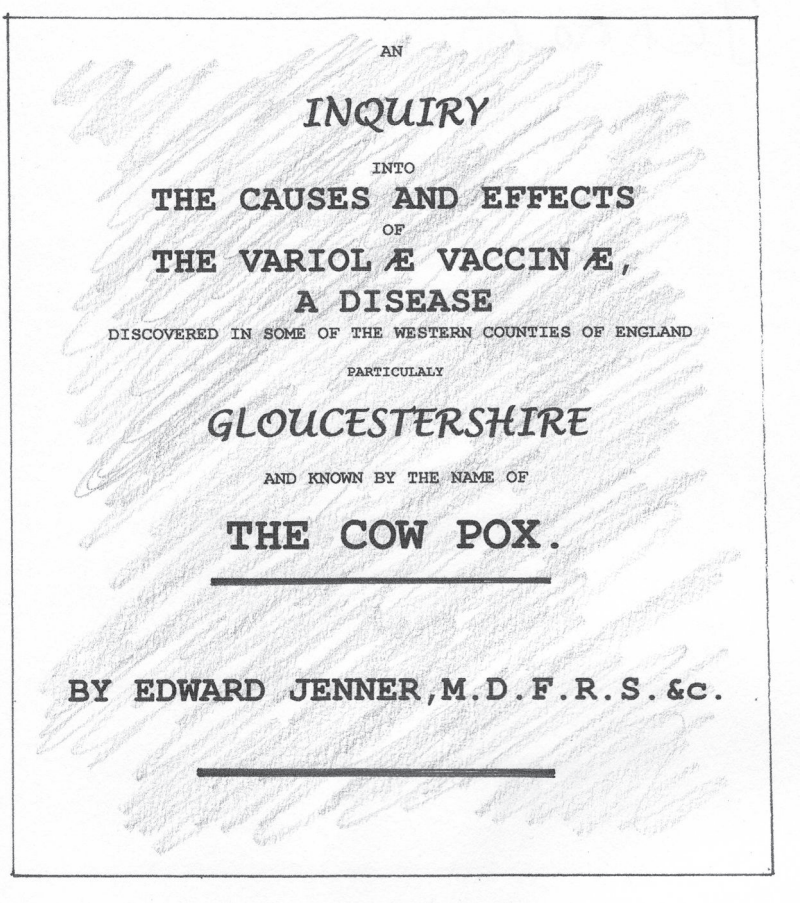
Edward Jenner

Doctors were powerless, as we had no cure
Yet, the solution was already known to some village people
In May 1796, Sarah Nelmes, a dairy maid, came to see me
She had a rash, and I thought it could be the start of smallpox
I asked her if people in her village had the disease
'No, and we are not likely to get it,' she said firmly
I could have dismissed this comment
After all, it was the view of an uneducated village girl
'Why do you think people will not get smallpox?' I asked
'Because we have had the cowpox,' she said with conviction
Clearly, she had already done some self-diagnosis
Her view was that the rash could not be smallpox as she had immunity
'People who have had cowpox don't get smallpox,' she added
'I got cowpox from Blossom, one of our herd,' she said, smiling
Should I take the theory of this dairy maid seriously?
She had no formal medical knowledge!
Was her story an old fairytale, or could it be true?
I decided to test the idea
There were no proper research facilities
But, I had many patients with cowpox
I decided to visit Sarah's village to meet the people
While there, Sarah showed me some of her pockmarks
Perhaps she could be right
Therefore, I took a risk
On the 14th May 1796, I tested her theory
My gardener was worried about his son contracting smallpox
Therefore, I offered to treat him with cowpox and smallpox
James Phipps was eight years old
He was a brave boy and I inoculated him twice on the same day
Cowpox pus was put into cuts on each of his arms
The material was transferred on a piece of wood
He took mildly ill with a fever, then soon recovered
On July 1st, I then variolated him with attenuated smallpox
Would he survive, as Sarah Nelmes said he would?
To my relief, he did not take ill
Was this a chance in a million?
Or, was this the answer to the horror of the pox?
Later, I again variolated him; again there was no reaction

To be sure, I conducted the same test on 23 other people
None of them contracted smallpox
It seemed a breakthrough
Also, it was possible to inoculate from one person to another
It did not require cowpox to be contracted from a cow
Naturally, I was pleased and thought other doctors would be also
In 1798, I published the results
Unbelievably, I found little support

It was not as if I was the only one having success
Jesty, Sevel, Jensen, Rendall and Plett had used this approach
They had experimented, but not gained support either
Why was this?
In various discussions, I found out
The variolation doctors saw us as competition
Religious groups objected

Ordinary people were suspicious
They did not know who to believe
I called it the vaccination method, from vacca, 'the cow' in Latin
Millions of lives could be saved, despite the objections



AN

INQUIRY

INTO

THE CAUSES AND EFFECTS

OF

THE VARIOLÆ VACCINÆ,

A DISEASE

DISCOVERED IN SOME OF THE WESTERN COUNTIES OF ENGLAND

PARTICULALY

GLOUCESTERSHIRE

AND KNOWN BY THE NAME OF

THE COW POX.

BY EDWARD JENNER, M.D. F.R.S. &c.

Gradually, my work became known
The success rates impressed people in London
The Government gave research money for my work
Between 1802 and 1807, funds enabled me to expand the work
The results showed Sarah Nelmes was correct
Vaccination with cowpox saved lives
Even the French, our enemies at the time, adopted the system

Emperor Napoleon freed British prisoners, saying he could not refuse me
Soon, I was 'the vaccine clerk to the world', as I called it
Nevertheless, progress was slow
The Jennerian Institution was established in 1803
It helped advance the process
People honoured me and my work
King George IV appointed me as a Physician Extraordinary
More needed to be done on the sanitation
Politics interested me, and I became Mayor of Berkeley
It helped me spread the message
My increasing fame helped promote my main hobby
As a naturalist, I studied birds
This research was accepted by The Royal Society
My book *Observations and the Migration of Birds* was published
In addition, I gave many talks on vaccination
Gradually, the use of cowpox increased
As a defence against smallpox, it became understood
Variolation was banned in England during 1840s
However, it took a long time to win the battle
Government action was slow
Vaccination was only made compulsory in 1853
Long after other countries had adopted the system
Nevertheless, smallpox continued to be a problem
Total eradication of the disease was my aim.

Postscript

Eradication of smallpox arrived in 1980
It was 184 years since Dr Jenner met Sarah Nelmes
In the meantime, millions had been saved from the horror.

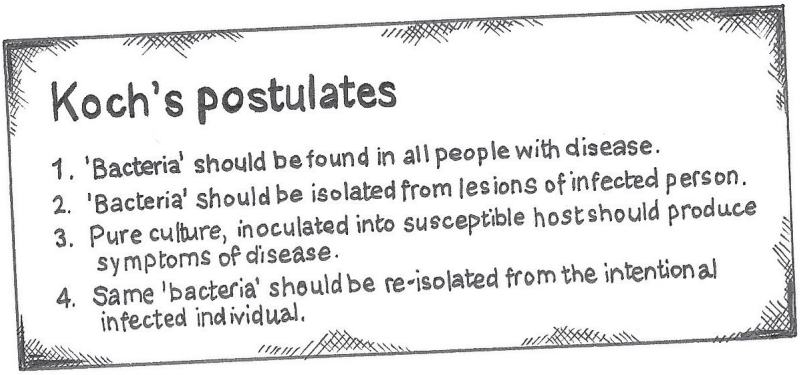
Robert Koch
1843 1910

They said I came from nowhere
Without a reputation, few would listen to me
Some accused me of spreading false information
But, I knew I had the truth
I could save millions of people from an early death
My research showed the cause of anthrax
However, it was surprising that I was able to succeed
Scientists with better facilities had not solved the problem
Most leaders in the field had not heard of me
The route I had taken into research was an unusual one
My parents had 13 children, so home life was crowded
Father was a mining engineer and we lived near the mine
It was in the German Upper Harz Mountains, near Clausthal
Education facilities in the village were limited
By the age of five, I could read
My parents were very surprised as I had not been to school
Therefore, they did their best to help me develop
Eventually, I gained entry to the University of Gottingen
My views were influenced by Professor Henle
He said infectious diseases were caused by living organisms
However, proof was hard to find as they were so small
Next, I went to study in Berlin before working in a Hamburg hospital
However, the Franco-Prussian war commenced
Being 27 years of age, I wanted to help our troops
As a surgeon, I witnessed the horrible effects of battles
Men were maimed and killed in vicious fighting
I was fortunate to survive
Many of my friends died
Afterwards, I became a small-town doctor
In Wollstein, I was a District Medical Officer
During the day, I had many patients to see
There was also a lot of paperwork
But, research was my main interest
I did that in my spare time during the evenings

Robert Koch

Trying to find the secrets of preventive medicine
We lived in a four-room apartment
So, there was not much space for laboratory equipment
For many years, I searched for answers
Gradually, I made progress
I conducted research experiments at night in my home
These were done after my normal work as a doctor
The experiments were very dangerous
I was working with lethal material
There was no library to guide my research
Nor was there a professional laboratory
I worked by myself
Only my wife, Emmy, knew what I was doing
We had married in 1866, and Gertrude our daughter was born
My wife provided me with a microscope for my research
The anthrax virus was killing people
Could I find the reason and a solution?
I inoculated mice with the deadly virus
Time was spent recording the effects
Would they survive?
I was trying to find a vaccine against the killer
Eventually, I discovered one that worked with the mice
Would it work with men and women, or would they die?
In 1876, I showed my research to Dr Cohn in Berlin
He realized it was a breakthrough, but others ignored it
For another four years, I continued to research on my own
In 1879, Breslau appointed me as their Town Medical Officer
Then the invitation arrived to go to Berlin and focus on research
Then, in 1880, I received an invitation to Berlin
My research on the anthrax killer was recognized
I was given a proper laboratory, time and support
In addition, there was a chance to search for other killers
By 1882, I found the cause of tuberculosis
Another bacillus!
Still there were doubters
They would not believe a deadly bacillus was the cause
Millions of people continued to die worldwide
Yet, it was a preventable illness

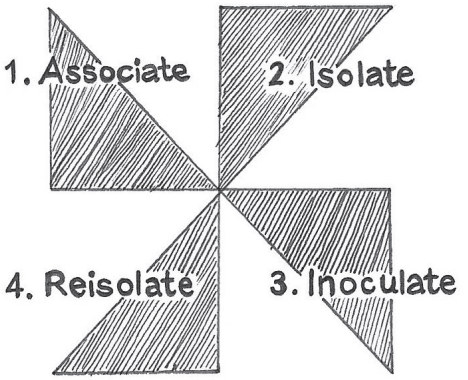
More research needed, said the doubters
They clung to their false beliefs
In the capital, I realized there were many other problems
Inoculation was only part of the answer
Better housing and more hospitals were needed
There were still those who expressed doubt
I was 43 years old and starting my new work
I became an international medical researcher
First to Egypt in 1883 to tackle cholera, and then to India
In Calcutta, I found that rats were carriers of the bubonic plague



Koch's Postulates

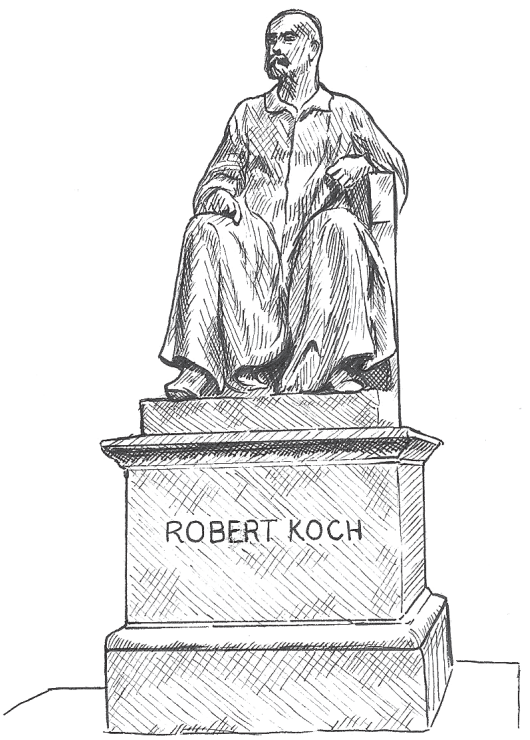
The abominable living conditions fostered the spread of the disease
Next, to Africa working on malaria and rinderpest and plague
The tsetse fly I noted caused 'sleeping sickness'
Malaria, leprosy, surra and Texas fever were investigated
Mosquitoes, I felt, were transmitting malaria
That was confirmed by Ronald Ross in 1898
Back to Europe and the problem of communicable diseases
At Berlin, I became Professor of Hygiene
I pressed for better social conditions
Prevention to cut the spread of tuberculosis
However, many people in all countries attributed illness to wild causes

Some said they were being punished for transgressions
Some said it was an 'Act of God'
They put faith and superstition before the facts
I also confronted prejudice and ignorance in my own profession
Including unfortunate arguments with Dr Louis Pasteur
Many continued to doubt or reject my work
To prove my point, I drank a vial of cholera bacteria
Other doctors were shocked
But, I survived
Gradually, they began to believe that my approach worked
However, it was hard to convince them, despite the honours received
Including the Nobel Prize in 1905 for the Physiology of Medicine



I had travelled a long way in a short time
Nevertheless my 'Koch's Postulates' were accepted internationally
These four main points guided medical thinking
In short, they can be summarized in the following ways:
Organisms must be discovered in every instance of the disease
The germ from the body can be reproduced in a pure culture
The disease can be reproduced in animals over time
An organism can be retrieved from inoculated animals and cultured anew
These became the principles for controlling epidemics
Time, however, was the enemy

I knew I had so much to do in order to develop practical applications
But, I could not inoculate myself against old age
At the age of 66, I had a fatal heart attack
But my work lived on
Particularly my contributions on anthrax, tuberculosis and cholera.



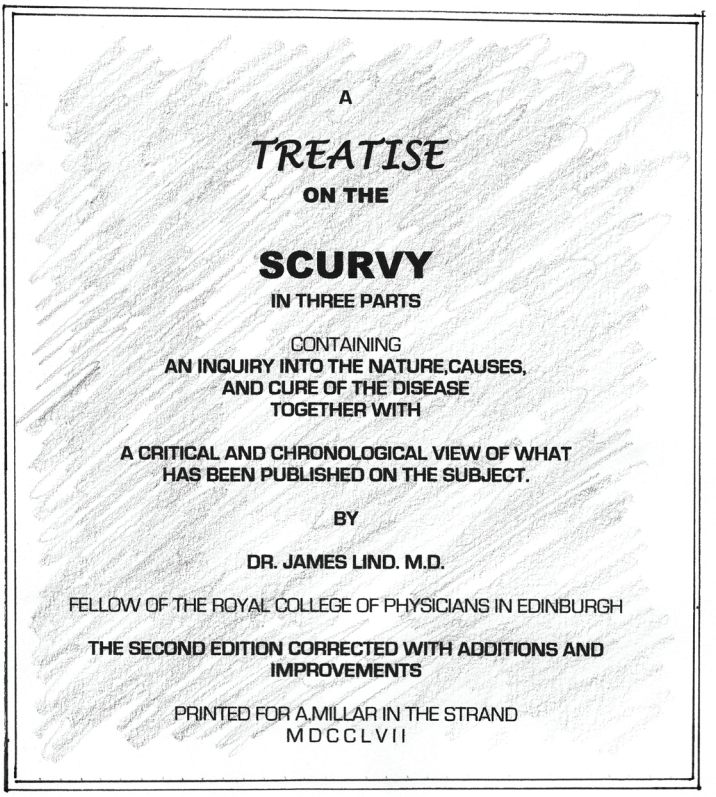
Postscript
The Koch Foundation awards prizes for biomedical science
Koch Crater has been named in his honour on the moon.

James Lind
1716 1794

It was dreadful to see young sailors die
They came on board healthy men
After weeks at sea they were dead from a mystery illness
'Scurvy', they called it
The men began to suffer with ulcers in the legs and feet
Loss of teeth and hair, depression, blindness, madness
All were indicators that pulled men down to the depths
Burials at sea were a regular occurrence
Scurvy killed more men than our enemies from France and Spain
I had heard that citrus fruit was an antidote
This had been discussed for over 100 years
But no-one had shown solid evidence
I was a qualified doctor and naval surgeon
Entering the Navy in 1740, I saw much suffering
West Africa, West Indies, the Mediterranean
These were places that I visited
In 1747, I conducted an experiment to find a cure for scurvy
Twelve sailors with scurvy on *HMS Salisbury* were chosen
They were allocated treatment in groups of two
The six duos had the same diet, but different treatments
Cider, vitriol, vinegar, seawater, oranges and barley water
Only those taking the oranges showed major improvement
Cider had a small effect, the rest no effect
Retiring from the Navy, I wrote a paper in 1753
A Treatise on the Scurvy
It was to all intents and purposes ignored
I believed acid to be a key factor
Citrus fruit was recommended but cheaper acids were used
Captain Cook on his first global voyage used some of the ideas
None of his crew died from scurvy
Captain Blane in 1794 gave citrus fruit to his crew
Again no major outbreak of scurvy occurred
In 1795, the leaders of the Navy took the cure seriously
Lemon juice was issued to the whole fleet

James Lind

It had taken over 50 years to gain acceptance
Politicians and officials of the Government were to blame
They focused on building ships for battles and commerce
Little interest was shown in maintaining the health of sailors
A reflection of the low regard in which they were held
I had been trained in medicine by George Langlands



A

TREATISE

ON THE

SCURVY

IN THREE PARTS

CONTAINING
AN INQUIRY INTO THE NATURE,CAUSES,
AND CURE OF THE DISEASE
TOGETHER WITH

A CRITICAL AND CHRONOLOGICAL VIEW OF WHAT
HAS BEEN PUBLISHED ON THE SUBJECT.

BY

DR. JAMES LIND. M.D.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS IN EDINBURGH

THE SECOND EDITION CORRECTED WITH ADDITIONS AND
IMPROVEMENTS

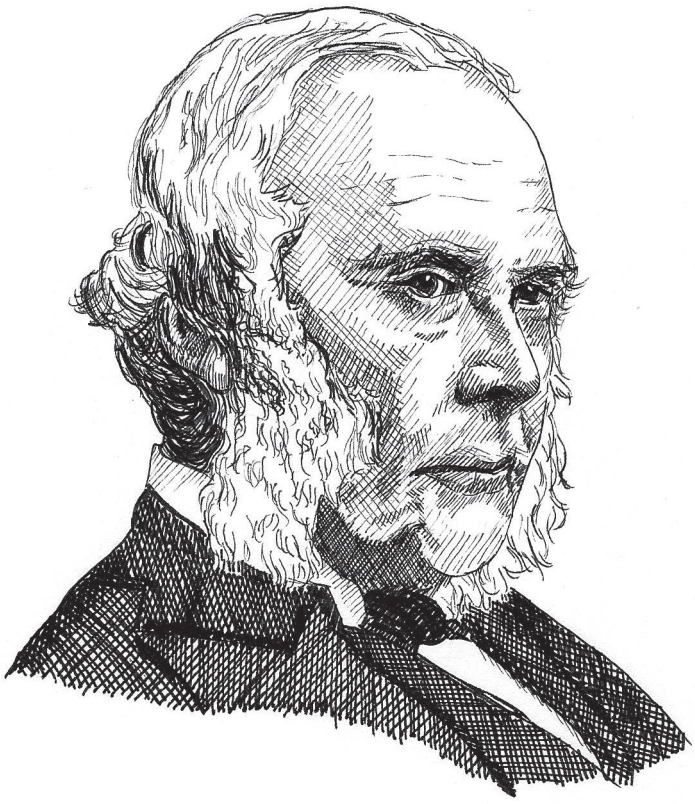
PRINTED FOR A.MILLAR IN THE STRAND
MDCCLVII

It was under an apprenticeship system
Living in Edinburgh, we treated a number of sailors
Many of them suffered from scurvy
No-one had a cure, but there were plenty of theories
Of course, sailors had many other diseases
Some of them self-inflicted when they got to shore

It was clear to me that sailors needed advice as well as treatment
Attracted by the seafaring life, I joined the British Navy in 1739
Aged 23, I started as a surgeon's mate
It was a tough life for all on board
Conducting an operation was a major problem on the high seas
The rise and fall of the ocean made precision impossible
The cries of anguish from the patients were cruel to hear
Even worse for the sailor under the knife
However, we could not operate on many
They faded away from scurvy
Admiral Anson notoriously lost about 1400 men from the disease
He had set out on a round-the-world expedition with 1900 men
Yet, it was known from about 1600 that citrus fruit worked
Therefore, my proposal in 1747 should have been borne out
But, closed minds were hard to change
Scientific information was not in itself sufficient
Political will was necessary to make changes
However, I continued
My essay, *Preserving the Health of Seamen*, was published in 1757
It advocated adequate space between patients in sick bays
I proposed that surgeons wash their hands frequently
Also, bed linen should be changed regularly
In addition, attention needed to be given to washing compartments
Little was changed
Fortunately, the next year, I was appointed to a new job
Chief Physician at the Royal Naval Hospital, Portsmouth
A job that I did for the next 25 years
It gave me the chance to advise on many issues
Seamen were entitled to a gallon of weak beer each day
Because beer was boiled during the brewing, it was safe to drink
Ordinary water was not as safe, as its source was often dubious
I advocated that steam from boiled sea water could be used for drinks
That water was safe, but again officials were slow to act on my advice
Better ventilation was introduced
Clothing for sailors was improved
There were other areas in which improvements occurred.

Joseph Lister
1827 1912

‘Hospital disease’, they called it
Tragic cases where surgery to save people led to their death
Records from my Male Accident Ward showed the picture
Between 40 and 50 per cent of my amputation patients died from sepsis
Infection from wounds that spread throughout the body
Patients died even though the surgical operation had been effective
Something other than surgery had to be done
Prevention of infection was necessary
To achieve that required an accurate diagnosis
Some said that infection was caused by bad air
Pollen dust was another theory
Semmelweis said that infection was transmitted by people
In particular, he opposed doctors operating with dirty hands
He suggested that they wash their hands and instruments in carbolic
The practice was derided by many doctors
They continued in their old unhygienic ways
The real cause of infection was not understood
Louis Pasteur, however, identified bacteria
Microbes that created infection
Carbolic acid, known as phenol, could be an answer
At Glasgow Infirmary, I introduced a full test of this approach
During operations, I used carbolic as a spray
After operations, carbolic was used in the dressing of wounds
Hygiene became a priority, and the results were amazing
For nine months my wards were clear of sepsis
In 1867, my findings were published
Even more amazing was the reaction of my medical colleagues
Some were indifferent and some were openly hostile
‘Germ theory’, they called it
Germs could not be seen by the naked eye
Therefore, it was said they did not exist
Ironically, the Germans applied a disinfectant process
It saved countless lives in the Franco-German War
Gradually, germ theory became accepted



Joseph Lister

The practice of sterilization of wounds took longer
One move was to have surgical staff wear white gowns
It was easier to see dirt and possible sources of infection
In 1871, Queen Victoria took ill with an abscess in her armpit
Lancing was required, using the anti-sepsis methods
The publicity from this helped spread the message
In 1875, I was invited to meet medical colleagues in Germany
In 1876, I visited America, but was surprised by many doctors
They objected to germ theory
They clearly had not conducted practical research
There were too many armchair theorists

I hoped that my visit would improve anti-sepsis methods
On my return, a new development awaited me
In 1877, I was appointed as Professor of Surgery at London University
Again there were doubters and some outright opponents
Germ theory, as they called it, was again under attack
Led by more theorists who could not or would not test assumptions
Practical example was the only way to gain acceptance
To do this required setting standards and getting people to comply
Easier said than done, as it required good management practices
Also, I had to show the evidence

Opening a man's knee to repair a fractured patella was seen as risky
The success of the operation and the anti-sepsis recovery were noted
My work in London could not be ignored
Facts are facts, and study after study showed positive results
My scientific approach linked with my religious convictions
I felt that I was doing the work of the Almighty
That was more important than financial or social success
Nevertheless, many honours came my way
In 1883, I was created a Baronet and Baron in 1897
More importantly, the work to prevent and treat disease continued
The British Institute of Preventative Medicine was opened in 1891
I was Chairman from 1898 to 1903, and President till 1911
It was renamed in my honour
It was also a privilege to be the President of the Royal Society
From 1895 till 1900, I led the organization
It focused on the Improvement of Natural Knowledge
A very appropriate term for studying bacteria
Yet improvements in health came in other ways
During that time, Britain grew in wealth
The industrial revolution had transformed our standard of living
Benefits of trade with the British colonies increased
More funds were available for hospitals
One beneficiary was King Edward VII in 1901
Two days before his planned coronation he had appendicitis
His doctors consulted me about the surgical procedure
The King later wrote to me and said,
'If it had not been for you and your work, I wouldn't be here today'
It was good to see him and others appreciating my work
Research continued apace and progress was made
Deaths in hospitals reduced
But, deaths on the battlefields increased
Many soldiers, who could have been saved, died from sepsis infection
Stronger medical tools were needed
The move to chemical research and drug treatments began
Aiding the fight against the real world war
The fight against the microbes
But, prevention is always better than a cure
Hygiene is the number one priority.

Florence Nightingale
1820 1910

From the age of 17, I knew my destiny lay with many men
I said 'no' to proposals of marriage
I felt strongly that my role in life was to help others
Beyond my education in Latin, Greek, German, French and Italian
My first name came from the city of Florence in Italy
That is where I was born
My parents came from a well-endowed English family
They were disappointed and upset when I chose to be a nurse
This occupation was seen by my parents as a menial type of work
Also, I worked to improve the Poor Laws in England
In 1837, God spoke to me and called me to his service
Too many people were caught in the poverty trap
On a visit to Kaiserwerth, Germany, I saw higher standards of care
It showed me that I could help improve nursing standards
On returning, Richard Monkton Milnes, an MP, courted me
He proposed marriage, but I had to say no
My parents again did not approve of my actions
It was stressful, and I put distance between us by going to Rome
There, I felt depressed
During my stay I met Sidney Herbert, another politician
Although he was married, he became a close friend and supporter
In 1850, my family sent me to Egypt due to further health problems
On this visit, God spoke to me about my life and his work
It led me to write in my diary some personal notes
"Today I am 30, the age Christ began his mission
No more childish things
No more love
No more marriage
Now Lord, let me think only of Thy Will"
So, the decision was made
In 1851, I returned to Kaiserwerth, Germany, to train as a nurse
Again, my parents strongly objected
Whilst there, I had an intense divine calling
In 1853, I returned to care for sick women in London

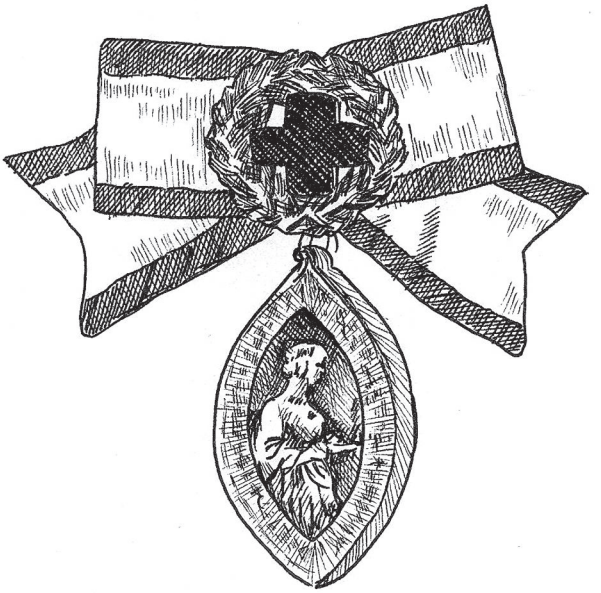
Florence Nightingale

My father supported me with an income despite his concerns
Henry Manning, a Catholic priest, helped and became a friend
At this time, I heard of the Crimea War atrocities
I knew that I must assist our injured men at the front
In October 1854, I organized some volunteers

With 38 other female nurses, I went to Scutari, Turkey
There, I witnessed the appalling conditions of the wounded
Many dying unnecessarily for the want of attention
Typhus, cholera, dysentery and gangrene added to their injuries of battle

Military doctors in the main scorned our arrival
They made our work more difficult
We pressed for some changes and began work
Basic nursing, such as washing wounds and hygiene reduced infection
I did not know Dr Semmelweis in Vienna was fighting such ignorance
It was a battle within the battle
Too many good men died by neglect
I was amazed by the lack of concern doctors had for post-operative care
With no antibiotics, there was a limit to our medication
We tried to keep infection at bay by simple means
Washing patients and putting on clean bandages were the main ones
It was said that I was the 'lady with the lamp'
Tending the sick late at night
However, 4077 soldiers died during our first winter there
I gathered statistics to provide evidence
The sewers were a source for disease, and later improved
Ten times the number of soldiers died from infection after battle
At that time, the medical world was divided on the cause of infection
Lister, Pasteur, Koch and bacterial analysis were 20 and 30 years away
We battled on with belief, if not always enough evidence
On my return from the Fields of Hell on Earth, I also became ill
Probably a disease from the Crimea that restricted me to my room
However, my work was not forgotten
Queen Victoria, via Sidney Herbert, asked my advice on health issues
A Royal Commission led me to write the report of more than 1000 pages
It required most of my time and energy
Again evidence was hard to obtain
But, it was clear that a prevention strategy was better than a cure
The Sanitary Commission of 1857 demanded clean water
I noted the work of Dr Snow and his attack on cholera
Prevention of disease was essential
Hygiene and cleanliness in hospitals was my cry
It was hard to believe that so many people ignored it
Therefore, I established more statistical records
That led me to become President of the Royal Statistical Society in 1858
I also wrote two books in 1859 on nursing and hospitals
To improve the work of the profession, I raised 59,000 pounds
With that money, I pressed for more and better training

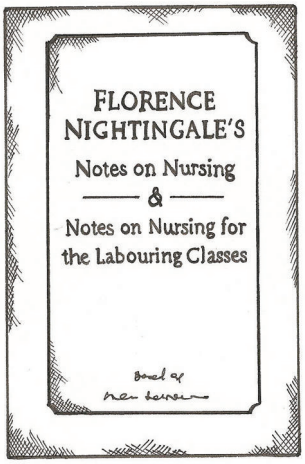
The Nightingale School of Nursing in London was opened in 1860
That helped provide qualified nurses to many parts of the country
To guide them, I wrote *Notes on Nursing* in 1860
I also campaigned for women's rights and career opportunities
There was opposition from many
They said, 'A woman's place was in the home'
My place was in the field of battle to improve health and women's rights
Firstly as a nurse, and then as an administrator
In addition, my work as a researcher and writer helped the cause



The Florence Nightingale Medal

Raising money, and the spirits of those in need, was important
With Elizabeth Blackwell, I opened a Women's Medical College in 1869
It involved a lot of political work to influence people
Many listened, but most took no action
Some were openly hostile, and some apathetic
Only a few really supported our efforts

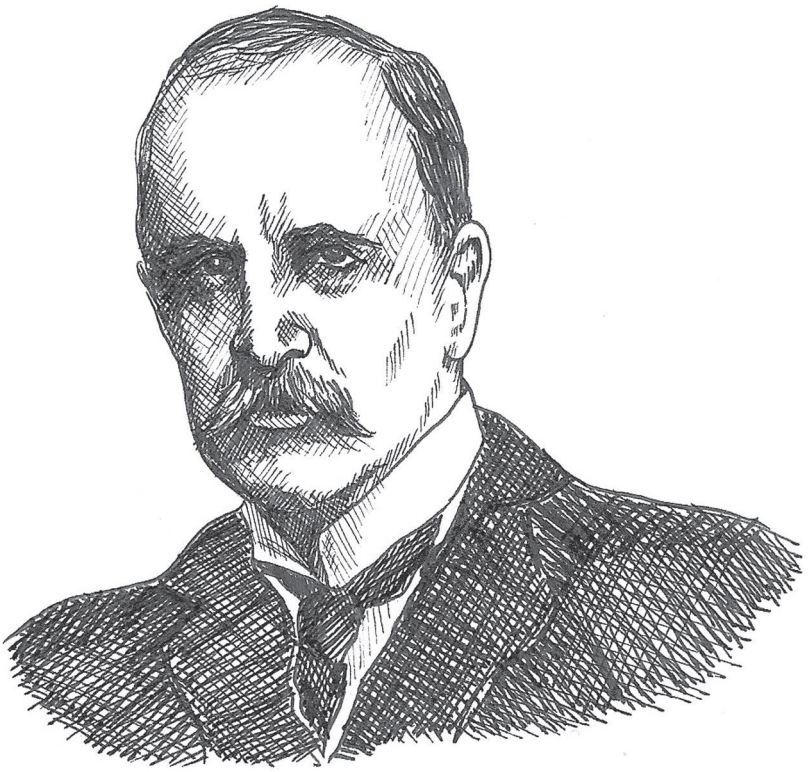
Benjamin Jowett became a special friend
He helped me through some dark times
It was hard to keep going against apathy in high places
Gradually, the importance of good nursing practice was recognized
Doctors in hospitals were often the hardest people to convince
Government officials were often slow to support with public money
However, by the time I was 65, I could see progress
Many awards, including the Royal Red Cross, were given to me
I continued to press for reform, until 1895 when I became blind
However, I kept a close interest in developments
The work of Semmelweis, Pasteur, Koch and Lister became known



They were heroes in the fight against bacterial infection
Enabling nurses to become heroines
They applied the research by improving hygiene to keep people alive
The status, if not the pay, of nurses, was rising
Yet, another war was soon to follow
Again, so many died, both on the field and in hospitals
The lessons of sanitation and nursing care were still being learned
That battle will go on forever.

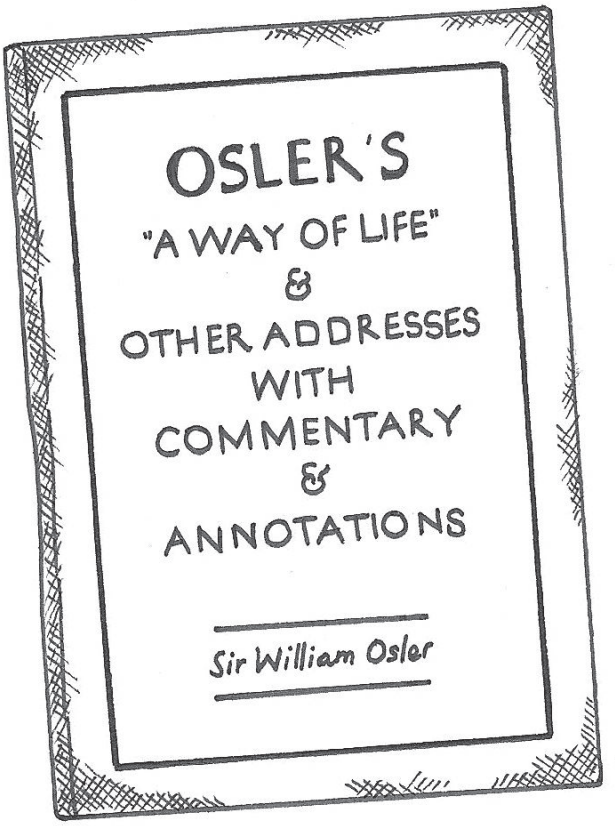
William Osler
1849 1919

Life can take us in some interesting directions
Not all of them fit with what was planned
My father was a minister in the Anglican Church
His example of service to others impressed me
We lived in Dundas, Ontario, Canada
In all weather, he would go out to assist people
It became my ambition to follow in his footsteps
After completing school, I registered at Trinity College, Toronto
It had an Anglican School of Divinity
However, I met students who were studying medicine
They were being trained to minister to people also
Helping those who were ill appealed to me
I would be doing something immediate to relieve suffering
That seemed better than preparing people for life after death
So, in 1867, I changed my academic course
It was not easy but I decided to qualify as a doctor
That is how I came to enter the Toronto School of Medicine
It was a privately owned institution
It was hard work to earn the funds to pay for the tuition
After two years, I transferred to McGill University
By 1872, I had qualified as a medical practitioner
My knowledge of medicine was tested in detail
But what did I know about patients?
The training had been done in the classroom and the laboratory
Would I be able to use my theoretical knowledge with patients?
A visit to Europe proved instructive in more senses than one
Seeing the old world from which my family had originated was great
Meeting people from different countries taught me a lot about cultures
But most of all, I had the chance to see different approaches to medicine
A revolution in thought and practice was going on
Dr Semmelweis had challenged fellow surgeons
He had inferred they were killing the patients by unhygienic methods
Louis Pasteur was confronting the doctors also
He said that bacteria was the cause of infection



William Osler

Dr Lister took his ideas seriously and sterilized his hospital wards
These and other ideas on patient treatment made me think
What should I do?
Stay with the tried and traditional methods, or go with the innovators?
On returning to Canada, I got a job at McGill University in 1874

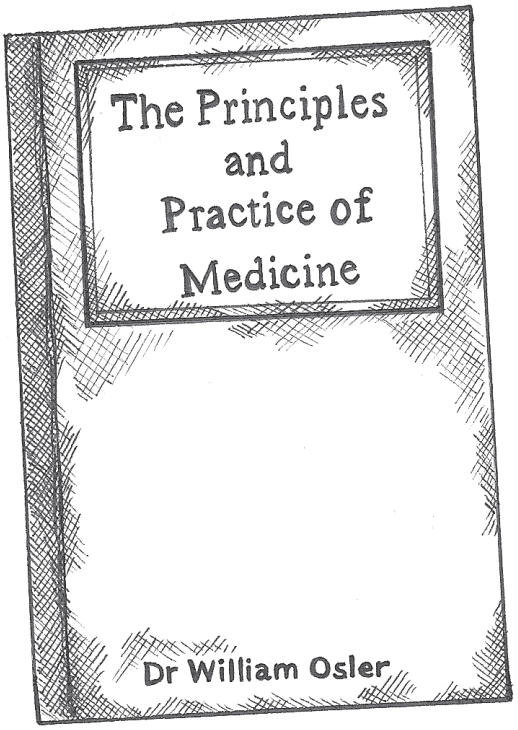


Tuition methods were still classroom-based and very traditional
How could learning be made more practical?
One option was to get doctors to share knowledge
The idea of a Journal Club came to me in 1875
I invited colleagues to share information and ideas

Each one was expected to read a scientific paper and lead a discussion
We were a small group, but the numbers grew
When doctors moved to other hospitals they started new clubs
In that way, clinical applications spread more quickly
The process also helped doctors get to know each other
As a result, knowledge about colleagues' work increased
That personal approach was vital
Doing research and writing was mainly introverted work
Working with patients demanded a more extroverted approach
It was important for me to learn those interpersonal skills
It was the best way to make an accurate diagnosis
Indeed, treatment based on the wrong assessment was dangerous
More of my time was spent with patients to record their symptoms
But, that was not the case for most doctors
Records of the meetings with patients were variable
Developing a system took time
Some doctors said it was just adding to their administrative work
Reliable case notes to me were the essence of good practice
Instead of treating one symptom, the notes could show a pattern
It took time to persuade older doctors
New ones in training could start with that approach
Therefore, I asked students to join me on my hospital visits
It was most unusual for a senior doctor to have trainees with him
They heard the questions that I asked and the patient's response
Students were asked to take notes
Afterwards, we discussed the evidence they had gained
It was like the Journal Club idea but with immediate cases
As a result, we all benefited from each person's views
Students learned to think not just about solutions but questions
In particular, what was the difference between symptoms and causes?
Also, they were asked to think about the consequences of decisions
What effects could drugs have?
Did a drug to cure one problem create another?
The ward visits by trainees became a central part of their training
In 1889, I moved to the Johns Hopkins Hospital, Baltimore
As Physician-in-Chief, I expanded on these methods
Four years later, I became a Professor of Medicine
Johns Hopkins provided funds for a University in Baltimore

It was an exciting time
I met Grace Revere and that changed my life for the better
In 1892, we married and had two children
One of whom died shortly after birth
Despite my medical training, I could not save him
It weighed heavily on my mind and my wife suffered badly
At least, I could absorb myself in the new job
The University hospital had 220 beds in a new facility
Face-to-face diagnosis with patients was my priority
Students learned more from action than reading
That was my view of learning, albeit private study was vital also
To improve patient and doctor links, I developed a new system
Facilities were built so that doctors could live at the hospital
In that way they could be there at critical times of emergency
The medical residency program required detailed organization
A lot of my time was given to gaining the support of all doctors
Eventually, doctors could spend as long as seven years as a resident
In that way doctors got to know their patients and their hospital
'If you listen carefully to the patient, they will tell you the diagnosis'
That is what I told students
Internal clerking was a system that helped students
In their third and fourth years, they had to work on the wards
They took patient histories and heard senior doctors do their diagnoses
Learning from practice increased and the role of lectures declined
Of course, many thought that controversial
But, practical knowledge was essential
Writing was also important to clarify points
My library of medical books was extensive
I helped set up the Medical Library Association
It was an honour to be the President from 1901 to 1904
My own book was a reflection of my experience
The Principles and Practice of Medicine was the title
As a result, I was invited to work at Oxford University
It was an exciting time and place
Medical practice was advancing on many fronts
But, war was to show how far we needed to improve
During the First World War, millions of soldiers died from infections
We could mend their legs and arms, but not fight bacteria

Tragically, my own son, Edward, was one of the afflicted
Infection became more of a problem after the war
The so-called ‘Spanish Flu’ killed over 50 million people
Many of them were doctors tending to their patients
Although I had retired, I was not immune
It was time to say my goodbyes
My message to doctors was: listen to your patients.



Margaret Sanger
1879 1966

My mother did not believe in it
Neither did the priests, nor the politicians
They did not even want to talk about it
Birth control was too embarrassing a subject for them
But the consequences of unprotected sex were devastating
The lives of so many young women were wrecked
Unwanted babies because of a moment of regretted passion
So many children born without the necessary support
In one sense, I was one of them
My mother, a devout Roman Catholic, had 18 pregnancies
Only 11 of my brothers and sisters survived birth
It was a life of joy and sadness
With such a large family, my mother was over-worked
She died of tuberculosis and cervical cancer when I was 20
All these things made me think a lot about birth control
Knowledge on the subject was scarce
It was as if there was a taboo
An air of dark mystery and unspoken censorship existed
When I enrolled for a nursing course I asked questions
Gradually, I found out more about birth control
The natural cycles of the female body and the clinical systems
But there were no clinics for women
The topic was not a key issue in medical training
Nor was it discussed much in doctors' surgeries
In those days, the doctors were nearly all men
Most women did not have the language or confidence to raise the issue
I knew that I needed to do something to help women
It was at this time that I met, and fell in love with, William Sanger
In 1902, we married and the next year had our first child
I also contracted and survived tuberculosis
It was a worrying time
On recovering, I gave birth to a daughter, but she died in childhood
My husband was supportive of my views on birth control
However, I could not complete my training as a nurse

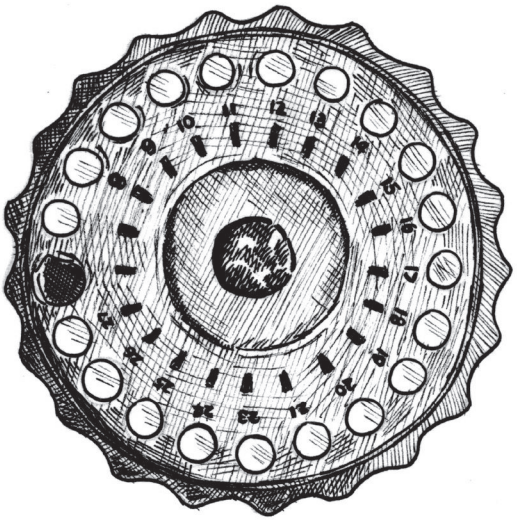
Margaret Sanger

It required another full-time year
Motherhood and my recovery from illness took up my time
Gradually, I felt strong enough to help others
However, a fire destroyed our home
We moved to New York City, where I saw real poverty
The slums on the East Side of New York were dreadful
Meeting the people, I realized women needed advice
Putting my pen to paper I provided some information
What Every Girl Should Know was a series that I wrote
A newspaper published the articles each week in 1913
They provided information on birth control and sexually transmitted diseases
The Government censors were watching
When I wrote an article on the dangers of syphilis they banned the articles
The next week instead of my article the newspaper printed:
"Nothing! by order of the U.S. Post Office."
Incredibly, they said my articles broke the Comstock Law of 1873
It said dissemination of contraceptive information was illegal
The Act referred to sex education material information as 'obscene'
Traditionalists wanted to prosecute me
The Catholic Church, into which I was baptized, disowned me
Politicians and lawyers railed against me
Not to be deterred, I wrote *Family Limitation*
This was a pamphlet circulated to poor women
It was a difficult time as I had so many people attacking me
My marriage was also in trouble
In 1913, William and I separated
Maybe my work and the pressures contributed to that
The stress became worse and I lay awake at night
However, I decided it was a time to look forwards, not backwards
My slogan was 'No Gods and No Masters'
The Woman Rebel was the title of my monthly newsletter
As a radical feminist monthly, it advocated the right to use birth control
In that publication, I coined the term 'birth control'
It started a fire storm of argument, and still does
Now referred to as the 'pro life' or 'pro choice' options
My view was crystal clear
Each woman is "the mistress of her own body"
The enemy was at my doorstep

In August 1914, I was arrested for writing about sexual health issues
Lawyers indicted me for violating postal obscenity laws
I was told that a guilty verdict could mean 45 years in prison
Fight or flight were my options
Freedom was better than prison
Taking the name of Bertha Watson, I left for Europe
There, I met H. G. Wells and we had an affair
It was a whirlwind time, and I learned a lot
Not least from Havelock Ellis, the sex psychologist
Attracted to his ideas and style, we practiced what we preached
We became lovers
In the process, I used a new method of contraception
It was called the 'diaphragm' and was not available in the USA
Having proved that it worked, I informed women and girls how to use it
However, in Europe the Germans invaded France, Belgium and Holland
The beautiful fields and forests became killing grounds
Towns and cities were desecrated and people fled, seeking safety
It was a turbulent time as the First World War raged
The USA, despite the threats of legal action, looked safer than Europe
On returning to the USA, my daughter was not well
Despite all efforts to save her, she died on November 6th 1915
She was only five years of age
Devastated, I found solace in my work
The next year, I opened a family planning and birth control clinic
It was situated in Brownsville, Brooklyn
Nine days later the police invaded my clinic
Once again, I was arrested
The judge, a man of course, sent me to prison for 30 days
Having a criminal record made my life even more difficult
But, it did not stop me
In the following year, I wrote *What Every Mother Should Know*
Next, I launched *The Birth Control Review*
After that came *The Birth Control News*
The fight for women's health had to go on
In 1921, I founded the American Birth Control League
The following year, I was invited to visit Japan by Kato Shizue
She was a Japanese feminist, and we had met when she came to the USA
On six occasions in total, I visited Japan to work on these issues

Again, I saw women in need of sexual health advice
Men made the laws and, like those in the USA, forbade sex education
To overcome this, we met privately in homes to help some women
Returning to the USA after one of the visits, I fell in love again
James Slee was an oil tycoon and we married in 1922
He agreed with my campaign to help women
With his financial support, faster progress was made
The Clinical Research Bureau was established
It was the first legal birth control clinic in the USA
Also, I was able to meet other influential people
John D. Rockefeller was a rich entrepreneur
He arranged for his organization to assist
We were able to send out more information and train advisers
At last, more women had the right to choose
They could decide when they wanted to use contraceptives
Over 1,000,000 of them wrote to me for information
I was asked to give many speeches and toured the country
It was a very busy time
In 1930, I took the message to the international stage
My role was President of the Birth Control Information Centre
But, more problems of a different kind slowed our work
It was the time of the great stock market crash
Unemployment and poverty were all around
Our work was impeded, yet the problem of unwanted pregnancies grew
We needed a special organization in the USA to help women
In 1937, I became Chairperson of the American Birth Control Council
A lot of political work was involved
Still there was opposition, particularly from Roman Catholics
Priests and politicians were our biggest enemies
The battle lines were being drawn
However, the Second World War started and with it came a surprise
Ironically, the military recognized the problem of sexual health
They did not want their men contracting venereal diseases
That would weaken their ability to fight
They gave advice to soldiers
Suddenly, we had a new and unexpected ally
The military were more concerned about infection than pregnancy
Many thousands of men were trained in safe sexual practices

For the first time, there was sex education for men
In their own interests, they were encouraged to practice contraception
After the war, I served in many administrative roles
From 1952 to 1959, I led the International Planned Parenthood Federation
The battle was, however, not won
In 1960, President John Kennedy was elected
He professed to be a Roman Catholic, albeit he visited many bedrooms
He refused to support birth control policies
The law however was changing, as the Griswold case showed
That legalized birth control for married couples
It was not the law or politicians who really made the changes

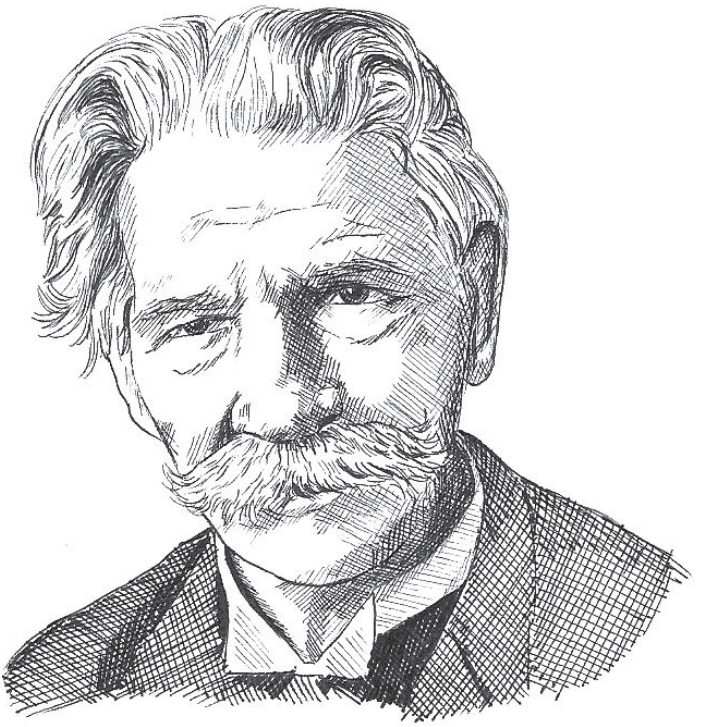


1960s contraceptive pill packet

It was the scientists who developed the birth control pill
That, more than anything else, gave women choice
The medical profession suddenly became proactive
They had to, as women were demanding 'the pill', as it became known
With that came permission to discuss birth control issues
Sexual health became a subject taught in colleges and schools
Books and materials were available in shops and libraries
Women began to decide for themselves what they wanted
It was good to see that my efforts had not been in vain.

Albert Schweitzer
1875 1965

We all have talent
But, how can we develop and use it?
I was fortunate to be trained as a musician, a theologian and a doctor
It was an unusual combination reflecting my passions and beliefs
During my career, I worked in Europe and Africa
In the process, I met the rich and served the poor
I was awarded a Nobel Prize for my efforts
It is a privilege to share my journey with you
My father was a Lutheran pastor in the Alsace region
Mother was also a dedicated Christian
They told me do unto others, as you would have others do unto you
Father taught me to play the church organ and the piano
In the process, I developed my talent to a high level
We lived in a beautiful village called Gunsbach, by the River Rhine
Being on the border of France and Germany I spoke both languages
Protestants and Catholics worked and lived side by side
In previous times, they had fought each other
But, in our village, religious tolerance was observed
Despite that, the Government made me do one year military training
My interest lay in religion and fighting was against my nature and beliefs
At University, I combined religious studies with music
By 1899, I had completed a doctoral degree in Theology
Meeting with leading composers was a great pleasure
Playing the works of Bach, Widor, Wagner and others was satisfying
I also had the opportunity of taking advanced music lessons in Paris
During a ten year period, I wrote various books on music
One of them was called *J S Bach; Le Musicien-Poete*
In 1909, I addressed the International Congress of Music in Vienna
But, what should I do with my life?
For some years, I had felt a call to serve others
Music was a challenge, but rather self indulgent
Therefore, I discussed ways of helping the poor
My musical friends asked how music could do that?
It became clear that I had to find a more practical approach



Albert Schweitzer

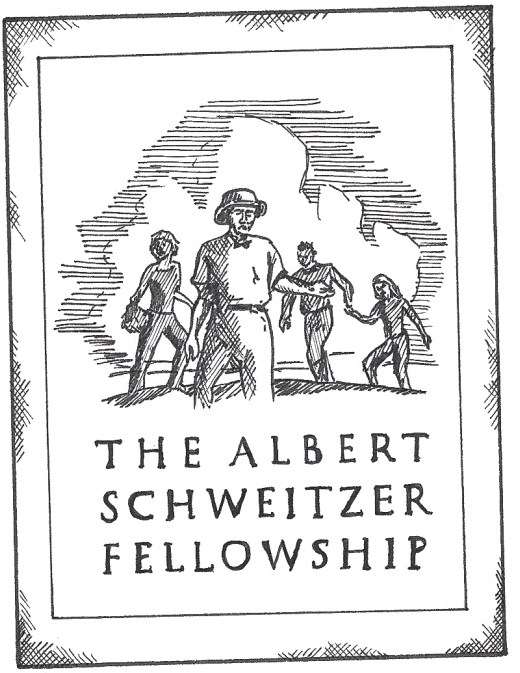
The Society of the Evangelist Missions of Paris were doing good work
They wanted doctors to serve in Africa
The only problem was that I had no medical qualifications
So, in 1905, at the age of 30, I started another university course
For seven years, I worked extremely hard to be become a physician
My dissertation was called *The Psychiatric Study of Jesus*
On qualifying, I volunteered for service in Gabon, Africa

Lambaréné Hospital - Gabon, Africa

My plan was to spread the Christian message of love and charity
However, I had also fallen in love with a beautiful woman
In 1912, at the age 37, I married Helene Bresslau who was 33
We had met 14 years earlier and kept in touch by letters
She had supervised orphanages and done a lot of social work

We discussed my plan to work as a medical missionary
For me, it was best to practice what one preached
Action I felt would speak louder than words
Helene was fully supportive and we set off on the long journey
Leaving the comfort of universities, cities and so called civilization
Lambaréné, Gabon, in the tropics of Africa, was our destination
Little did we know the problems that would face us
Our new location was near a rain forest jungle on the Equator
The sun beat down day after day and there was no hospital
We built one with two rooms 13 feet long, and a corrugated roof
Operations were done with Helene as the anaesthetist
It was a very basic surgery, but at least we could start work
Local poverty and illness was a shock
For three years, we worked hard to build trust with the local people
Learning their language was a challenge
Also, Helene contracted tuberculosis and became my patient
Fortunately, she recovered, but was very weak
News of the World War that was killing millions arrived
In 1917, we were deemed to be Germans and arrested by the French
We were taken to Bordeaux, France and interned
In one sense, it was a benefit as we were both ill with anaemia
Once freed, we returned to Alsace where I became a French citizen
We had to raise funds to repay loans for our work in Gabon
Therefore, I practiced and gave organ recitals once again
Also, I worked as a doctor and a pastor
Oxford University invited me to give the Dale Memorial Lecture
In one sense, life had turned full circle
Music, medicine, ministering to the community, plus family
Helene gave birth to our daughter in 1919
It was a time of great happiness, but also great concern
I felt the call to return to Africa
In 1924, at the age of 49, I did so, but without Helene and my daughter
There was much renovation work required at the hospital
Fortunately, extra team members and doctors arrived from Europe
Funds from the sale of my books helped pay for the work
Also, drugs arrived to treat sleeping sickness and other ailments
A new hospital was built and progress was made
It meant that in 1927, I was able to return home

Helene and my daughter were delighted to see me
But, after two years, I once again felt the need to return to Africa
It was like a magnet attracting me
I stayed for three more years before seeing my family
These visits became regular events, such as those in 1935 and 1937
During those times, Helene and I kept in touch once again by letters
It was not till 1940 that she returned with me to Lambaréné



Once again, it was a time of war
In Europe, the guns were disastrously destroying people and places
In contrast, we continued our work as medical missionaries
As a result, we were able to cure many and save some
On our return to Europe in 1948, there was interest in our work
Newspapers and some politicians wanted to talk to me
Four years later, I was awarded the Nobel Peace Prize
Recognition for all who had helped me

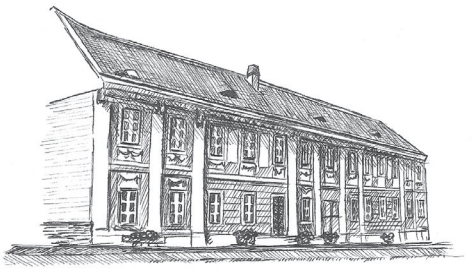
With the prize money, a Lambaréné clinic was opened to treat lepers
In Europe and the USA, nuclear weapons were threatening world peace
Joining Albert Einstein, and others, I protested
But, politicians would not listen
Despite that, they wanted to honour me in many countries
It was time to return to Lambaréné
A place where I could contribute
As a pastor, an organizer, a writer and as a physician and surgeon
I felt more at home there and that is where I stayed.

Ignaz Semmelweis
1818 1865

Happiness and grief all in a day
Mothers giving birth to their babies and jubilation
Then, suddenly, fever and death
Destruction of families, husbands wringing their hands in horror
I saw it day after day
Many of my colleagues took it for granted
Puerperal fever
They said it was incurable
The priests gave the last rites
Both to the mothers and their babies
There had to be an answer
The women were healthy before entering hospital
I was trained in statistical analysis and observed the records
In some hospitals, 15 per cent of the women died after childbirth
In other hospitals it was more and one in five mothers died
In Wurzberg, it was worse; one in four died
The dead cannot talk, but statistics do not lie
I noted that women giving birth at home usually lived
Even those giving birth in the street usually survived
Mothers who were delivered by midwives also usually lived
A clue to the cause of puerperal fever was the death of Dr Kolletschka
He was a friend and I wanted to know why he had died
The autopsy showed two key facts
One of his fingers had been accidentally cut by a surgical instrument
The pathological investigation showed disturbing signs
There was evidence of a similar infection to puerperal fever
The germ theory of disease transmission was not known at that time
Questions, however, had to be asked
Could it be that the doctors were killing their patients?
Were they carrying infection from one place to another?
I watched them go from the autopsy room to deliver babies
Could they be carrying death on their hands?
Transferring disease from pathology in the mortuary to the new born
Carrying death on their hands and equipment from the dead

Ignaz Semmelweis

At the time, I was at the Vienna General Hospital
My first major appointment was in 1846
As a young doctor, aged 28, I was just starting
I was there in one sense by default
I did not gain the initial internal medicine job that I wanted
That is the main reason that I focused on obstetrics
It was not in those days as highly regarded as surgery
When I joined the hospital I was surprised
Most of the pregnant women did not want to be admitted
They had heard too many stories of disaster
Friends who had died there



Birthplace of Dr Semmelweis

Some women begged me to let them go home
They even preferred to have their babies in the streets
Few women died from puerperal fever there
When I looked at the death rates in the hospital I was shocked
No wonder the women were scared to enter
The average mortality rate was nearly ten per cent per year
Urgent research was needed to reduce the deaths
The older doctors seemed to take things for granted
They were reluctant to change
I suggested they wash their hands after operations
Most ignored me and some were hostile
'How long have you been a doctor?' they asked
'Don't worry about it,' said another

I did worry
The surgeons continued with treatments like bloodletting
Patients were allowed to bleed
The theory was that it was necessary to get rid of bad humours
Instead, weak patients became even more fragile
Despite the opposition from more senior doctors, I took action
In my hospital in 1847, I issued an instruction
Students and doctors must wash their hands
I provided a solution of chlorinated lime
Death rates reduced from 12.24 to 2.38 per cent
In the months of March and August there were no deaths
In 1848, I asked them to wash all their instruments
The death rate declined again
Did my colleagues support the moves?
A few did, but the senior ones like Dr Klein refused
He argued that a cure was needed rather than prevention
Others ignored my results
They said it would take too much time to wash their hands
They had other theories for the cause of death
Dyscrasia, meaning a bad mixture of blood and bile, was blamed
Others opposed my solution on religious grounds
Overall, surgeons were blind to the deaths they caused
They felt their job was to perform surgery, not prevent infection
In 1848, I extended the use of carbolic washing to all instruments
Maybe I should have written a professional article on the subject
There were many opposed to my efforts to improve hygiene
Dispute arose and I lost my job in Vienna
Returning to Hungary, I worked at the St Rochus Hospital
From 1851 to 1857, I was in charge of the maternity ward
The death rate during childbirth declined dramatically
During this time I married
My wife gave birth to five children, all of whom survived
However, the death rate from puerperal fever was still high
Ten years had passed and practices had not changed
It was necessary to attack the doctors head on
At a conference in 1859, I accused them of murdering their patients
Many doctors still refused to wash their hands and equipment
More women and children died

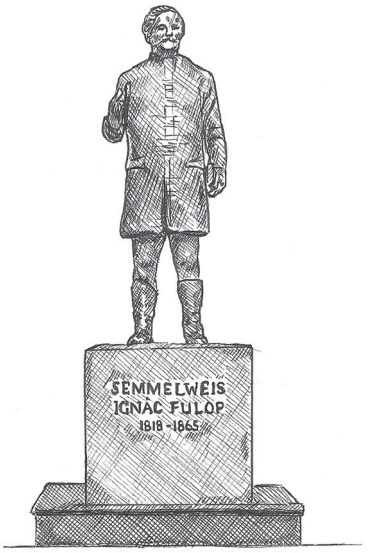
I had been reluctant to publish, but in 1861 wrote my book
Then, in 1865, my descent into a dark madness
No worse than that of the mothers
Confined to a mental asylum, I lashed out
Those in charge used force to restrain me
The injuries I sustained led to my death
Dr Lister followed up my work and stressed the need for anti-sepsis
Pasteur in 1879 explained the bacterial cause of puerperal fever death
Still the doubters questioned
Women and babies continued to die
Each one was a personal and medical disaster
Deaths which were preventable, if doctors had listened and acted

Victims paid with their lives because their doctors ignored the truth
Even if you have a solution, it does not mean it will be accepted
Hygiene has to be at the centre of medical practice and advice
Evidence has to be the basis for diagnosis
That was one thing I learned from my early studies in law
A profession that I rejected in order to become a physician
A role that I found challenging, mainly because of opposition
It was frustrating to see the evidence ignored
It was disastrous to see patients and their children die
Yet, some of them were saved

Despite that, I wondered if things would change
Could surgeons look beyond their operations?
Instead of cutting people, could they protect them?
Could they start with hygiene as the basis for all their work?
Could evidence be the basis for medicine?

Postscript

Semmelweis has been honoured in various ways
The Semmelweis Reflex was introduced
It refers to the rejection of a proposal without a test
The Semmelweis Clinic for Women was established in Vienna
A mark of progress and vital centre for treatment and research
Semmelweis University for medicine was built in Budapest
A place to train the next generation and improve standards
The Semmelweis Society International was established
It defends doctors from unfair attack
Therefore, progress has been made despite the initial problems
Evidence based medicine is now established
Ignaz Semmelweis was a leader in the field.



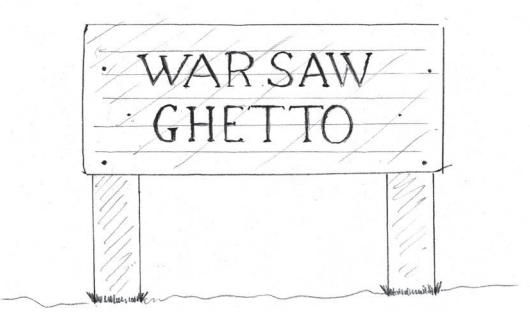
Irena Sendler
1910 2008

Scared, I walked towards the exit of the ghetto
Two big German guards were checking people's papers
Would I be inspected and caught?
Inside my medical case was an infant
Her parents had died the previous week
There was no future for the child in the ghetto
That is why I decided to smuggle her out in my case
What if the baby cried as I queued at the exit?
As I walked to the gate, each minute seemed like an hour
Was I doing the right thing for the baby?
Would I be searched?
The Germans had captured the Jews of Warsaw
I was one of the few people allowed into the ghetto
My job was to try and limit the spread of disease
The conditions under which people lived were appalling
Typhus and other diseases were spreading
As a trained nurse, I treated as many as possible
The Germans did not care how many people died
They were sending the Jews to the 'death camps' anyway
Contagious diseases, however, could kill their own men
To reduce the risk, they allowed me into the ghetto
It was then that I realized more needed to be done
Particularly, to save Jewish children
My parents had always done their best to help people
That is what they would want me to do
I was born in a small town, Otwock, in Poland
Later, we moved to Tarczyn
It was the time of the First World War
My father was Dr Krzyżanowska, a small-town doctor
I noted that many of his patients were Jewish people
He and my mother brought me up to respect them
As a young girl, I got to know a number of the patients
Mothers brought their children to his surgery and we played
Sadly, in 1917, my father died during a typhus epidemic

Irena Sendler

After that, the Jewish people stopped coming to our house
However, I remembered my friends
Sometimes, we would meet in the street and play
As I grew older, I noticed that they had different ways
They went to church on a Saturday
We went to the Catholic Church on a Sunday
Eventually, I understood the differences
Old Testament, New Testament
Abraham and Christ, both Jews
Poland was a home for many of them
Their children were born there, just as I was
They were as Polish as me
Life for them and for me became harder
The Nazi Party, led by Hitler, was elected in Germany
From 1933, our country was under threat
Hitler said he would take our land and kill people
Racist policies were introduced
I was 23 years old at the time
My studies for a career as a social worker had just started
Each day, I witnessed the problems faced by the Jews
There was an anti-Jewish element in work and education
One third of the students at one time were Jews
Hitler's speeches stirred up more racial conflict, also in Poland
Opposing such action, I made my views known at Warsaw University
The officials barred me from being a student for three years
In 1935, at Lwow Polytechnic, the Jewish students were segregated
Ghetto benches meant Jews had to sit together
It was a sign of things to come
In due course, I gained a job at the Social Welfare Department
Some of us realized what would happen if war started
We tried to help Jews who wanted to leave
Over 3,000 false documents were created to facilitate this
By 1939, Poland was invaded by the Germans
Poles fought bravely, but were killed without mercy
The days of Nazi rule and the holocaust had begun
Within days, the racist regulations were posted
On October 16th, the Warsaw Ghetto was established
In an area of about 16 blocks, over 450,000 people were imprisoned

Disease soon became rife, particularly typhus
It is estimated that more than 100,000 died
But, the ghetto was only a staging post for the real death camps
Treblinka was one of many
About 300,000 people from the ghetto were sent there to be gassed
At the time, it was called deportation
But, we could guess the real purpose
What could be done to help the families?
'Zegota' was a codename for an underground organization
Its purpose was to find places of safety for Jewish people
It was organized by both Jews and non-Jews
I joined and was put in charge of the children's section
Everything had to be done in secret



To be caught meant Nazi torture and almost certain death
Therefore, I was given the codename 'Jolanta'
Brave people, like my colleague Irena Schultz, helped me
My full-time job was with the Government Welfare Department
Therefore, I had a German 'special permit' to enter the ghetto
Officially, my job was to report on conditions and control disease
Needless to say, the job was dangerous in more senses than one
On my visits, I witnessed many horrors
Living conditions were abominable
People's bones showed through, as there was little food
Sanitation became worse with so many people in the ghetto
Yet, the Jews tried to keep things organized
They had soup kitchens, schools and secret religious services
The Jews were required to wear the Star of David by the Germans
I did it to show I was not a German and there to help

It was impossible to secure the safety of adults
However, could I help some children?
Consulting with some trusted colleagues, I developed a plan
Why not smuggle some of them out of the ghetto?
Of course, there were many risks
Not least was that the Jewish parents were suspicious
Where would the children go and would they be safe?
In truth, I did not know, as there were no guarantees
But, one thing I was sure about
If the children stayed in the ghetto, they would die
Some Jewish parents understood that, some did not
That is why I decided to smuggle an orphan
The baby was only a few weeks old
At the exit, there was a long queue of working men
Should I wait in line, or take a risk?
It was unusual for a woman to have a permit into the ghetto
Would a German officer search an Aryan woman?
I could not afford to wait in line
Waving my nurse's badge, I kept walking
None of the Polish workers said anything
At the gate, I showed my papers to a German officer
He examined it and asked what was in my case
'Samples of diseased material for laboratory analysis,' I said
Hoping that he would avoid putting himself at risk of infection
Inside the Jewish infant slept with the aid of a sedative
After what seemed an age, he waved his hand
The gate opened and I walked into the city
It was as if I was walking on air
My first call was to the Sisters of the Family of Mary
The Mother Superior asked no questions
I had found an orphan
It did not matter if it was a Catholic or Jewish child
So many parents were dead or dying
The child needed the protection of the Church
We said a prayer, as I handed the baby to her
In my other hand, I had the name of the child
On returning home, I put the name in a jar
When it was dark, I went into my garden

The jar was buried beneath an apple tree
Better to bury the name, not the child
It was the first of many names that would go in the jar
In the following weeks, and months, I continued
Inside the ghetto, families heard what I was doing
The first time a mother gave her baby to me it was dreadful
'Will our child be safe?' the father asked anxiously
'If the child stays in the ghetto, it will certainly die,' I said
Both parents were in tears and so was I
Promising to return with news, I left with their baby
On my next visit, they had tears of joy

Their baby had been adopted by a Protestant family
On other visits, some parents came to me with their children
Would I take them to relatives?
Some of the children were five years old and more
How could I smuggle a child of that size?
New ways had to be found
For babies, I used suitcases and boxes
Some brave workmen put the babies in their tool kits
For older children, I had to smuggle them in ambulances
Some were genuinely sick, others were made to look ill

Each time, I took their name and put it in the jar
It listed where they had been placed
Convents were helpful, especially one of them
The Little Sister Servants of the Blessed Virgin Mary
Located at Turkowide and Chotomow near Warsaw
Parish priests also helped
Families of those in the ghetto were at risk
However, their non-Jewish friends took in children
No one refused to have a child, despite the war problems

German Soldier at Warsaw Ghetto

Of course, the children had to lose their Jewish identity
The risks became greater when I involved others
As things got worse, the number of babies offered increased
Their parents knew that death was only a matter of time
They agreed it was better for their children to be fostered
Often, I lay awake at night wondering what to do
The issue was becoming more urgent

The deportations to the death camps were increasing
'Operation Reinhard' had started in July 1942
It was soon a well-organized system
Cattle train wagons full of Jews left for the gas chambers
Treblinka and other death camps were the destinations
My team of collaborators increased their efforts
Many new ways of smuggling had to be invented
Small babies were strapped to a stretcher with a sick adult
It was hoped the guards would not look under the blanket
Older children escaped through small tunnels
The old courthouse, next to the ghetto, was used
Many children escaped through the dank, dark, smelly sewers
Some were carried in potato bags
Even coffins and body bags were used
The ingenuity to cheat the Germans of another killing was incredible
It is hard to be sure how many children escaped
It is estimated that between 2500 and 3000 were smuggled out
On escaping the ghetto, they were still hunted by the Germans
The Nazis were determined to kill every Jew they could find
They were also killing those who assisted them
I realized that the next arranged escape could be my last one
Inevitably, the Nazis would discover what I was doing
In 1943, they arrested me and took me to a place of torture
Pawiak Prison
For hours and hours, they demanded that I give them names
I refused, so they beat me, breaking my bones
They wanted the names of people who had helped me
'Tell us the names of your conspirators,' they shouted
I closed my eyes and said nothing
'You will tell us all of the names,' they shrieked, as they got more angry
Of course, they wanted the names of the children
Names of those who had slipped through their murdering hands
Next they came with a list
'We demand the names of the foster parents,' screamed an officer
'Names of the priests'
'Names of the nuns'
'You will give us their names or you will die,' he concluded
When I did not, they broke my arms

‘Names, names, names,’ they shouted in anger
Then they broke my legs
‘You will give us the names,’ they screamed
When I recovered consciousness a Nazi officer was there
‘This is your last chance to give us the names and save your life’
When I refused to answer, they condemned me to death
That, I thought, would be the end of it
Just before I was due to be shot, a German officer was bribed
My friends found the money to do a deal
En route to the place of death, I was left unconscious in a forest
My friends found me
When I regained consciousness, I was very scared
Would the Germans find me again for more torture?
My friends said the Nazis were not looking for me
‘Why?’ I asked
‘The Germans have officially listed you as dead,’ replied my friend
My name was on a public notice board of those executed
Gradually, with good care, my bones healed
The war raged on, with more terror in the streets
Not least from the Russians who drove out the Germans in 1945
It was the Germans’ turn to be deported on trains
After the war, I returned to my garden and started digging
There, I found the jars with the names of the children
How many were still alive?
It became my mission to find out
However, I had other problems
Following the stress of war, my marriage was dissolved
That was a difficult time but I did not feel alone
Out there, I knew there were children I had saved
In due course, I met Stefan Zgrzembski
It took time for me to tell him about the ghetto
He was kind and understood
He then realized that I had a wider family
The task was to find them and give them their family names
It was a major task
However, it was interrupted by another attack
After the war, Poland was controlled by Communist Russia
They accused me of links to the Polish Government in Exile

More dark days in prison, as I was arrested again
This time the torture was more psychological than physical
More names were demanded
Names of my colleagues, friends and associates
Eventually, I was let out of prison and continued my work
The only names that mattered to me were in the jar
The names of the children we had smuggled to safety
Could we find the parents of the children on the lists?
Of course, most had been killed in the Nazi gas chambers
There were sad days when we had to tell the children
But, we did have a few successes
On those occasions, there were great celebrations
In due course, I celebrated by becoming a mother
I was fortunate to have three children of my own
However, one died as an infant
Our other children grew up healthy, but with discrimination
We explained to our son and daughter the issues
'Because of my work, you could have difficulties,' I said
Indeed they did
Both were denied the right to study at university
The hatred in my own country still continued
It did not stop me trying to find the parents of the children
But, my Jewish friends showed their appreciation
In 1965, they recognized me with a Yad Vashem medal
The Righteous Among the Nations Award
Also, they awarded me the Commander's Cross of the Israeli Institute
However, it was not until 2003 that Poland recognized my work
The Order of the White Cross was awarded
Sixty years after the Jewish children were rescued from the ghetto
In 2007, Poland's Senate nominated me for the Nobel Peace Prize
Elzbieta Ficowska, who I had rescued, conveyed appreciation
She represented all of the children we helped to escape
Every one of them was part of my family
Other children from the USA and elsewhere came to see me
I told them, 'You cannot separate people by race or religion'
'You can only separate people by good and evil'
'The good will always triumph.'

Kato Shizue
1897 2001

At the age of 17, I was married
My parents felt that they had done the right thing
The marriage was arranged, not one of free choice
Baron Ishimoto Keikichi was much older than me
He was wealthy and well-connected
Tradition in Japan was very strong
The roles for men and women had long been defined
Men were expected to be the bread winners
Women were expected to look after the family and home
I was born into a rich Japanese family that respected tradition
Therefore, my parents expected me to do likewise
Nevertheless, they had a wider view than most
Father visited western countries on business
My mother was well educated and read Shakespeare
Despite this, Mother said, 'A man comes first, a woman follows'
Instead of being free to choose, I took on my role as a wife
It meant following my husband to places that I did not like
He worked as an engineer for the Mitsui organization
We moved to live in a coal mining community
Located at Miike, Kyushu, it was a depressing world for me
Each day, everyone faced the dust, dirt and poor living conditions
It was hard for the men, and also hard for the women
They struggled to bring up their families with few facilities
While living in the community, I had two children
After three years, I was pleased to leave
The experience, however, weighed on my mind
Other women could not escape
My husband's new job was in America
In 1919, we boarded a ship and sailed across the Pacific Ocean
A journey to a new world, so different from the coal mines
In New York, I studied English and did a secretarial course
The attitudes and culture were more liberal than in Japan
However, in one regard the two places were very similar
There was little or no discussion about women's health

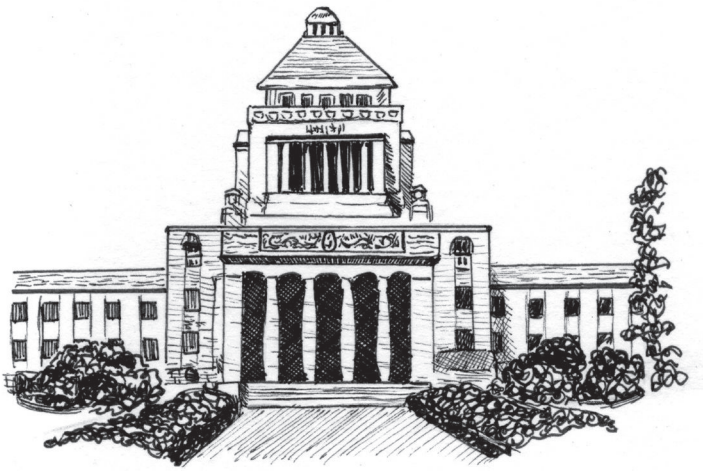
Kato Shizue

The subject of birth control was swept under the carpet
Margaret Sanger was the exception
She spoke out for women's rights, but was attacked
We became friends and I invited her to Japan
Initially, she was refused a visa by the Japanese Government
Eventually, in 1922, they agreed her entry on one condition
Margaret was not to give birth control lectures in public
Despite political opposition, she spoke to various groups
We met in people's homes and discussed women's health issues
That was her message, but few men understood it
Politicians and business leaders held the positions of power
They expected women to keep quiet and follow their leadership
Women's health was not on their agenda
Birth control was regarded as a taboo subject
To educate people, it was necessary to start a new organization
As a result, The Japan Birth Control Study Group was formed
Of course, there was much disdain and opposition from men
Except Kanju Kato, a miners' leader
He asked me to speak to the wives of his members
In 1923, I began the first of my women's health lecture tours
My activities were severely frowned upon by the Government
Later, we formed a research unit and published *Small Family*
It provided useful information for women
I opened a woollen yarn shop to sell clothes
Everyone knew I was really giving advice on birth control
The Great Kanto Earthquake of 1923 destroyed my shop
Fortunate to survive, I helped in the reconstruction work
At the same time, I was helping represent women
In truth, they did not have many political rights
They were dependent on their families and their husbands
In my case, I followed my husband again
For six months, we went on a business project to London
My children remained with family members in Tokyo
It was a great strain being away from them for so long
On my return, I continued my work with women
However, my marriage was beginning to decline
No longer prepared to follow, I decided to focus on my work
In addition, my two sons needed more of my time

However, my reputation was becoming stronger in the USA
In 1932, I was invited to visit and talk to women about our work
I wrote a book, *Facing Two Ways*, in 1935
It was a bestseller in the USA
With the money from both activities, clinics were opened in Japan
However, politicians saw me as a troublemaker
The Government closed my clinics, saying they were outside the law

By going to the USA in 1937 to lecture, I further upset key opponents
The right-wing Japanese Government put me on a list of 'subversives'
Secret government agents, the 'thought police' contacted the civil police
On my return, on December 15th 1937, I was arrested
The charge stated that I was promoting dangerous thoughts
Two weeks in prison, during a cold December, were a warning
Next, they raided my Birth Control Consultation Clinic

That meant our work, in effect, ceased until after the Second World War
During the war, one of my sons died of tuberculosis
By 1944, my husband and I had divorced
One of the reasons was that I was in love with Kanju Kato
The union leader who had supported my work in the early days
We married in 1944, when I was 47 and he was 52
I thought there was no need for birth control in my own case
Ironically, the next year I found I was pregnant



The Diet Building

My daughter was born in 1945, bringing me great happiness
But, it was also a time of despair
Japan had been beaten in the war and destroyed
There was chaos all around
Atom bombs on Hiroshima and Nagasaki were the *coup de grace*
Rebuilding Japan required new ideas
It needed new people to plan and give hope
Therefore, I decided to be a candidate for our new political Diet
The people elected me to be the first woman on the ruling body

It was yet another new challenge
One in which I was required to lead not follow
My focus was on women's rights
In particular, enabling the sale of contraceptives
Beyond this, I fought for a family planning system
Eugenic Protection Consultation Centres were established
Margaret Sanger, my mentor from the USA, visited again
Her visit created many news stories in the press to support the cause
The Family Planning Federation of Japan was formed in 1954
We were organized and funded with the support of Government
In 1955, I helped organize a major meeting in Tokyo
The International Conference on Planned Parenthood
A major advance from the small beginnings
The real results were for the benefit of women
Infant mortality and maternal deaths decreased rapidly
Doctors, instead of ignoring us, began consulting with us
The politicians also recognized our work
Government policy started to address the needs and rights of women
Maybe it was just self-interest, reflecting a wider problem
The Government saw the danger of overpopulation
Japan, an island nation, needed to feed its people
To do so, control of the population was essential
We now had major support for our work
Yet, there was still much to do and I continued my efforts
Seeing the emergence of a new Japanese woman
A well-educated generation of young articulate women
With new leaders, working for women's health and rights
Therefore, in 1974, it was time for me to move on
Having served in the parliament of Japan for over 25 years
Although for me it was time to retire, a torch had been lit
One that would continue to burn brightly
Fortunately, I lived until I was 104 and saw many changes.

James Simpson
1811 1870

When I was born there was relief
There was always a fear during childbirth
So many women and children died at that time
Giving birth was supposed to be a natural function
However, when things went wrong there was little that could be done
Doctors had few tools and techniques to help
My mother knew all about the problems
I was her eighth and last child
With six brothers and a sister it was a noisy house
But, when I was nine years old the house was very quiet
Mother took ill and died
We were all devastated and cried for days and weeks
Maybe that is what made me think I should become a doctor
My father was a village baker in Bathgate, Scotland
He encouraged me to study hard
He paid for my education, together with my brothers'
At the age of 14, I went to Edinburgh University
Four years later, I took my medical exams
But it was another two years before I was allowed to practise
Two years later, aged 21, I gained a medical doctorate
Working as a local doctor taught me many important lessons
Disease was no respecter of wealth or age
Prevention was better than cure as there were few remedies
One aspect of my work was especially interesting
As a doctor, I witnessed many happy births
Equally, I witnessed much pain and sadness, and sometimes death
For many women, it was a most painful and dangerous experience
Aged 28, I became Professor of Midwifery at Edinburgh University
Reducing pain and stress in childbirth was my aim
Initially, I tried mesmerism; a form of hypnotism
It did not work
However, news arrived saying anaesthesia via chemicals could help
David Waldie, a chemist I knew, developed a new version of chloroform
On November 4th 1847, I tried it out with my assistants

James Simpson

We all literally fell asleep on the job
It was clearly very powerful
I realized how it could be used with patients
As an anaesthetic it had wide applications
While under chloroform, patients felt no pain
I used it in surgical operations to remove tumours
Also, to perform amputations and lance abscesses
I wrote a professional paper on my applications
Account of a New Anaesthetic Agent was the title I gave it
But, could I use it in childbirth?
Using it for the first time with a mother giving birth was difficult
Would the natural functions of her body continue under sedation?
The child was born 25 minutes after inhalation began
On waking, the mother said she had enjoyed 'a very comfortable sleep'
She also said the sleep had stopped her pains
When the nurse brought her baby in the mother was amazed
She could not believe she had given birth painlessly while asleep
However, many medical colleagues were not convinced
Nor were the priests, who said it was an unnatural practice
Indeed, what did they know about pain when giving birth?
They were all hot on principles and cold on realities
Scientists were curious
Politicians, I think, were bemused by the new wonder drug
It was beyond their knowledge
Doctors were divided in their opinions
My job was to improve medical practice
Therefore, I conducted practical experiments
Doctors have two main tasks
One is to alleviate human suffering
The other is to preserve human life
Chloroform was therefore a great aid to both, but it had risks
If a patient was given too much then it endangered life
Yet, when used properly it was a great help to patient and doctor
My view was the risks were worth taking
Chloroform advanced the emerging science of obstetrics
It made midwifery a more skilled process
However, I recognized there were dangers
Using chloroform on a handkerchief led to dosage risks

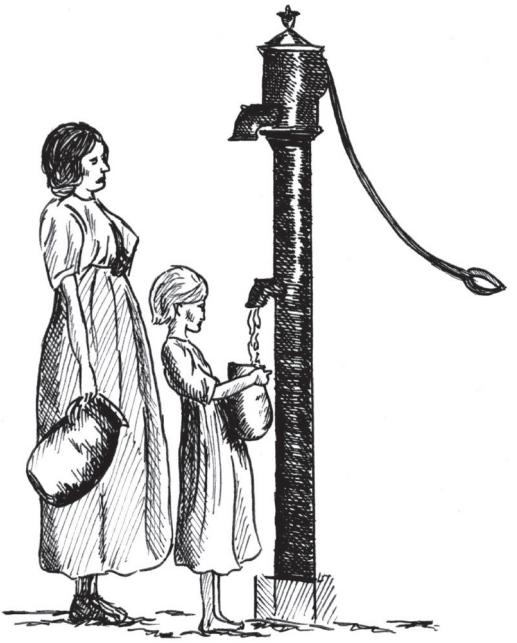
Unfortunately, Hannah Greener, aged 15, died in January 1848
This made me realize standards had to be set
Training of the highest order was essential
Gradually, confidence in the new system developed
Within six years, in 1853, Queen Victoria decided to use it in childbirth
Prince Leopold was the first royal to be born under chloroform
Dr John Snow was the surgeon who administered it to the Queen
My own wife also was aware of chloroform
We had nine children
Chloroform eventually became popular with dentists
The chemical ether had been used before
But, chloroform had many advantages
There was little or no sickness, vomiting, headache or salivation
Previously, patients had little option other than to bear the pain
Ironically, pain in the form of sciatica and a heart ailment afflicted me
My focus was on new techniques for childbirth
The uterine sound device, long forceps and wire sutures were some of them
Also, the improvement of statistical records for feedback on operations
It took many years to research the true effects of ether and chloroform
That helped improve the process of birth for women and children
Many honours were given to me
Queen Victoria, having used chloroform, made me a knight of the realm
I was the first man to be knighted for services to medicine
Also, my fellow Scots did me the honour of recognition
They declared a national holiday for the day of my funeral
Ironic that I could not celebrate a holiday given in my name
It is said that 100,000 and more citizens lined the streets
Celebrating, I hope, medical advances.

John Snow
1813 1858

I was trained to offer potions and pills to alleviate sickness
When that did not work, we tried surgery
Then it was up to the strength of the body to heal itself
Good nursing could help, but why not also focus on other approaches?
If more time could be spent on prevention that was the best cure
However, at the time, the causes of disease were little understood
As the eldest of nine children, I was expected to earn an income
There was not much time for a formal education
Leaving home at the age of 14, I went to Newcastle on Tyne
At this tender age, I started work with Dr William Hardcastle
I did the odd jobs, from preparation to cleaning-up
This role was called an 'apprentice doctor'
It was how many people started in the profession
Later, from 1833 to 1835, I was an assistant in practice
For a time, I was also a colliery surgeon
It was not until 1836 that I enrolled at a medical school in London
A year later, I worked at the Westminster Hospital
Through this, I became a member of the Royal College of Surgeons
Practise came before theory
It was only in 1844 that I received my degree from London University
In the city of London, I saw dreadful sights that no surgery could cure
People vomiting, plus diarrhoea, then fever and death
Cholera was a death sentence for children, parents and families
Spreading rapaciously from house to house
Carried on the vapours in the air, so the doctors said
The death, destruction and devastation I saw focused my mind
How could I stop the disease spreading?
It was necessary to find out the source of the contagion
Not an activity for a surgeon, said my colleagues
They advised me to leave that to scientists
There were only a few of them, and they were not interested
It required action in the streets rather than the laboratory
Despite my own infirmities, with renal disease and TB, I searched
Touring the areas where cholera was rife, I looked for a cause

John Snow

It was not a pleasant tour
The smell of death lay around
Many streets were alleys of death
Despair and desperation could be seen in people's faces
They hoped pills and potions could help
I knew they could not
On The Mode of Communication of Cholera
That was the title of a paper I wrote in 1849



Broad Street Water Pump

My view was that the drinking water was a likely cause
Proof however was hard to find
Hassall in 1850 also noted the disgusting state of water in London
As for myself, I only drank boiled water
It probably saved my life
Water from Southwark and Vauxhall Water Company was dangerous

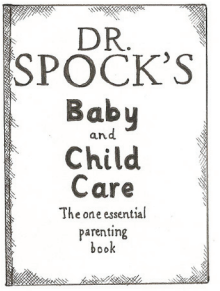
We suspected that cholera was in the water that people were drinking
Many opinions were offered, but no direct action until 1854
My investigation showed 500 people died in ten days at Broad Street
Should I do more research, or should I act?
People needed water, but was it killing them?
'Remove the water pump handle,' I cried
In the next few days, the number of deaths declined
The link to me was clear, but other doctors had doubts
They were still looking for a medical cure
Sewage in the water created the poison for cholera to breed
Prevention was a medical act, just as much as surgery and pills
Heralding the start of serious study of social conditions as causes
The start of medical geography via spatial analysis
The epidemiology of disease diffusion
In particular, the social aspects of the spread and containment of disease
Most of my work was not so dramatic
It involved the treatment of all kinds of illness
However, one area of prevention especially interested me
Pain!
Surgical techniques at the time were very basic
Most surgery was done while the patient was conscious
The suffering during amputations and other surgery was horrific
The cure seemed worse than the ailment
Ether had been tried by a few doctors during surgery
It was risky, as too much ether could lead to death
Dr John Simpson showed that chloroform could be used in childbirth
In my work, I found it had many benefits
I was the gynaecologist to Queen Victoria
She agreed for me to use it in her deliveries
The last two of her nine children were born using pain relief measures
As a result, confidence in the use of chloroform for surgery increased
In this way, I was able to help many mothers during childbirth
I brought many children into this world, but never married
My work consumed my time and energy
Until one day when I saw a flash
I had a blinding headache
At the age of 45, I had a brain haemorrhage
Ironic that there was no pain relief or operation to assist me.

Benjamin Spock
1903 1998

My interest in childcare started very early
After all I was a participant in a new experience
I was the eldest of six children and helped care for the others
Father was a prominent lawyer and Mother focused on the family
They ran a strict regime and I had to comply
Indeed, as my brothers and sisters arrived I had to help
My parents expected me to excel at school
Once again I did as required and succeeded
As a result I qualified for Yale University
History and literature were my initial subjects
But, my outside interest focused on athletics and rowing
Being very fit, I was a member of a top crew
We were selected for the 1924 Olympic Games
It was with pride and pleasure that we won the Gold Medal
But, what should I do for a career?
After careful thought, I decided to study medicine
After Yale, I went to the Columbia University Medical School
Hard work paid off in 1929; I graduated first in my class
During that time, I met Jane Cheney
We got on well and decided to marry
Before long we had two sons
It all seemed to be going well
If anything, I was falling into a well-defined path
Once again, I was doing the accepted thing
Maybe I was easily conditioned
But then I realized that a different viewpoint was required
Medicine was as much about the mind as it was about the body
Therefore, I studied psychoanalysis for six years
The more I listened, the more I trusted the patients
Instead of just giving chemical solutions, I worked with the emotions
If people understood moods, they could treat many of their complaints
For example, what makes a person happy or sad?
Why do people become angry and destructive?
That is why I took time to understand both parents and children

Benjamin Spock

The relationship was often the key to problems
Sometimes the parents put unnecessary pressure on the child
They may have been too strict or set too high expectations
Sometimes the child reacted by withdrawing or being aggressive
It was important to deal with the situation
In that way, the behavior could be changed
Psychologists referred to it as conditioning
Changing the conditions, rules and processes could really help
A lot of my work focused on babies
Once again, I encouraged mothers to understand the nature of their child
Each child has preferences even from an early age
Learning how to work with, rather than against, those was vital
In doing so, the parents could become the experts
Indeed, it was a concern that we could be parents without training
To be a lawyer, a carpenter or an architect, one required qualifications
Guiding a child's development was more important
Therefore, I tried to help parents learn
That often involved getting the mother and father to agree
No wonder children had problems if they were pulled two ways
By 1946, I had enough examples to write a book



The Common Sense Book of Baby and Child Care
It initially sold for 25 cents as I wanted it easily available
In the book, some practical ideas were advanced
Also, I put medical advice into ordinary words
I was surprised how popular the book became
About one million copies a year were selling
That continued and eventually over 50 million copies were sold
As a result, I was asked to speak on radio and TV

Mothers welcomed the opportunity to discuss the issues
We covered both the physical and psychological aspects
The topic of parenting gained more attention
As a result, I gained a teaching role at Case Western Reserve University
That gave me more time to research and write
But, I was becoming deeply troubled by events in Vietnam
American troops had been sent to fight in that country
Many never returned and thousands of local people died
Young people were being killed
Therefore, I joined the protest movement
Of course, that led me into conflict with Government and others
In 1962, I was arrested and charged by the Attorney General
Conspiracy to aid resistance to the military draft
With three others, I was convicted
Two years in prison was the sentence
But, not served, as appeals led to it being set aside in 1969
People said I should concentrate on medicine
My protests continued
Those involved a stand against nuclear weapons
It seemed to me madness to waste money on bombs
Millions of people were starving, particularly children
Marching side by side with others, I voiced my opposition
In doing so, I became an unelected politician
Indeed, all doctors need to take a stand on political issues
The great debates of contraception, euthanasia and animal research
They were central to the way we lived
On TV and radio sessions, I gave my views
In the process, I was trying to influence people's votes
I also spoke to many politicians to influence their decisions
In 1967, I ran as a Presidential Candidate for the People's Party
Also, I was involved with Dr Luther's civil rights campaigns
But, of course, I was not immune to the problems of family life
By the 1970s, relations with my wife were strained
In 1976, we divorced and I remarried at the age of 71
Mary Morgan had long arranged my speeches and workshops
We marched together and were arrested at civil rights events
Therefore, we knew each other well
A new phase of my life started and I continued to write.

Mary Edwards Walker
1832 1919

Having qualified as a doctor, I wanted to help save lives
In the Civil War, I volunteered to serve in the Union Army
The officers rejected my application
What could a woman contribute?
It was typical of the treatment given to women in those days
We were seen as second-class citizens
I came from a strong family with four sisters and a brother
Our father and mother, Alvah and Vesta, believed in equal opportunities
Father had built the Oswego town school on our family land
Our parents were forward-thinking and told us to be proud and achieve
They challenged many conventions
One was to support a more functional dress style for girls
We abandoned the tight-fitting dress worn by others
That helped us in our work on the farm
Father also encouraged us to have a professional career
Like two of my sisters, I became a teacher
However, there was prejudice all around
The Constitution said that all men were created equal
But that did not apply to women, black people or the poor
By 1853, I had saved enough money to study medicine
As the only woman in the medical classes, I stood out
By modern standards, it was a short course of three semesters
I was the second American woman to qualify as a doctor
The next year, I married Albert Miller, another doctor
We set up a medical practice
However, few patients would come to see me
They doubted that a woman could do the job
My marriage was also under stress
It was time to move on
That is how I came to apply to be a Union Army doctor
Again, the same argument and response
Qualifications were acceptable, but a woman was not
Being rejected by the Army was another blow
I enlisted as a nurse in Washington's Patient Office Hospital

Mary Edwards Walker

Injured soldiers from the Battle of Bull Run were treated
Casualties from the battles were high and surgeons in demand
At the battle of Chickamauga, I was deemed a 'volunteer surgeon'
Hospital conditions were poor and the hours worked were long
My performance led to promotion
General Thomas, 52nd Ohio Infantry, made me a replacement surgeon
Many of his subordinates showed me that they did not approve
My view was that lives needed to be saved and I could help
On a number of occasions, I crossed enemy lines
We had to treat and retrieve our soldiers
However, I saw much suffering amongst the families of the enemy
They needed help and where I could, I provided it
Colleagues again criticized me
They said I was using our Federal supplies to help the enemy
To me, they were all Americans
While I was in enemy territory, I gathered useful information
This was included in reports about enemy deployments and morale
Some people said that I was a spy
To me, it was no more than trying to shorten the war
It was on a visit across the border that the enemy caught me
It was south of the Georgia-Tennessee border
Dressed in full Union Army uniform, I encountered rebel soldiers
Taken before General Hill, I was sent to prison in Richmond
Four months in dark and dreary conditions
The rebels were embarrassed by having a female prisoner
Eventually, I was traded for a Confederate Officer
It was part of an exchange of doctors from both sides
On my return, I tended the wounded at the Battle for Atlanta
Then worked at a women's prison in Louisville
Also, at an orphanage in Tennessee
It was a relief when the war was over
A war injury led to my receipt of a small pension
Generals Sherman and Thomas recommended me for a medal
It was awarded in January 1866
But never trust politicians
In 1917, they told me to return it
A new edict said only those in combat could have medals
I refused to return the medal on a matter of principle

Instead, I wore it every day
On leaving the army, there was much to do
My marriage, after 13 hectic years, had come to an end
That was unusual as divorce was not common in those days
Although a sad day, it was necessary to start again
My involvement in the human rights movement took priority
I campaigned against drink and tobacco
Both were wrecking people's lives
When attending meetings, I dressed in men's clothing
I also wore a suit and top hat
At times, I carried two guns
It was a case of showing that I was an equal
For dressing in this way, I was arrested on various occasions
The issues were more important than my dress
The suffrage movement was gathering pace
There was a need for political action
To start, I wrote a book called *Hit*
Women needed a manifesto
I had a lot to write about
Marriage, divorce, war, the army and life
Teaching, nursing and working as a doctor had taught me a lot
I saw the problems faced by women in a man's world
Women needed a voice in the making of the laws
That was my main message
In 1878, I finished writing *The Science of Immortality*
To bring about change, I entered an election for Congress
Although I was not elected, I continued to lobby
On many lecture tours, I spoke up for women
One such tour included a visit to Great Britain
Advocating birth control, dress reform, temperance and health issues
This led to changes in the law in many countries
But the battle in some countries was just starting
May my vision and values live on.

Postscript

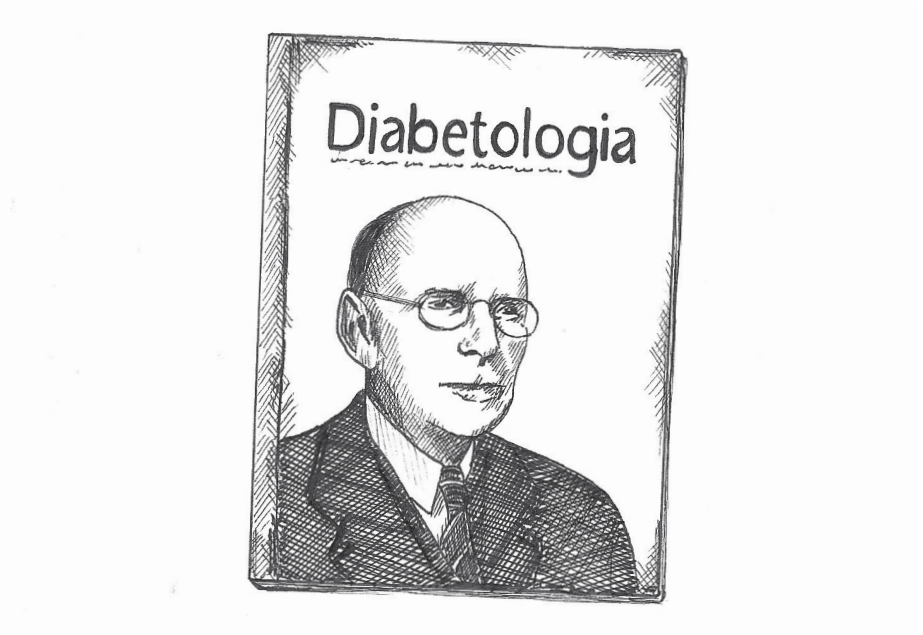
Only in 1977 did President Carter reinstate the medal officially.

Priscilla White
1900 1989

Being born at the start of the 20th Century was auspicious
My parents later told me that great celebrations were held
Not just for the new century, but for my safe arrival
Giving birth at that time was still a substantial health risk
Little detailed study had been made of pregnancy
It was seen as a natural condition
Women had given birth to children for thousands of years
But, many women and children had died in the process
My parents therefore looked after me with special care
They ensured I had a good education in Boston
But what should I do with all the learning?
When I was 14 years of age, the First World War began
Tales of horror came across the Atlantic
In due course, American soldiers were involved
Some women also served as nurses
By 1919, the war was over, but not for many men
They returned with deep physical and mental injuries
It set me thinking that I could make a contribution to help others
My parents may have been surprised to hear I wanted to be a doctor
After all, it was very difficult to qualify
Entry to most university courses was restricted to men
Harvard Medical School rejected my application
It made me more determined to break through the barrier
A liberal arts degree at Radcliffe College gave me confidence
But, I needed to gain skills
Eventually, Tufts Medical School gave me admission
It was not a chance to be wasted
With hard work, I qualified as a doctor
But, getting a job was not guaranteed
Many people did not feel a woman was as competent as a male physician
Fortunately, I met Dr Elliott Joslin and he offered me a position
Aged about 55, he had specialized in the study of diabetes
That was most unusual at the time
Little was known about the condition

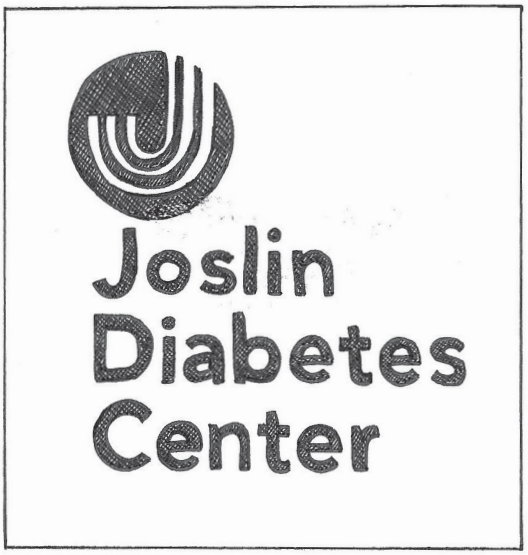
Priscilla White

Doctors preferred to be on the surgical side or general practice
Dr Joslin's mother had diabetes and he focused on it
He established the Joslin Diabetes Center in 1898
That was two years before I was born
So, I knew there was a lot to learn
Therefore, I read the research and worked with the patients
Dr Joslin had written the *Diabetic Manual – for Doctors and Patients*
Controlling the condition was difficult
If a patient went into a coma then little could be done
In 1922, a new drug called insulin had been introduced



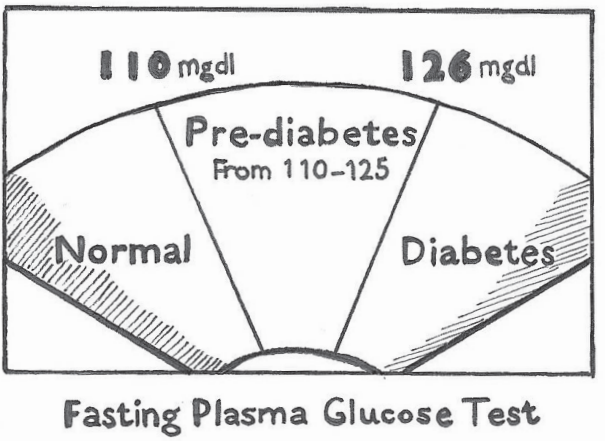
Drs Banting and Best had made a research breakthrough
Hopes were high that this was the magic solution
Nurses were recruited and trained as quickly as possible
Albeit, the drug did not solve the illness but helped control it
There was no time to lose
All the indications showed that diabetes was a major problem
More and more people were contracting the illness
Dr Joslin warned the public health authorities of an epidemic
He assigned me to the diagnosis and care of children

It was a challenging task
Some days, I felt that we were winning the battle
Other days, it was clear that we were falling behind
There were just too many people needing treatment
It was uplifting to see some patients control their condition
In contrast, tragedy came when a diabetic person died
After ten years, I wrote a book
Diabetes in Childhood and Adolescents was the title
That is where we had to start - with educational programs
Children needed more advice on diet and exercise



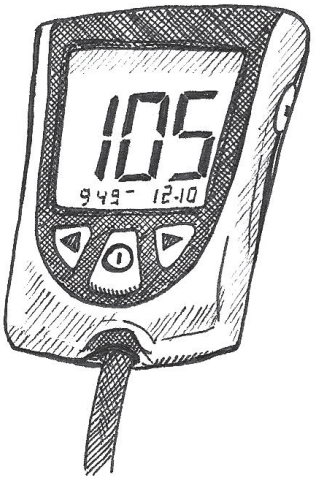
That meant the parents and teachers needed training
What could be done?
We needed a community approach
A practical project for children was proposed
Dr Joslin and I worked with members of the Universalist Church
They had purchased the home of Clara Barton
She had founded the American Red Cross
In 1932, we established The Clara Barton Birthplace Camp
It was ‘an island of safety for children with diabetes’
Located in North Oxford, near Boston, it was a ‘fresh air camp’

In due course, it focused on treating girls
Children in need of care came from many areas
It proved a success as children could stay and be treated
In 1948, another camp especially for boys was opened
The direction of my work moved towards treating pregnant women
Those that had diabetes were in a high risk group
Training was required on strict blood glucose levels
Also, we monitored each woman's pregnancy
Where required, an early delivery was advised
It was demanding work as our patients were stressed
Keeping the mothers stable gave the babies the best chance



Once again there were days of joy and days of sadness
Throughout I kept records to see the trends
We needed to know what worked and what did not
By 1949, I was able to publish results
The White Classification of Diabetic Pregnancies
That was the title of the system established to measure risk
Treatments were then allocated according to the scores
In that way, we could develop more standard approaches
Measures of risk included vascular diseases and renal complications
Of course, the lifestyle of the patient was a key factor
Their level of eating and drinking and exercise told us a lot

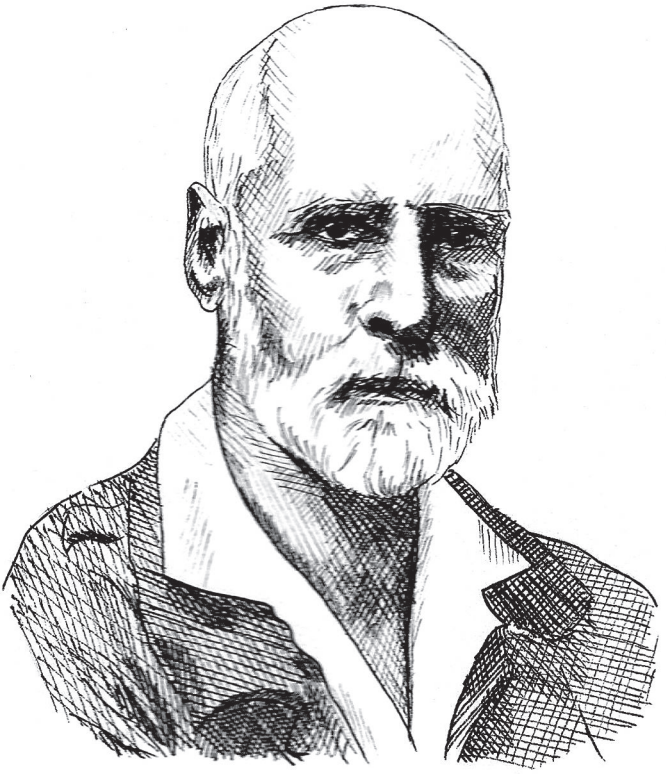
Improved supervision of the pregnant mother could help
In all, I was involved with over 10,000 cases
By the end of my career the survival rate for women had increased
It went from 54 per cent to 97 per cent
Providing information to the obstetric team was vital
As I was delivering many of the children I saw the benefits
During my career, I managed more than 2200 births
Albeit, I never married or had children of my own
For me, it was always rewarding to see a mother with her baby
Another reward was being asked to give the Memorial Banting Lecture
I was the first woman to be invited



I also was invited to give the Joslin Memorial Lecture
Other awards and honors came my way
In addition, I was awarded the Banting Medal
It was a great honor indeed
My mind went back to the day when Harvard rejected my application
It was a good job that I was not easily put off
So many women would not have had another woman to help them.

Alexandre Yersin
1863 1943

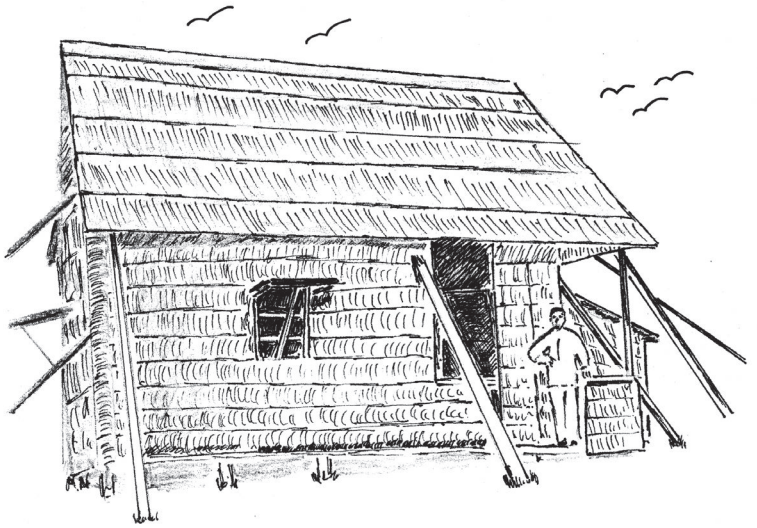
It came quickly
It also disappeared with almost the same speed
In between, it massacred millions
It is hard to know where it started
The Black Death travelled on ships from the Orient
It arrived in Italy in 1347
Within three years, it had killed half the population of Europe
It was no respecter of title or position
The infection moved at rapid speed from city to city
Too fast for people to organize a get away
Too fast for those remaining to bury the bodies
It raced across countries
It killed families faster than any army
Italy, France, Germany, Spain, England, Scotland
These and other countries were decimated
There were similar outbreaks in Arabia and Asia
But when it got to Russia it started to decline
No one knew why it had started, or stopped
It returned periodically
In 1665, the Black Death erupted once more
Again, the disease moved quickly
At one time, in London, over 6000 people a week were dying
It was often called ‘the plague’
When it arrived in a village or town there was panic
Prevention did not work and the cause was unknown
Seeing the dreadful effects caused fear in everyone
My training in Switzerland and Germany had alerted me to the dangers
Also, as an assistant to Dr Robert Koch, we discussed the plague
Yet, at that time, my main focus was on the cause of tuberculosis
I became interested in finding the answer due to an accident
As a doctor, I conducted autopsies
One day, I was studying a person who had died from rabies
By accident, I cut myself
Rabies was highly contagious, and a virtual death sentence



Alexandre Yersin

I visited Dr Roux, who had a new vaccine that saved my life
He hired me to conduct research on rabies
At the Pasteur Institute we studied diphtheria and other diseases
Also, I worked at Hôpital des Enfants-malades in Paris
However, in 1890 adventure called me
To travel in the footsteps of David Livingstone
But in a different continent
I wanted to go beyond cities to wild and beautiful places
With the Messageries Maritimes I set forth on the steamer *Oxus*
A ship doctor bound for Saigon
On arrival, I was astounded by the contrasts
A French colony in the heart of Asia
There I became a crew member on *The Volga* going to Manila
Yet, I knew I would return following my role as ship doctor
En route, I learned to navigate and speak Vietnamese with the sailors
A new route from Saigon to Haiphong showed me more of Vietnam
The job finished in 1891, and I started exploring the countryside
One expedition went from Nha Trang to Phnom Penh in Cambodia
After that, I returned to see my family, then to Paris to see colleagues
There, the French Geographic Society gave me an explorer's award
My heart, though, lay in the jungle of Vietnam, not the jungle of the city
The Colonial Health Service gave me a role
But it involved wearing a uniform as an officer
It was time for another expedition
To gain materials, I bartered Swiss music boxes for elephants
However, I was fortunate to survive an encounter with Vietnam rebels
A more peaceful life was required
By 1893, I founded a small colonial village at Langbiang
It was on a high plateau a long way from city life
I also found the source of the Dong Nai River
As well as visiting Bombay to find resources
My work with the colonial service continued with other tours
Bubonic plague was rife in Hong Kong, and mainland China
Dr Kitasato Shibasaburo from Japan was there to help
He found the plague bacillus, and I replicated his work the next week
This breakthrough was reported in Paris by Emile Duclaux
As a result, I returned to France to give some lectures
After that, I returned to Indochina where I made my home

Continuing my medical work and research in bacteriology
In 1895, I established a laboratory at Nha Trang
I wanted to find the cause of the Black Death
It seemed an unlikely place for research, with few scientific resources
I prepared serums to try and counteract plague in human beings
Also, I studied cattle diseases, tetanus, cholera, and smallpox
It led to me establishing a Pasteur Institute there
This was a great development in a poor country



Home of Dr Yersin in Vietnam

I also introduced the rubber tree to Indo-China
This import, from Brazil, was to have a big benefit to the economy
In addition, it was a pleasure to help set up a medical school
The local people had few medical facilities
The school was established in Hanoi, and I was the first Director
Once this was achieved, aged 60, I decided to return to Paris
Research led to some animals being immunized against plague
This was done via injecting dead plague bacteria

However, living in the city was not for me
On returning to Nha Trang, I worked with the poor people
Then, came the breakthrough discovery, later called 'Yersinia Pestis'
It resided in rodents and could be transmitted to people by fleabites
Once the bacterium reached the lungs, it was invariably fatal
I developed an anti-plague serum
Could this be the way to prevent the dreaded killer?
We tried it in areas of high infection
It reduced the death rate from 90 per cent to seven per cent
This was achieved with modest facilities in a poor country
In addition, there were of course many social problems
I was moved by the terrible conditions to try and assist
Particularly the children, who suffered from many diseases
Malaria was a persistent problem
My efforts focused on gaining and distributing quinine
It was not a cure but helped
In addition, I produced navigation charts of the local waters
The Indochina Meteorological Office used them to improve safety
The people of the area appreciated what I did
The locals called my home Lau Ong Nam (Home of Fifth Uncle)
Improving local conditions was important
New grains and soil conditions were researched
Help with training and educating people was appreciated
My health, however, was deteriorating
Despite this, I kept working to help the people of Vietnam
It was my adopted home and they were my adopted people
However, I wished that I could have contributed earlier
So many people worldwide would have been saved
No doubt, the Black Death will reappear again
So will tuberculosis and other diseases
Such infections may disappear, but never die
We need to be vigilant
Prevention is essential
That requires education for all and continued research.

Areas of Contribution

Experimental Researchers - see pages 140-143

Richard Bright
Specialism: Physician – Nephrologist.
Known for: Pioneer of kidney research.

William Harvey
Specialism: Anatomy and Blood Researcher.
Known for: First to discover how blood circulates through the human body.

Field Researchers - see pages 143-152

Robert Koch
Specialism: Physician – Immunologist.
Known for: Bacteriology and isolation of anthrax, tuberculosis and cholera bacillus.

John Snow
Specialism: Epidemiology.
Known for: Anaesthesia and locating the source of the London cholera outbreak to form a new geographical approach to establishing the cause of diseases.

Priscilla White
Specialism: Diabetes Specialist.
Known for: Pioneer regarding the treatment of Diabetes in pregnancy.

Alexandre Yersin
Specialism: Bacteriology and Virology.
Known for: Co-discoverer of Yersinia Pesti, the bacillus responsible for the bubonic plague.

William Osler
Specialism: Medical Educator.
Known for: Taking students into the wards of hospitals to educate them via action learning on the importance of communicating with the patients.

Nurses - see pages 152-159

Edith Cavell
Specialism: Nursing.
Known for: First World War nurse and pioneer of modern nursing.

Florence Nightingale
Specialism: Nursing.
Known for: Crimean War Nurse. Pioneer of modern nurse training. Author of books on nursing.

Irena Sendler
Specialism: Nursing.
Known for: Saving Jewish children from the Warsaw Ghetto in the Second World War.

Physicians - see pages 159-173

Ernesto Che Guevara
Specialism: Physician.
Known for: Author and Revolutionary Leader. Official doctor of the Cuban rebel army, Cuban Minister of Industry from 1961 to 1965 and political revolutionary leader in the Congo and Bolivia.

Edward Jenner
Specialism: General Practitioner and Microbiology.
Known for: Pioneer of smallpox vaccination treatment.

Albert Schweitzer
Specialism: Musician and Physician.
Known for: Music, Philanthropy, Theology, and Medical Practitioner at Lambarene, Gabon and his philosophy of "Reverence for Life."

Ignaz Semmelweis
Specialism: Obstetrician and Hygienist.
Known for: Introducing disinfection standards.

James Simpson
Specialism: Anaesthetist.
Known for: Use of chloroform as an anaesthetic during surgery.

Benjamin Spock
Specialism: Physician, Writer and Political Activist.
Known for: His media promotion of health and writing one of the biggest selling books of all time titled *Baby and Child Care*.

Surgeons - see pages 173-180

Christiaan Barnard
Specialism: Cardiology.
Known for: First successful human-to-human heart transplant.

James Lind
Specialism: Military surgeon and nutritionist.
Known for: Prevention of maritime diseases through naval hygiene and nutrition.

Joseph Lister
Specialism: Surgeon and Hygienist.
Known for: Surgical sterile techniques and medical ward hygiene.

Mary Walker
Specialism: Military Surgeon.
Known for: First Female US Army Surgeon.

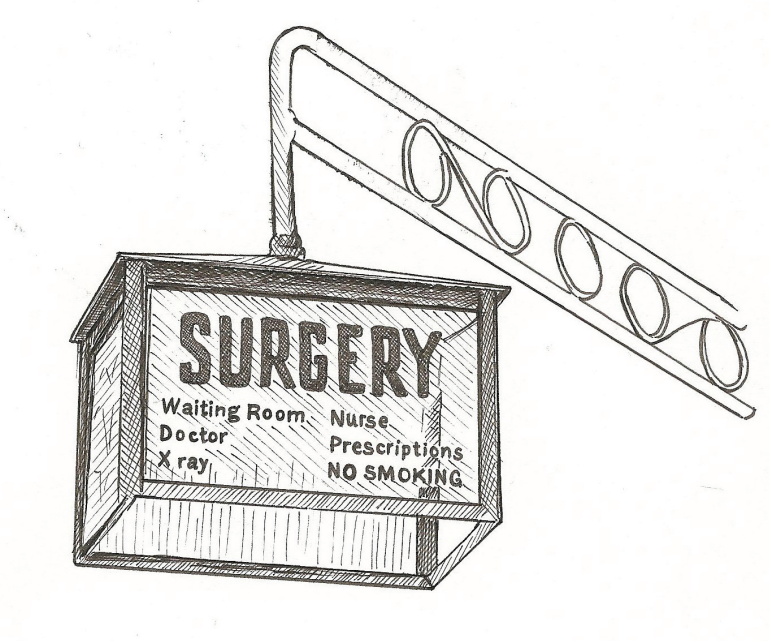
Women's Health Specialists - see pages 180-187

Elizabeth Blackwell
Specialism: General Medical Practice and Health Organizer.
Known for: First female to be qualified as a doctor in the USA and first registered female doctor in the UK. Also, her work as a pioneer in educating women in medicine.

Elizabeth Garrett
Specialism: General Medical Practice and Women's Health Organizer.
Known for: Founder of The Women's Hospital.

Margaret Sanger
Specialism: Writer and Women's Health Advocate.
Known for: Health organizer, writer and women's rights activist.

Kato Shizue
Specialism: Politician, Women's Health Organizer and Author.
Known for: First female elected to the Japanese Diet and civil rights leader for women's health.



Career Notes

Imagine that you were born in the year 1500 and took ill or broke a leg. There were few doctors and no formally qualified nurses. Medical knowledge was very limited and materials basic. Hospitals were few and far between and their methods of treatment were on many occasions worse than the disease or injury. This state of affairs did not change much until the late 19th Century, and even then the provision of health care was variable.

The people in this book are representatives of many amazing people who have changed our expectations of life, albeit there are places in the world where modern medicine is desperately needed.

We tend to give credit to doctors and nurses, yet all of the breakthroughs have come through research and many of them have been by scientists. They have made fundamental contributions to medicine by discovering the reasons behind illnesses and developing remedies. Of course, many of the early doctors were both scientists and physicians. Today, there is more of a separation of the roles, albeit many overlaps remain.

The career notes in this section are written in support of the Bioviews®, and provide background insight into the many individuals who have made major medical contributions. Each one of their stories is fascinating and gives us a glimpse of the challenges they faced.

The career notes summary section, later in the book, gives you a short description of the achievements and recognition for each of the people. It is not easy to sum up the work of the doctors and nurses as they did so much and crossed many boundaries. I hope you will enjoy the lives of these amazing people.

Richard Bright

Achievements

A decision to change University course in 1809, to qualify as a doctor, mapped the future of Bright's medical career. Following his return from a European tour which begun in 1813 (which also resulted in the writing of a book), Bright used his experience of poor social conditions to influence his work at Guy's Hospital. During the years 1827 to 1836, with the aid of John Bostock, profound discoveries were made about kidney disease and the notion that dropsy and coagulable urine were linked. The results concluded that the presence of albumin in urine was the primary symptom of a kidney disorder, which later became known as 'Bright's disease.' These results were innovative, and reports published in 1827 further expounded the disease. In addition, Bright studied many other bodily functions and diseases including epilepsy, malaria and jaundice. Bright's work on kidney disease has resulted in him being considered the 'father of nephrology'. He also became internationally acclaimed as a teacher, an author and a physician.

Recognition

Along with the international fame that he gained for his innovatory work and observations in bodily functions and disease, Bright also published several papers. His book *Reports of Medical Cases* Volume 1, 1827, explained his groundbreaking results relating to kidney disease. In a book published in

1831, the second volume of *Reports of Medical Cases*, Bright discussed renal disease. These papers were also in the first volume of the *Guy's Hospital Reports* of 1836. Bright also published a book in 1839 with Dr Thomas Edison entitled *Textbook: Elements of the Practise of Medicine.*

There is a plaque in Hungary which depicts Bright's memories of Lake Batalon when travelling through the country.

Bright was appointed Physician Extraordinary by Queen Victoria.

William Harvey

Achievements

William Harvey was born in England in 1578. When he was 20, he gained a degree at Cambridge University. Wondering what to do with his education, he packed his bags and journeyed to Italy. It was there that he met Fabricius, who is now known as the Father of Embryology. He showed William the work he was doing on anatomy.

This was a turning point in William's life and led him to study medicine at the University of Padua, which was considered the best medical school in Europe. Fabricius proved to be a major influence in William's career. In 1602, William graduated with honours. He then returned to England where he earned another medical degree from Cambridge University. William went in pursuit of work. He was offered and accepted a position as Physician in

Charge at Bartholomew's Hospital and worked there for most of his life.

William was also appointed as a Lumleian lecturer, employed by the Royal College of Physicians. The lectures were designed to enlighten people on the subject of anatomy.

In 1618, King James I asked William to become his Physician Extraordinary. During that time, William also served several aristocrats.

However, his research focused on anatomy and the circulation of blood in the body. He examined many animals to see how their blood flow system worked. In his medical work, he became fascinated with the way blood flowed through the human body, and began to challenge the principles set out by Galen that had lasted for over 1600 years.

When King James died, William became physician to Charles I. In 1628, William published his first book, *On the Motion of the Heart and Blood*. It was based on his findings regarding the circulation of blood throughout the human body. It created much controversy amongst his contemporaries but became known as one of the greatest contributions to physiology. In the face of adversity, he continued his work and his reputation was reinstated when he was re-elected 'Censor' of the College of Physicians in 1629.

King James urged William to join the Duke of Lennox on a tour of France and Spain. This was a mixed blessing. At one level it proved to be fruitful as William made many observations for his research. However, the toll of battle and the conditions made life miserable for him.

Most of William's theories came from experimenting with animal carcasses and human bodies. Upon his return to England, the King appointed him as Physician in Ordinary and it was his duty to accompany the King wherever he went. William's research also extended to the area of embryology. His theory was that an embryo builds gradually from its parts, rather than existing in a pre-formed state in the egg.

In his medical career when lecturing, William used a set of rules which included "supply only by speech what cannot be shown on your own credit."

William devoted his life to discovering the primary role of blood and how it circulates throughout the body. His revolutionary discoveries paved the way

for a new approach to medicine. His findings are now the foundation for research relating to the heart and blood.

Recognition

William was one of the first of those whose theories were actually recognized during his lifetime. The notes from his lecturing days have been preserved in the British Museum. There is also a hospital in Ashford, Kent, that has been named in his honour.

The William Harvey Research Institute at St Bartholomew's Hospital is named after him, as a tribute to this amazing medical leader. It is a research centre for cardiovascular and inflammation research and has been ranked one of the top 20 Pharmacological Research Institutions in the world. Also, the William Harvey Research Foundation was set up in his honour to support research in the field of circulation and its related diseases.

There is a bronze statue in memory of William, located in the town of his birthplace, Folkestone, Kent, England.

He was included in a list of the 'Ten Most Influential People of the Second Millennium' in the *World Almanac and Book of Facts*.

Books published by William Harvey include:

- *An Anatomical Study of the Motion of the Heart and of the Blood in Animals* (1628)
- *Essays on the Generation of Animals (1651)*

Robert Koch

Achievements

Robert Koch began his career as a medical researcher in the privacy of his own home. With no laboratory to support him, he battled to discover a cause and solution for the anthrax virus. Upon discovering groundbreaking results, Koch worked against the odds to convince other scientists and doctors of his findings, and as he was a relatively unknown doctor, his work was mainly

ignored. This did not discourage him and in 1876 a doctor named Cohn published his work in a botanical journal. This brought immediate fame for Koch and, eventually, in 1880 he received an invitation to conduct further research at a hospital in Berlin.

With a proper laboratory and the support needed, Koch was also able to discover the cause of tuberculosis. Still dissatisfied and conscious that millions of people were dying worldwide, Koch became an international medical researcher and through his travels he tackled cholera, the bubonic plague and malaria. In addition, after being appointed Professor of Hygiene in Berlin, he argued for the need of better social conditions in order to prevent disease. Despite facing prejudice and ignorance throughout his career, Koch vigorously defended his research and his four main points, 'Koch's Postulates', became fundamental principles, and are still used in medical practice today.

Recognition

The long-awaited recognition of other doctors in his field was an immensely important turning point in Koch's work as a medical innovator. He received many prizes for his outstanding achievements, including 100,000 German Marks for his work on cholera. In addition, he was invited to join many different medical societies and organizations throughout the world.

Koch became Professor of Hygiene in the University of Berlin and Director of the Institute of Hygiene in 1885. He was later appointed Surgeon General and Freeman of the city of Berlin, in 1890. In 1891 he became an Honorary

Professor of the Medical Faculty of Berlin and Director of the new Institute for Infectious diseases.

He received honorary doctorates from the universities of Heidelberg and Bologna and honorary citizenships of Berlin, Wollstein and Clausthal. In addition, Koch received the German Order of the Crown and the Grand Cross of the German order of the Red Eagle for his outstanding work in medicine.

In 1905 Koch received the Nobel Prize for Physiology of Medicine.

John Snow

Achievements

John Snow began his medical career at a young age. At just 14 he travelled to Newcastle in order to work as an apprentice for Dr William Hardcastle. In the years 1833 – 1835, he worked as an assistant in practise. It was the start of a long and distinguished career in medicine. He enrolled at London Medical School in 1836, and worked at Westminster Hospital in 1837 before becoming a member of the Royal College of Surgeons. In 1844, he received his degree from London University.

John Snow made it his chief mission to investigate disease in London. His instinct told him to challenge the 'miasma' theory of how infections spread. In 1849, he published a paper *On the Mode of Communication of Cholera*. He believed that drinking water was the cause of that infectious disease. Unfortunately, proof was hard to find. In 1850, Hassal also noted the poor state of drinking water in London.

Despite suspicions, no action was taken until 1854. In the Broad Street area, 500 people died in the space of ten days. John Snow mapped the area and found that most people who died lived near the water pump on Broad Street. Consequently, he ordered the removal of the water pump handle and deaths immediately declined. Following that, John published an intricate study in 1855 which investigated the water supply in Soho, London, and discussed the epidemic of 1854. That became the founding study in science of epidemiology.

In addition, John Snow was trained in the administration of chloroform and in 1853 and 1857, he delivered two of Queen Victoria's children with the aid of the anaesthetic.

Recognition

At the place of the water pump in Broad Street, there is a memorial of a pump with a plaque commemorating Snow and his 1854 study. In addition, in York there is a blue plaque commemorating the life and work of the leading physician.

In a British Poll in 2003 John Snow was awarded the title, 'The Greatest Physician of all Time'.

The John Snow College in Durham is named after him, as is the public health consulting firm John Snow. There is a pub called The John Snow on the corner of Broadwick Street and Lexington Street in the Soho area of London. As a result, the John Snow Society has been formed, the members of which are people who have visited the pub. There are 1500 members around the world. The organization is based at the Royal Society for Public Health.

Priscilla White

Achievements

Priscilla became a doctor at a time when it was unusual for a female to study medicine as there were so many barriers and restrictions. After being rejected to study at Harvard University, she was accepted at Boston's Tuffs University Medical School and graduated third in her class. Her passion to help people

triumphed over the adverse environment. Also, in her early years, Priscilla witnessed the many casualties arriving home from the First World War. This no doubt prompted her desire to assist people in need.

Priscilla was born into an era where the risk to both a mother and baby during pregnancy and birth was high. That increased if the mother had a diabetes condition.

Why were the death rates so high amongst pregnant women who had diabetes?

Priscilla dedicated herself to the research and management of the issues involved and the care of the women. Priscilla's main focus of research was on 'Type One' diabetes, the treatment of diabetes in pregnancy and diabetes in adolescents.

When she qualified as a doctor, Priscilla was recruited by Dr Elliott Joslin to work in his clinic at the Joslin Diabetes Centre, where he was studying the effects of diabetes. Priscilla worked there for 50 years and later became a founding member of the centre. During that time, she increased the success rate of babies being born to women with diabetes from 54 per cent to 97 per cent. She discovered the importance of strict blood glucose control in pregnant women.

Priscilla introduced a concept where patients are classified and monitored throughout the pregnancy, according to their level of risk. This is known as

the White Classification of Diabetic Pregnancies. She also assisted Dr Joslin in establishing The Clara Banton Birthplace Camp - a place where young girls with diabetes, and their families, could be educated about the disease. They also received the support necessary to endure the condition.

Recognition

In 1934, Priscilla wrote a book, *Diabetes in Childhood and Adolescence*. Thanks to her tireless work, people across the world have been educated in the importance of diet and exercise in maintaining a healthy body. Through her significant discoveries, women are able to control the disease during pregnancy and successfully deliver healthy babies.

In all, Priscilla supervised the deliveries of over 2200 women with diabetes and approximately 10,000 cases of Type One diabetes. She was named one of the 12 most outstanding women physicians of the world by Hobart and William Smith College in Geneva, New York. Priscilla was the first woman to be asked to give the Memorial Banting Lecture and also the first woman to receive the Banting Medal. In addition, she was invited to give the Joslin Memorial Lecture.

The Clara Banton Birthplace Camp is still in operation today. Due to its success, many other camps have been established and run year-round programs on the education of diabetes.

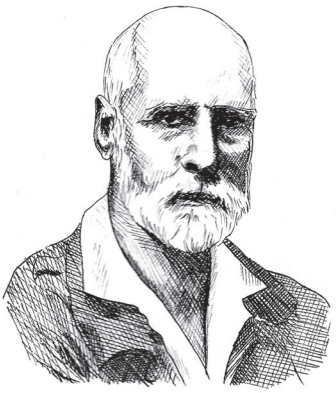
Alexandre Yersin

Achievements

Alexandre was born in Switzerland, to a family that originated from France. After extensive study in Switzerland, Germany and Paris, he began his career in medicine by entering the Louis Pasteur research laboratory in 1886. During that time, Alexandre worked with Emile Roux, who was a co-founder of the Institute. Together they discovered the diphtheric toxin which caused the diphtheria disease. Alexandre also took a keen interest in the cure of rabies after accidentally cutting himself while performing an autopsy on a rabies victim. By a twist of fate, Dr Roux had created a new vaccine that

saved his life.

Alexandre obtained a French nationality in 1888 in order to practise medicine in France. However, soon afterwards, he left French soil to embark on a new venture. He was sent by the French Government and the Pasteur Institute to Hong Kong to investigate the Manchurian Pneumonic Plague epidemic. It was there that he discovered the germ that caused the disease. It was called *Yersinia Pestis* and named in his honour.



Returning to Paris, Alexandre furthered his study of the bubonic plague, which had caused the death of more than 25 million people in the 14th Century. In 1895, he returned to Indo China with an anti-plague serum and set up a Pasteur Institute at Nha Trang. He experimented with the serum and produced staggering results. The death rates were reduced from 90 per cent to seven per cent. After making Vietnam his home, Alexandre also discovered a passion for agriculture. He opened two agricultural stations and introduced rubber and the quinine trees. A remedy for malaria was discovered, albeit the disease still exists today in many countries.

Recognition

Alexandre made a great impact on the world of medicine. He helped save the lives of millions of people through his outstanding discoveries. He is long-remembered by the Vietnamese people, where he was known as ‘Ong Nam’, meaning the Fifth Uncle. His house in Nha Trang has been turned into the Yersin museum and reflects his life, including exhibits of laboratory equipment and his library collection.

In the Hong Kong Museum of Medical Sciences Society, there is a bronze bust dedicated to the courageous work of Alexandre. Each year, the Consulate General of France offers an 'Alexandre Yersin Excellence Scholarship' to residents of Hong Kong.

In 1934, Alexandre became honorary director of the Pasteur Institute and a member of its Board of Administration. His important place in history is celebrated at his tomb site in Suoi Dau, where a pagoda stands in remembrance and now serves as a place of worship. To this day, the name Yersin continues to be venerated in Switzerland, France and Vietnam.

William Osler

Achievements

In his early years, William believed he was destined to follow in his father's footsteps and become a clergyman. However, he changed his mind and dedicated his time towards the study of medicine, commencing his studies at the University of Toronto in Canada. He then transferred to McGill University in Montreal.

In 1872, he graduated and travelled abroad to further his studies. Upon his return to Canada, William accepted a position as a medical lecturer at McGill University. After ten years there, he moved on to work as a professor of clinical medicine at the University of Pennsylvania. It was a challenging time, with many new ideas about hygiene in medicine and the treatment of patients being reviewed, as a result of research in Europe by people like Semmelweis, Pasteur and Lister.

In 1888, William accepted an invitation to be the first professor of medicine at the Johns Hopkins hospital. It was during that time that he focused on a hands-on approach to medical training. William believed in a more human approach when dealing with patients.

He began taking his students on the rounds of the wards. William encouraged his students to listen to the patients and make notes to discuss and diagnose their cases. This was an innovative approach for students as

the usual approach was gathering information from textbooks. He believed that sitting at the bedside of the patients was the most important part of a student's clinical experience.

In 1875, he established the Journal Club which was an opportunity for medical practitioners to share ideas and discuss new practices. In 1892, he published a book, *The Principles and Practice of Medicine*, which soon became the leading textbook in medical history.

In1904, he was invited by King Edward VII to the position of Regius Chair of Medicine at the University of Oxford. This less strenuous position allowed him to explore his extensive library and continue his research on the history of medicine. Although William is not usually remembered for his scientific contributions, one of his most notable discoveries was his observations on blood platelets. He was one of the first to identify blood platelets as a third type of blood corpuscle.

William was a pioneer in transforming medical education. He was held in great esteem by his peers and will always be an inspiration to all those in the medical field.

Recognition

William's name and service to medicine is commemorated in a number of ways.

He held the position of the President of Medical Library Association from 1901 to 1904.

Osler Library, which is part of the McGill University, is one of the most important libraries in North America. It contains 8000 historic works on the history of medicine.

The Osler Institute is dedicated to this great medical leader and continues to teach and practise the same philosophies of William Osler.

The William Osler Health Centre is named in honour of William. Due to his contributions to medicine, he was created a baronet in the Coronation Honours List of 1911. There are also a number of institutions and diseases named after William Osler.

He contributed to over 1500 scientific publications produced. He also published the following books:

- *The Principles and Practice of Medicine (1892)*
- *A Concise History of Medicine (1919)*

Edith Cavell

Achievements

In 1914, the Germans invaded Belgium as well as other countries as they raced westwards to the English Channel. Britain sent troops to defend the people of the invaded countries. The battles were brutal and the war took the lives of millions of people. One of them was Edith Cavell, assassinated by the Germans in cold blood.

Born in England in 1865, she was an accomplished linguist, musician and artist. Having trained as a nurse in London, she went to work in Belgium before the war. When the war began, she was in England caring for her family. She could have avoided the direct conflict of the war but instead she bravely volunteered to return to Belgium and the front line of the battle.

The Germans took over the hospital where she was in a senior role caring for the wounded of both sides. They alleged that she was helping allied soldiers

escape, put her on trial, convicted and executed her. Her achievements in helping the wounded of both sides did not stop them murdering Edith, whose mission in life was to help heal those who were sick and injured.

Recognition

Many memorials have been built to commemorate Edith's life and work. One was unveiled in October 1918 in the grounds of Norwich Cathedral, near a home for nurses which also bore her name.

Other memorials include:

- a stone memorial, including a statue of Cavell, adjacent to Trafalgar Square in London
- a memorial in Peterborough Cathedral, England
- an inscription on a war memorial, naming the 35 people executed by the German army outside the jail in which they were killed
- a dedication on the war memorial on the grounds of Sacred Trinity Church, Salford, England

A number of medical facilities commemorate her name and include:

- Edith Cavell Hospital in Peterborough, where she received part of her education
- Edith Cavell Clinic, Brussels, Belgium

- Cavell Building, Quinte Children's Treatment Centre, Belleville, Ontario, Canada, as well as wings of other hospitals
- University of East Anglia, Norwich, England, named its School of Nursing and Midwifery centre the Edith Cavell Building, when it opened in 2006

Many schools have commemorated her memory and there are other mentions of her name including:

- Cavell Gardens, Inverness, Scotland
- Mount Edith Cavell, a peak in the Canadian Rockies, named in 1916
- Cavell Corona, a geological feature on Venus
- The Edith Cavell Nursing Scholarship Fund, a philanthropy of the Dallas County Medical Society Alliance Foundation, provides scholarships to exceptional nursing students in Dallas, Texas, USA
- There is a hospital in the Brussels borough of Uccle named after her
- A bridge in Queenstown, New Zealand, and a guest house in Clevedon, Somerset (Cavell House), where she spent some of her childhood
- Radio Cavell 1350 am, broadcasting to the staff and patients on The Royal Oldham Hospital Charity Radio

Australians raised considerable money to perpetuate Edith's memory. In 1916, the Edith Cavell Trust Fund, officially inaugurated in Victoria, lasted nearly 60 years, until 1974. Her memorial still stands at the Melbourne, Victoria, Shrine of Remembrance. In New South Wales, a 'rest home' for nurses returning from both World Wars was established. The NSW Nurses' Association, found another significant and enduring way to commemorate Edith Cavell through The Edith Cavell Trust, established in 1992 to support nursing research and nurse education.

Florence Nightingale

Achievements

Early in her life, Florence made a decision to dedicate her life to try and save the lives of others. She wrote that her God had spoken to her and made

it clear what was required. From that day on, she focused on helping those in need. Despite opposition from her wealthy parents, Florence set forth to work with the poor and needy. She left her substantial home at Embley Park, Romsey, Hampshire (now a school) and started to train as a nurse, both in England and Germany.

The Crimean War brought her to prominence. She arranged for 38 women to travel to the battlefront, at Scutari, to nurse and assist the wounded. Despite opposition from both the military and medical sector, she persevered and became known as the 'Lady with the Lamp' as she toured the makeshift hospital facilities at night.

On her return, she set to work advising the British Government. She had a number of influential friends and apart from meeting senior politicians to influence Parliament, she was invited to conduct research on the requirements to improve health in the country.

In response to an invitation from Queen Victoria's Government, Florence was a major player on the Health of the Army Royal Commission, with Sidney Herbert as the Chairman. As a woman, Nightingale could not be appointed to the Commission, but she wrote the 1000-plus page report and *Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army*. The report and notes led to a major overhaul of army military care, to the establishment of an Army Medical School, and of a

comprehensive system of army medical records.

In 1859, 45,000 pounds received from the Nightingale Fund was used to set up the Nightingale Training School at St Thomas' Hospital on 9th July 1860. It is now called the Florence Nightingale School of Nursing and Midwifery and is part of the University of London King's College. The first trained Nightingale nurses began work on 16th May 1865 at the Liverpool Workhouse Infirmary.

Florence wrote many documents including *Notes on Nursing,* published in 1860. She spent the rest of her life promoting the establishment and development of the nursing profession and organizing it into its modern form.

In 1869, Nightingale and Dr Elizabeth Blackwell opened the Women's Medical College in London. In addition, in the 1870s, Nightingale mentored Linda Richards, America's first trained nurse, who established high-quality nursing schools.

In her later life, Nightingale made a comprehensive statistical study of sanitation in Indian rural life and was the leading figure in the introduction of improved medical care and public health service in India.

She also found time to write various works including *Cassandra* in 1851, and *Suggestions for Thought (to Searchers after Religious Truth), Mysticism and Eastern Religions, Florence Nightingale's Theology and Florence Nightingale's Spiritual Journey*.

Recognition

On 29th November 1855, a public meeting voted to give recognition to Florence Nightingale for her work in the war and led to the establishment of the Nightingale Fund for the training of nurses.

In 1859, Nightingale was elected the first female member of the Royal Statistical Society and she later became an honorary member of the American Statistical Association.

In 1883, Nightingale was awarded the Royal Red Cross by Queen Victoria. In 1907, she became the first woman to receive the Order of Merit and she

was given the Honorary Freedom of the City of London in 1908.

Four hospitals in Istanbul, Turkey, are named after Florence Nightingale.

A statue of Florence Nightingale stands in Waterloo Place, Westminster, London, near The Mall. Also in London, there is the Florence Nightingale Museum and another one devoted to her at Claydon House, her sister's family home.

There are three statues of Florence Nightingale in Derby: one outside the Derby Royal Infirmary, one in St Peter's Street, and one above the Nightingale-Macmillan Continuing Care Unit opposite the Derby Royal Infirmary. A public house named after her stands close to the Derby Royal Infirmary. In addition, there are many roads and schools named in her honour.

Irena Sendler

Achievements

We can all wonder what we would do if confronted with the dilemma of helping other people, when doing so would jeopardize your own life. That is what happened to Irena Sendler or, as she was known in her native Poland, Irena Sendlerowa. Born in 1910, she lived through difficult times leading up to and including the German invasion of Poland in 1939 and the Nazi determination to kill the Jews.

Living in Warsaw, Irena, who was a nurse and social worker, witnessed what was happening in the ghetto. She had special access as a health worker and decided to risk her own life time after time in order to rescue Jewish children. 'Zegota' was the name given to an underground organization assisting Jewish people. Irena joined it and was given the codename 'Jolanta'.

Over months, she constructed a trusted network of people who were willing to help her. After smuggling children from the ghetto, she placed them with priests, nuns and local families who offered to help. The names of the children were kept in a jar under the soil in her garden. In 1943, Irena was arrested and tortured by the Nazis, who then condemned her to death. The Zegota organization members had bribed a German officer to spare her life

by leaving her unconscious in a field where her friends found her. They took her to a safe place where she recovered from her injuries. It is estimated that about 2500 children were saved through her efforts.

Recognition

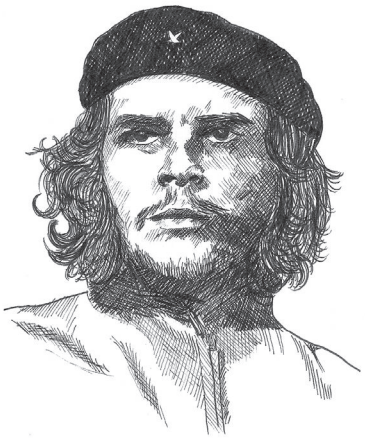
The Yad Vashem Holocaust Memorial Centre in Jerusalem is a huge site containing the Holocaust History Museum and memorial sites such as the Children's Memorial. The centre is dedicated to research, education, commemoration and documentation of the Holocaust, and hosts many events and exhibitions. In 1965, Irena was recognized by Yad Vashem as one of the 'Righteous Among the Nations'. It is an honour awarded to non-Jewish people who saved the lives of Jewish people during the Holocaust. A tree has been planted in her honour and stands at the entrance to the Avenue of the Righteous Among the Nations.

In 2003, Irena received Poland's highest civil decoration, which is called the 'Order of the White Eagle'. In Washington, she was given the Jan Karski Award 'For Courage and Heart' by the American Centre of Polish Culture.

Poland's Senate honoured Irena in 2007. By that time, she was 97 years of age and too frail in health to go to the ceremony. In the same year, she was given the 'Order of the Smile Award' for contributions to the love and care of children. However, Irena's amazing contributions were little known outside of Poland until 2006 when Anna Mieszkowska published a book, *The Mother*

of the Holocaust Children. The next year, four students at Uniontown, Kansas, heard of Irena and researched her work. They wrote a play called *Life in a Jar*. Initially, it was performed locally at a number of schools, but became known and led to recognition across the USA. They visited Poland to meet Irena before she died in 2008 at the age of 98.

Ernesto Che Guevara



Achievements

Ernesto was given the nickname 'Che' which is a local slang for 'pal'. Born in Rosario, Argentina in 1928, he was plagued by asthma attacks in his youth, and throughout his life. He gained entry to study medicine at the University of Buenos Aires and qualified to work as a doctor. However, the direction of his life was about to change.

After witnessing the corrupt Argentine military dictatorship in his teens, Che became a dedicated Marxist. He had a deep compassion for the poor people in his community. While registered at the University, he took time off to visit poverty-stricken communities across South America. He visited Argentina, Chile, Peru, Columbia and Venezuela. He spent a month at the San Pablo Leper Colony in Peru. On his travels he kept a diary, which was published as *The Motorcycle Diaries: A Journey Around South America*.

Che received his medical degree in 1953. He specialized in allergies. However it was not long before he dedicated his life to revolutionary causes. He moved to Costa Rica and began speaking out for the rights of the people and the unjust treatment of the underprivileged. His involvement with left wing activists led to attacks and eventually he fled to Mexico for his own safety.

In 1954, Che met Fidel Castro, another activist who wanted to bring about change via revolution. That was an encounter that would influence the rest of Che's life. He joined Castro's revolutionaries to overthrow the Batista government in Cuba. Che became the official doctor of the rebel army. When Fidel became President of Cuba in 1959, he offered Che the position as head of Cuba's bank. Three years later, Che became the Minister of Industry. Che, who spoke the French language, was also the key foreign representative of Cuba and toured European and African countries to raise support. On his return, there was a period of two years when he was not seen much in public life and wrote a book called *Guerrilla Warfare*.

He wanted to bring about the revolutionary change in other South American countries and set off for Bolivia where there were many people living in poverty. He tried to influence the Bolivian peasants to rebel against their Government, who were supported by the USA. During that time, Che was captured and he met his death in 1967, when he was executed by the Bolivian army.

Che will long be remembered as a passionate and celebrated revolutionary political leader who was a hero in the eyes of many people.

Recognition

The amazing life of Che has been celebrated across the globe. His legacy lives on in film, literature, music, art, fashion and sport. Che's image is legendary and is a symbol of freedom.

The Che Guevara Mausoleum is one example of a tribute to his life. It is visited by thousands of tourists every year. The Mausoleum is situated in Santa Clara, Cuba, and is home to the remains of Che and his six comrades who died alongside him. A commanding 6.7m bronze statue is at the entrance to the complex. There is also a memorial site in La Higuera in

Bolivia, which was the location of Che's execution.

In addition there are numerous establishments and institutions named in his honour. *Time Magazine* named him one of the 100 most influential people of the 20th Century.

Che published the following books:

- *Episodes of the Cuban Revolutionary War* (1956 – 58)
- *Guerrilla Warfare* (2006)
- *Reminiscences of the Cuban Revolutionary War* (2006)
- *The Motorcycle Diaries* (1996)

Edward Jenner

Achievements

As a child, Edward was subjected to a common 18th Century practice of variolating children with smallpox in order to prevent death from the disease later in life. That dreadful experience influenced his work when he qualified as a doctor, after training as an apprentice from the age of 13.

Jenner's interest in smallpox was based on seeing the terrible effects that it had, as it killed and maimed many people. He was keen to find a cure. He had noted in 1780 that what he called 'tru cowpox', from the young cowpox pustules, conferred immunity against smallpox. But what could be done with such information?

He continued to think about the issues. In 1791, he treated Mary Barge, who had contracted cowpox some years before. He inoculated her and noticed the reaction was different than the variolation process. Still, however, there was no breakthrough. Then, in May 1796, Sarah Nelmes from a local farm visited his clinic about a skin complaint. She told him that she could not contract smallpox as she had already recently had the cowpox.

That incident encouraged Dr Jenner to investigate and experiment. Consequently, he inoculated a young boy, James Phipps, with cowpox

obtained from Sarah Nelmes. After a few days, on July 1st 1796, he injected Phipps with smallpox. Jenner could not be sure that the treatment would work and it was a time of great concern and anxiety.

Upon success, this treatment was tested on 13 other patients. After further success, Edward Jenner published his results in 1798. Although he had achieved a medical breakthrough, there was little support from other doctors. It appeared the doctors using the variolation method viewed Jenner as competition.

It was not until success rates increased in London that the Government finally gave money for further research. In the years 1802 to 1807, the Government funds enabled work to expand. The French also accepted the method. Variolation was finally banned in England in the 1840s and vaccination was made compulsory in 1853. The total eradication of smallpox however, did not arrive until 1980.

Edward Jenner was also influential in his study of birds. In 1788, he was elected Fellow of the Royal Society for his study of the life of the cuckoo in the nest.

Recognition

The scourge of smallpox was devastating. In the 17th Century, it is estimated 60 million people died from the disease. Things got worse. In the 20th

Century, assessments show that 300 million people died from smallpox. During the 1950s, it is estimated that 50 million cases per year occurred. Yet, the way to inoculate against it had been known for centuries. The Chinese had developed methods and others followed. It is even said that Dr Jesty in England used inoculation against the disease before Jenner, but the latter made it known through professional papers and presentations.

Edward Jenner was remembered for being a humble and private man. He gained fame and recognition for his medical innovations. His work with Dr Hunter in London was a forming experience, where he made studies of heart disease which have been recognized.

Jenner's home in Berkeley, Gloucestershire, is now a museum and the horns of Blossom the cow can be found there. In addition, there are statues of him situated in Gloucester Cathedral, Kensington Gardens, and Hyde Park. A section of Gloucestershire Royal Hospital has been named the Edward Jenner Ward, along with a Jenner Ward at Northwick Park Hospital and a wing in St George's University of London.

Edward preferred the country life and turned down an invitation from Captain Cook to be the ship surgeon on his second voyage. Instead, he conducted a family medical practice in Berkeley and met with colleagues at various local society meetings. In his spare time, he played the violin.

In his lifetime, Edward Jenner saw the establishment of the Jennerian Institute in 1803; a society concerned with promoting vaccination to eradicate smallpox. In 1908 the Institute became the National Vaccine Establishment.

In addition, Dr Jenner was appointed as a Physician Extraordinary by King George IV in 1821. He also became involved in local politics and became Mayor of Berkeley, and a Justice of Peace. In 1823, his book *Observations and the Migration of Birds* was presented to the Royal Society and published.

An interesting point about Edward Jenner's career is that he was a practising surgeon for many years before gaining his medical doctorate by correspondence courses from the University of St Andrews in 1792, when he was 43 years old. He married and had four children and retired when his wife died in 1815. Dr Jenner will be remembered as a kindly man who was the

father of both immunology and a leading pioneer of virology.

He wrote, “I hope that someday the practice of producing cowpox in human beings will spread over the world... when that day comes, there will be no more smallpox.” The last reported case of smallpox was in Somalia in 1977. As a result, in 1980 the World Health Organization declared ‘the world and its peoples’ free of smallpox.

Albert Schweitzer

Achievements

Albert was born in 1875 in Kaysersberg, Alsace, Germany. He was the son of an evangelical Lutheran Minister. Albert had an amazing experience in his early years that would shape his destiny and philosophies of life. A friend enticed him to use his slingshot to knock down several birds in the tree above. Before carrying out the request, he contemplated his action and heard the sound of church bells and the sweet birdsong ringing in his ears. He threw down the slingshot and ran home. That incident would later turn into his famous personal philosophy, known as the ‘reverence of life’ which he would call upon for inspiration.

Albert lived with his great uncle and great aunt for a period of time, so that he could attend the local school. He enjoyed piano and organ lessons and was only nine years old when he performed for the first time in his father’s church.

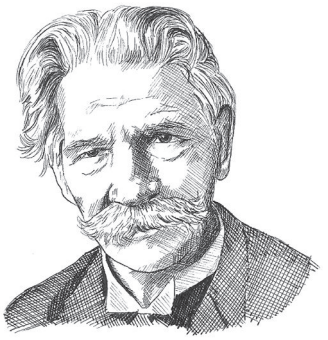
In 1893, Albert enrolled at the University of Strasbourg and enjoyed an illustrious career for the next 20 years as student and teacher in the fields of Theology and Philosophy. He obtained a degree in Philosophy in 1899. During that time, he followed his passion for music and became an accomplished organist. In 1905, he wrote a book about Johann Sebastian Bach, which became an instant success. Also, he wrote a book called *The Quest of the Historical Jesus*.

Albert was a devoted religious man. In 1905, he had a profound calling to leave his career and pursue a life of improving the conditions of mankind in Africa as a medical missionary. Therefore, he commenced his studies to gain

a medical degree. It was a long and hard journey as his previous studies had not been in the relevant fields. After seven years, in 1912, he obtained his medical degree from the University of Strasbourg.

For about 14 years, Albert wrote many letters to Helene Bresslau, who became his fiancé and then his wife in 1911. She was a qualified nurse and shared his beliefs and ambitions. They had a daughter. Albert and his wife went to Lambaréné in Africa in 1913. A hospital was built on the riverbank and later a leper colony, where they treated thousands of patients.

During the First World War, they were imprisoned for a year in a French internment camp as they were deemed to be Germans. On their release, in 1918, they travelled for the next six years throughout Europe, where Albert lectured and gave organ concerts. He also utilized that time to continue his writing with books titled *On the Edge of the Primeval Forest*, *The Decay and Restoration of Civilization*, *Civilization and Ethics* and *Christianity and the Religions of the World*.



In 1924, Albert returned to Lambaréné alone as his wife was ill. It was three years before she saw him. His pattern was then to spend a couple years in Europe and then return. However, during the Second World War, his wife joined him in Gabon, where they stayed until 1948. During his visits, he expanded the hospital and by the early 1960s it could treat more than 500 patients as he had recruited other medical missionaries from Europe.

Albert continued unselfishly serving people up until his death at the age of 90. He and his wife are both buried on the hospital grounds of Lambaréné.

Recognition

Many people have been inspired and influenced by Dr Albert Schweitzer, who dedicated his life to serving others. There have been several followers who have set up hospitals and colonies dedicated to Albert in various parts of the world.

He has been portrayed in films and, in addition, there are recordings available on CD of Albert playing the music of Bach. He also has several places dedicated to him, which include a monument in Wagga Wagga, Australia, and a memorial and museum at Weimar. Also, there is the Schweitzer House in Königsfeld, which has been turned into a museum, and another of his homes at Gunsbach, Alsace, is also a museum.

The Albert Schweitzer Fellowship was founded in the United States in 1940 to support Albert's medical work in Africa during the Second World War. In 1979, the Fellowship sent medical students to work in the hospital at Lambaréné. Today, there are 200 graduates selected annually to develop a project, where they undertake a challenge of helping a local community to improve health care.

Albert received many accolades in his lifetime, including the Goethe Prize of Frankfurt and honorary doctorates from many universities. He was honoured with the Nobel Peace Prize in 1952 for his philosophy of 'Reverence for Life'. With the 33,000 dollar prize money, he started the leprosarium at Lambaréné. In 1955, Queen Elizabeth II awarded Schweitzer the Order of Merit, which is Britain's highest civilian honour.

The books that Albert published are listed as follows:

At the Edge of the Primeval Forest (1922), *Memoirs of Childhood and Youth* (1925), and *Out of My Life and Thought* (1933).

Other people have also written about Albert Schweitzer. These include Erica Anderson in *The World of Albert Schweitzer* (1955), *Albert Schweitzer's Gift of Friendship* (1964), and *The Schweitzer Album: A Portrait in Words and Pictures* (1965). Two studies of Albert are Dr Joseph F. Montague's *The Why of Albert Schweitzer* (1965), which includes a bibliography of his writings, and Magnus Ratter's *Schweitzer - Ninety Years Wise* (1964). Also consult

Hermann Hagedorn, *The Prophet in the Wilderness* (1947; rev. ed. 1962), Robert Payne, *The Three Worlds of Albert Schweitzer* (1957) and Werner Picht, *The Life and Thought of Albert Schweitzer* (trans. 1964).

Ignaz Semmelweis

Achievements

Ignaz Semmelweis is considered a pioneer of antiseptic procedures. His important work also gained him the title of 'Saviour of the Mothers'. Ignaz Semmelweis was born in Budapest. He began studying Law at the University of Vienna in 1837, but soon changed to study Medicine. He was awarded his degree in 1844.

After qualifying, he became an assistant at the maternity clinic in the Vienna General Hospital in Austria. Ignaz was disturbed to find that death by puerperal, or 'childbed' fever, was a common consequence of childbirth. Ignaz analyzed the statistics and found that death rates had been as high as 15 per cent a year in one hospital, and one in four deaths at Wurzberg. Women giving birth at home, or on the street, were more likely to survive.

Following the death of Dr Kolletschka, in 1847, an autopsy was taken out on the body. Ignaz Semmelweis was able to determine two important facts from this. Firstly, one of his fingers had been cut by a surgical implement.

Secondly, there were signs of a similar infection to puerperal fever. Using this as evidence, Ignaz insisted that students and doctors wash their hands in chlorinated lime.

The death rate in his hospital reduced from 12.24 per cent to 2.38 per cent. Even so, some senior doctors still refused to carry out the practice, as they felt it to be inefficient and unnecessary. In 1848, Ignaz asked for all instruments to be washed in carbolic acid and again the death rate decreased.

From 1851-1857, due to a disagreement in Austria, Ignaz worked at the St Rochus Hospital in Vienna. He was dismissed from the Vienna General Hospital, as his methods were seen as too extreme. While he was at Rochus, the death rate decreased. Semmelweis' discovery and advice was still mainly ignored by other practitioners. In 1861, he began writing a book and explained that puerperal fever was both infectious and contagious.

Despite the statistics in Ignaz's favour, his contemporaries continued to doubt him. In 1865, he was committed to an asylum and died from injuries obtained there.

Recognition

In 1879, Pasteur developed the germ theory and offered a theoretical explanation for Ignaz Semmelweis' findings. Following his death, his theories eventually became widely acknowledged and he earned widespread recognition. Semmelweis' birthplace in Budapest is now a historical museum and library honouring the life and work of the physician.

In addition, the Semmelweis University in Budapest, which focuses on medicine and health, is named after Ignaz. There is a hospital for women in Vienna named the Semmelweis Clinic. In 2008, Semmelweis was selected as a motif for an Austrian commemorative coin.

The term the 'Semmelweis Reflex' is a metaphor for human behaviour characterized by a reflex action. It symbolizes the rejection of new knowledge because it differs from normal belief or paradigms.

The International Semmelweis Society is so named because it defends doctors from unfair attack.

James Simpson

Achievements

James Simpson was born to a baker's family in Scotland. He was no stranger to hardship. When he was nine, his mother died. Through a practical apprenticeship system, he qualified as a village doctor at a young age. In 1832, he gained a medical doctorate, which in those days was a bit easier to do than it is today. He set forth in various aspects of medical work before specializing. In 1839, he became Professor of Midwifery at Edinburgh University.

After witnessing surgery without anaesthesia, James was distraught. He made reducing pain in childbirth his aim. Initially, he tried mesmerism, but that proved unsuccessful. In 1846, the notion of using ether to relieve pain came from overseas. Although that method was effective, James sought a less irritant substance. Shortly afterwards David Waldie, a chemist, suggested the use of chloroform.

In November 1847, James Simpson gave a public demonstration of the proposed anaesthetic. Following that, he published a paper on *Account of A New Anaesthetic Agent*. The first patient on which he used it gave birth within 25 minutes, stating that it was a painless delivery. The discovery of chloroform as a superior and effective anaesthetic met fierce opposition from both colleagues and priests. It was seen as both unnecessary and unethical as

an intervention in natural processes.

Thankfully, these arguments were not strong enough to overpower the positives, and within weeks the new anaesthetic had replaced ether. Chloroform did not come without its risks and in 1848 a patient died when administered too strong a dosage. That encouraged James to insist that all doctors must be highly trained before being qualified to administer the substance.

In 1853, Prince Leopold was the first royal child to be born under chloroform when Dr John Snow administered it to Queen Victoria.

Alongside that outstanding breakthrough, James Simpson also developed new techniques for childbirth including uterine sound devices, long forceps and wire structures.

Recognition

James Simpson's reputation was such that he delivered babies for patients from India, America and Australia.

When he died in 1870, it is said that over 100,000 mourners lined the streets of Edinburgh.

There is a plaque and memorial bust commemorating James Simpson in Westminster Abbey. In addition, there is a statue in Prince Street Gardens and there is also The Simpson Memorial Maternity Pavilion in Edinburgh.

James Simpson was the first man to be knighted for service to medicine, when Queen Victoria invested him in 1866.

Postscript

In 1911, Levy showed chloroform could cause cardiac fibrillation. There were dangers and in 1934, Killan showed that fatalities were between 1 in 3000 to 6000. New methods were needed and the use of nitrous oxide was increased. The use of chloroform declined further when hexobarbital was discovered in 1932.

Benjamin Spock

Achievements

Benjamin was born in 1903 in Connecticut, USA; the eldest of six children. His parents involved him in the upbringing of his siblings. That practical experience would prove instrumental to his future career.

Benjamin's early education began at Phillips Academy, followed by the study of literature and history at Yale University. During that time he showed a natural talent in athletics, particularly in rowing. He became a part of Olympic history when he was part of the USA rowing team that went on to win a gold medal at the 1924 games in Paris.

Benjamin began studying medicine at Yale University for two years. He then transferred to Columbia University's College of Physicians and Surgeons, where he graduated first in his class in 1929. Specializing in paediatrics, he also studied psychoanalysis. He wanted to gain a better understanding of children's psychological needs. In his day, Benjamin was the only paediatrician to have that extra qualification, which made him stand out from the rest.

He taught paediatrics at Cornell Medical College and was a consultant for the New York City Health Department. In the 1940s, he held strong opinions about issues such as the sleeping position of babies and he also advocated the circumcision of males. However, later in his life, after fathering two sons, he changed his opinion about male circumcision.

Between 1944 and 1946, he served as a medical officer in the navy. The next phase of his life involved marriage, followed by the research and writing of his bestselling book, *The Common Sense Book of Baby and Child Care,* which was published in 1946. His book was so successful that during his lifetime, it sold more than 50 million copies, making it second in sales to the *Bible*.

Benjamin's theories were revolutionary and instrumental in teaching parents to have self belief and to enjoy parenting. Between 1951 and 1955, he became a Professor of Child Development at the University of Pittsburgh.

He was also involved in politics. He opposed the Vietnam War and in addition, he was involved in protests against nuclear weapons. At times, he was arrested. In 1972, he showed his political determination when he ran for President on the People's Party (an independent political party) ticket.

Having divorced from his first marriage, Benjamin married for a second time in 1976 to Mary Morgan. Together they co-authored the memoir *Spock on Spock*. He taught child development at Western Reserve University in Cleveland, Ohio for 12 years and wrote many more successful books on child care. He lectured around the world and also hosted a television programme on family issues. His passion for children's needs continued throughout his career.

The legacy of Benjamin Spock will live on for generations to come. It is evident that many children and families benefited from his knowledge and methods of practical parenting. His book, *Baby and Child Care* was the most influential parenting book ever written. It was revised several times throughout the years, as Benjamin wanted to keep up with the changing ideas and attitudes in parenting.

Recognition

The PCRM (Physicians Committee for Responsible Medicine) established an award named 'The Benjamin Spock Award for Compassion in Medicine' that recognizes dedication to compassion in medical practice.

In 1991, Benjamin received the first Human Rights Award from the International Symposium on Circumcision.

Benjamin wrote several successful books which include:

- *Baby and Child Care* (1946, with revisions up to eighth edition, 2004)
- *A Baby's First Year* (1954)
- *Feeding Your Baby and Child* (1955)
- *Dr. Spock Talks With Mothers* (1961)
- *Problems of Parents* (1962)
- *Caring for Your Disabled Child* (1965)
- *Dr. Spock on Vietnam* (1968)
- *Decent and Indecent* (1970)
- *A Teenager's Guide to Life and Love* (1970)
- *Raising Children in a Difficult Time* (1974)
- *Spock on Parenting* (1988)
- *Spock on Spock: a Memoir of Growing Up With the Century* (1989)
- *A Better World for Our Children* (1994)

Christiaan Barnard

Achievements

Christiaan Barnard dedicated his life and work to the medical profession and his achievements have had a profound influence on the world of cardiac surgery. In 1946, Barnard qualified as a doctor and he practised medicine in Ceres, a poor area of South Africa, until 1951. After gaining his Master of Medicine degree in 1953, Barnard travelled to America to focus his study on heart disease which, on his return to South Africa, caused much opposition from political and religious groups. This was a taboo subject, therefore Barnard concentrated on kidney transplants and performed the first operation in South Africa in 1959.

Despite opposition, Barnard began to practise heart transplants on animals, which later led to the first heart transplant operation in 1967. Unsuccessful at first, Barnard did not give up and in 1969 his sixth transplant patient lived

for 23 years. Further research led to better immunology and the success rate of the operation improved. In his lifetime, Barnard performed 165 heart transplant operations and also wrote several books, including *50 Ways to a Healthy Heart* and *The Body Machine: Your Health in Perspective*. Barnard also designed artificial heart valves and developed surgical procedures relating to organ transplants.

Recognition

Following the first heart transplant operation in 1967, Barnard became internationally famous. He became known as the 'film star surgeon' and was either highly commended for his medical innovation or hugely criticized for the lifestyle he chose to embrace. In his career Barnard was promoted to Professor of Surgical Science in the Department of Surgery at the University of Cape Town in 1972.

He received many awards and invitations from around the world, including the Dag Hammarskjold International Prize and Peace Prize, The Kennedy Foundation Award and The Milan International Prize for Science. Christiaan also received the title 'Professor Emeritus' in 1984. In addition, he featured in a BBC documentary entitled *Knife to the Heart: the Man with the Golden Hands* in 1997.

The Christiaan Barnard foundation was set up in the hope of assisting the millions of children affected by rheumatic heart disease and also to help children in need of food and water.

James Lind

Achievements

In 1731, James Lind registered as an apprentice at the College of Surgeons in Edinburgh. His revolutionary medical career led him to the title of 'the Pioneer of Clinical Trials'. After becoming a surgeon's mate in 1739, he sailed to the Mediterranean, Guinea, and the West Indies. During this service, James witnessed the many dangers of battle and was disturbed to discover that many more sailors died from the deadly disease scurvy than they did from fighting the enemy.

In 1747, Admiral Anson set off on a voyage around the world with 1900 men and lost a catastrophic 1400 to disease. That same year, James felt compelled to investigate causes of death at sea. Whilst serving as a surgeon on *HMS Salisbury*, he carried out several experiments trying to find a cure for scurvy.

Twelve men, each showing symptoms of the disease, were selected from the crew and divided into six pairs. Each pair was given a different addition to their daily diet. James observed that those given citrus fruit made a remarkable recovery. Although the benefits of lime juice were already well known, James successfully established the superiority of citrus fruits above other remedies.

After retiring from the Navy, in 1748, James Lind went to Edinburgh University to take professional qualifications. Consequently, he wrote

academic papers that documented his crucial discoveries. In 1753, he published *A Treatise of the Scurvy* which highlighted the importance of citrus fruit in a seaman's diet. Also, in 1757 James published *An Essay on the Most Effectual Means of Preserving the Health of Seamen in the Royal Navy*, which analyzed conditions in sick bays. He advised that space and cleanliness were of the utmost importance, in order to keep the spread of disease under control.

When appointed to the position of physician at the Royal Naval Hospital in Portsmouth, James began to have a more direct influence on the life of seamen. His advice led to better ventilation on ships, better clothing and safer drinking water. In 1763, James published work on typhus fever. In an essay published in 1768, *An Essay on Diseases Incidental to Europeans in Hot Climates*, he assessed diseases found in different colonies and advised the best way to avoid becoming infected.

His work influenced Captain Cook, who used some of the advised methods on his epic journeys around the world during the late 1760s and 1770s. None of his crew died from scurvy. In addition, Captain Blane gave citrus fruits to all of his crew in 1794. At that stage citrus fruits were issued to all of the Royal Navy fleet. It had become apparent that the Government's main focus had been on building ships, rather than on the health of sailors. Despite the clarity and importance of James Lind's research, his discoveries were not implemented fully until after 1795.

Recognition

James Lind was appointed Knight Commander of the Order of the Bath on 2nd January 1815. He also received a Knighthood on 5th April 1805 for his service.

The James Lind Alliance (JLA) is named in honour of his outstanding work as a clinician. This organization supports both patients and clinicians in confronting and identifying issues relating to uncertainty about the effects of various treatments.

The James Lind Library has been established to help people understand fair tests of treatment in health care. The library is dedicated to the patients and professionals who have contributed evidence about the effects of treatments

in health care. It contains texts that go as far back as 1550 BC. The library has been created by The Royal College of Physicians of Edinburgh.

James Lind had many articles and books published and perhaps the most celebrated are his 1753 text referred to above, titled *A Treatise on the Scurvy*, and his 1763 work on managing the typhus disease, plus his work on tropical diseases.

Joseph Lister

Achievements

Joseph Lister has become known as the 'Father of Antiseptic Surgery'. The title has been afforded to him due to his innovatory work in the field of preventative medicine. He devoted his medical research to trying to understand why, after successful operations, many patients died from what was termed as 'ward fever'.

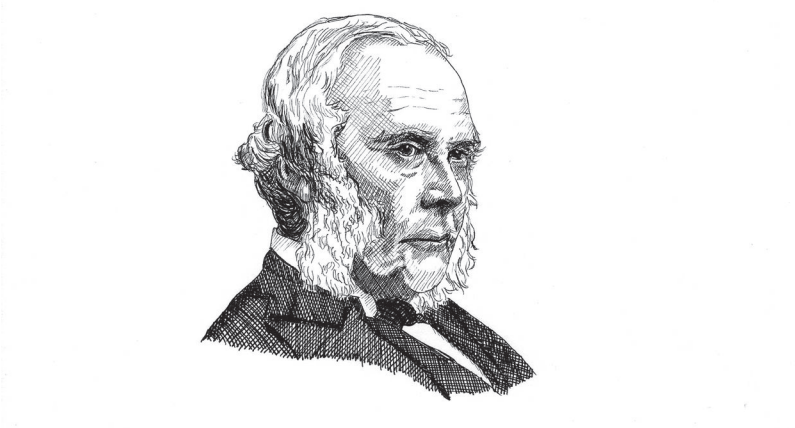
Previously, Ignaz Semmelweis had argued that if a doctor went from one patient to the next without washing their hands and instruments, they risked transferring deadly disease between bodies. He introduced carbolic for hand washing into his own wards and death rates dropped dramatically. Despite this, Semmelweis' findings were largely ignored.

Joseph Lister, however, took the ideas seriously. Initially, he thought that microbes carried in the air caused disease to be spread throughout the wards. One of the preventatives that he used was to cover patients' wounds with a piece of lint coated in carbolic acid. That created an antiseptic crust of blood which formed around the wound. In addition, Lister developed a machine that pumped a mist of carbolic acid into the air, in order to sterilize the operation theatre. After putting these methods into action, deaths on Lister's ward reduced dramatically. For nine months, they were clear of sepsis. Some problems arose and the theatre machine was abandoned.

Joseph Lister though, insisted that surgeons had to wash their hands frequently with a mild antiseptic solution and white overalls were to be worn, so that all dirt could be visible. Lister also introduced the necessity of sterilizing surgical instruments with heat and carbolic acid. After publishing

his results in 1867, Lister's discoveries were gradually accepted, as his findings proved successful. Publicity was gained by an operation performed on Queen Victoria in 1871, which involved the use of anti-sepsis. In addition, in 1901, King Edward VII had his doctors consult Lister on the necessary medical procedure for an operation.

As the industrial revolution improved the quality of life in Britain, more funds were available for hospitals, and it was possible to truly embrace Lister's teachings, thus improving death rates and life expectancies.



Recognition

The British Institute of Preventative Medicine was renamed as the Lister Institute in 1891. Joseph Lister had served as Chairman from 1895 to 1900. In addition, Lister received many prizes, awards and honorary degrees for his remarkable contributions to medical practice. He was elected as a Fellow of the Royal Society in 1860 and became the President from 1895 to 1901. He had many medical roles and was recognized as a leader in the field of preventative medicine.

He was appointed to the Chair of Clinical Surgery at the University of Edinburgh from 1869 – 1877 and at Kings College 1877 - 1892. Joseph was surgeon to Queen Victoria. He received many awards including honorary doctorates from the Universities of Cambridge and Oxford. In 1881, he was awarded the Boudet Prize. He became the Baron of Lyme Regis in 1883 following an award from the British Government. A monument to Joseph

stands at Portland Place, London, and another at Kelvin Grove in Glasgow. In the UK during 1965, two postage stamps were issued bearing his image to recognize his contribution to antiseptic surgery.

Mary Edwards Walker

Achievements

As a surgeon during the American Civil War, Mary broke through barriers to show what women could do. She was eventually caught by the enemy who said that she was a spy and imprisoned her at Castle Thunder Prison in Richmond. In times of peace, Mary continued to defy the conventions of the time to fight for women's rights. She did so in unusual ways, including dressing as a man in order to gain access to their meetings.

Mary also campaigned against alcohol and cigarettes in order to improve people's health. She was a strong supporter of equal rights for women, particularly the right to vote and also for equal rights for all creeds and races. Mary also spoke out about sex discrimination and pressed for educational opportunities for women. For young girls, she campaigned against tight-fitting garments and became President of the Dress Reform Association. Today, women wear trousers and jeans just like men and Mary was a leader in such developments.

Recognition

President Andrew Jackson awarded Mary the Congressional Medal of Honour in 1865 for her work as a surgeon during the war. In 1917, it was revoked to avoid paying her a full pension. Mary refused to return the medal and wore it until she died aged 86. In 1977, President Carter reinstated her Medal of Honour.

In the Second World War, a liberty cargo ship was named the *SS Mary Edwards Walker*.

On June 19th 1982, the US Postal Service issued a 20 cent commemorative stamp honouring Mary Edwards Walker's contribution to the nation as a humanitarian and patriot.

The medical facilities at the State University of New York are named in her honour. On the same grounds a plaque explains her importance in the Oswego community. Also, there is a United States Army Reserve centre named after her in Walker, Michigan. In addition, the Whitman-Walker Clinic in Washington, D.C. is named in honour of Dr Walker and the poet Walt Whitman, who was a nurse in D.C. during the Civil War.

Elizabeth Blackwell

Achievements

Elizabeth was the first female doctor to qualify at an American medical school, even though her applications were rejected 17 times before she gained entry. She then travelled to England and became the first female doctor accepted on the British Medical Register. With Elizabeth Garrett and others, she pioneered the development of health care for women and trained many female doctors.

Recognition

Elizabeth did not seek public recognition, however the Hobart and William Smith Colleges (previously Geneva Medical College) where she studied, founded an Elizabeth Blackwell Award during the 1950s. The award is

given annually to women who are considered to have made outstanding contributions to humanity. There is a monument with a sculpture of Elizabeth at this institution.

In New York, Elizabeth founded a hospital and trained women doctors. Although it closed in 1899, the hospital she founded, now vastly enlarged and renamed New York Infirmary-Strang Clinic, still operates on East 15th Street.

An original monument to her memory has been erected at Asheville, North Carolina in the United States. It is on the side of the Wachovia Bank Building on Patton Avenue, just across the street from the Drhumor Building.

In London, the Wellcome Historical Medical Museum in Wigmore Street provides the context within which Elizabeth Blackwell contributed to the development of medical practise in Britain.

High on the wall of Rock House, Exmouth Place in Hastings, England, is a white memorial tablet to Elizabeth who lived in the house for 30 years, from 1879 until her death in 1910.

Elizabeth Garrett

Achievements

As a young girl, Elizabeth decided that she wanted to be a medical doctor. Despite many rejections, she continued her quest and found a loophole in the procedures which allowed her to take the examinations. Against the odds, Elizabeth Garrett became the first female to qualify via the British Medical Association in 1873. She was the only female member for 19 years. Her determination to achieve her goal to help those who were ill is an inspiration.

She went on to develop many innovations in medical practise. In particular, she developed the New Hospital for Women and later the London School of Medicine for Women, with other women.

After retiring from medical practise, she entered local politics and became Mayor of Aldeburgh and the first female mayor in England.

Recognition

In 1918, The Hospital for Women in the Euston Road was named in honour of her. This hospital has now been amalgamated into the new University College Hospital, London.

The Elizabeth Garrett Anderson Award was established in September 2000 with the aim of honouring achievements of those contributing to headache research. This World Headache Alliance Award is sponsored by an unrestricted educational grant from GlaxoSmithKline.

Margaret Sanger

Achievements

Knowledge about health issues was once the preserve of doctors and nurses. Now we are expected to learn about the cause and prevention of illness and be actively involved in managing our own health. Margaret Sanger was a leader in this process, especially for women and girls. In particular, she focused on the issues related to sexual health.

By speaking out on subjects like birth control and abortion, she created a storm of criticism. As a result, she was imprisoned. That did not stop her crusade to provide women and girls with the information they needed to protect themselves. She founded the American Birth Control League, which later became the International Planned Parenthood Federation.

Perhaps Margaret's motivation came from her mother; from 18 pregnancies, only 11 children survived childhood. Margaret's mother eventually died from cervical cancer.

In due course, Margaret married and went to New York in 1910, after a fire burnt her house to the ground. She worked in the East Side slums of Manhattan to help the poor. Margaret also wrote a column, for the *New York Call,* entitled *What Every Girl Should Know.* The Comstock Law of 1873 outlawed the dissemination of contraceptive information and devices, as it was regarded as obscene.

This was the start of a running battle with conservatives, the Catholic Church and the police, who were forced to uphold the law. Eventually, Margaret was indicted for violating the USA postal obscenity laws in August 1914. Arrested, she was given bail and on her release decided to leave for England under the alias 'Bertha Watson'.

In 1915, William Sanger distributed a copy of his wife's publication, *Family Limitations* to a postal worker who was actually working undercover. He was jailed for 30 days while his wife was still in Europe for distributing 'obscene material'.

Margaret's visits to England and Holland sparked her international campaigns. In meeting after meeting, Margaret spoke to women about being mistresses of their own bodies. As a trained nurse, she spoke with authority but politicians, priests and policemen were appalled. Next, she went to Japan. Once again there was an outcry, mainly from men in high places. She was only allowed to address meetings in the privacy of people's homes. After that, she went to Australia to spread her message and rouse women to take control of their own health.

Her work in the USA continued and she found a loophole in the law as doctors could prescribe birth control information. Also, in 1923, under the auspices of the ABCL, she established the Clinical Research Bureau (CRB). Her work continued with energy and she continued to write. It was estimated that she received over 1,000,000 letters from mothers and women who were searching for birth control and health information. In 1932, she became the President of the International Birth Control Centre.

Margaret continued to speak out and advise women, and gradually public opinion began to change. However, the biggest breakthrough was the

invention of the contraceptive pill. Medical research gave women the power to decide when they wanted to have children. In the 1950s and 1960s, Margaret toured Africa and Asia, spreading the word about the new contraceptive pill and continued her work in the USA and elsewhere.

Recognition

Margaret Sanger was a prolific author and the titles of her books included:

- *What Every Mother Should Know*
- *Woman and the New Race* (1920)
- *The Pivot of Civilization* (1922)
- *Happiness in Marriage* (1926)
- *My Fight For Birth Control* (1931)
- *Margaret Sanger, An Autobiography* (1938)
- *Motherhood in Bondage* - a large compilation of actual letters that were written to Margaret Sanger in desperation by thousands of women who were begging to be given information on how they could prevent unwanted pregnancies for a vast number of different reasons.

Margaret, as an avid defender of free speech, was arrested at least eight times. It was a form of recognition that generated even more publicity for her cause. In contrast, during 1957, the American Humanist Association named her Humanist of the Year. Also a residential building is named after her on the Stony Brook University campus.

Sanger's story has been the subject of numerous movies, including:

- *Choices of the Heart*
- *The Margaret Sanger Story*
- *Margaret Sanger: A Public Nuisance*

The current debate and political advocacy between the pro-life and pro-choice lobbies reflects the modern view of Margaret's contribution. The good news is that major advances have been made in women's health services, in western countries at least. However, the moral arguments continue about birth control.

Kato Shizue

Achievements

Respect for tradition in Japan has always been strong and women were not expected to interfere in business or politics. Indeed, married women were supposed to focus on their roles as wives and mothers. That is what Kato Shizue did in her early years.

However, she observed the problems of other women who had little information and advice on health issues and decided to assist. When she went to the USA, she met Margaret Sanger who campaigned on birth control and women's health issues. On returning to Japan, Kato Shizue established clinics for women, but hostility from many politicians and other men made it difficult. For example, in 1927, she was imprisoned for opposing the Government's plan to expand the population.

It was after the Second World War that she was able to make progress. Japan had been badly defeated and food was scarce. Politicians realized the need for birth control for economic rather than health reasons. Also, Kato Shizue took the opportunity of the new democratic processes introduced and was elected to the Japanese Diet (Parliament). She served for 28 years from 1946 to 1974.

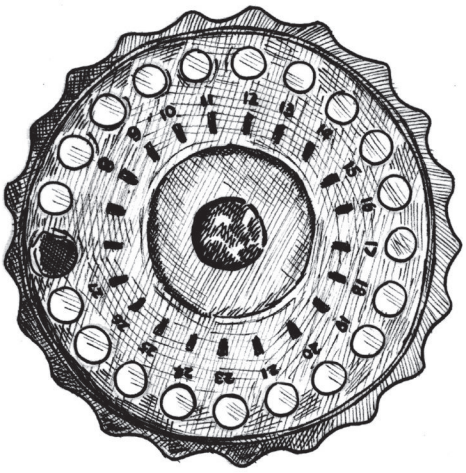
Her work focused particularly on women's issues. In 1948, she co-founded the Japan Family Planning Association. This was a difficult thing to do, but survived and now planned parenthood is an accepted part of education for women.

Recognition

In 1997, Kato Shizue celebrated her 100th birthday. A programme on Japanese television told the remarkable story of her life.

It reflected the other ways in which people had recognized her contribution to women's health. In 1984, she received the United Nation's Population Award. It was an acknowledgement amongst world leaders of her contribution to education for women on those issues.

The Kato Shizue Award, founded in 1996, "targets women's groups, women's organizations and/or individual women who are active in the movement toward improvement of sexual and reproductive health/rights of women. It also encourages the empowerment of women in social, economic, political and legal issues in developing countries and/or in Japan."



1960s contraceptive pill packet

Amazing Medical Developments

Why do people become doctors and nurses? In the BioView® stories presented in this book, we can get an insight into the motivations of some of the amazing people and their medical work. Following the career notes which sum up aspects of the lives and achievements, it is worth looking at some aspects of the medical profession.

Early Medicine

In the very early days, long before medical and nursing schools were developed, there was often a close association with religion. Some people claimed to have divine power to heal the sick. Indeed, the so-called 'witch doctors' that still practise in Africa believe they have supernatural powers closely related to their religious beliefs. It is a mysterious world. In many cases, it touches on shamanism, where the shaman communicates with the spirits. In various communities, shamans are still believed to have the power to treat illnesses.

Modern Implications

Before we dismiss this approach to medicine, it still exists in western society as well as others. Those who focus on mind over matter try to induce people to have positive mental states. There are good reasons for this, as it is well known that those who lose hope usually lose their life. In contrast, people who are optimistic often translate that attitude into behaviour that can affect their health.

The principle of the 'self-fulfilling prophecy' has been well established in psychological research. Events can sometimes be a function of what we wish and particularly what we believe will happen. Therefore, those who practice various forms of hypnotism, meditation and motivation transference can influence health. This is becoming an increasingly important part of medical practice, where much attention is given to improving the patient's state of mind. Pills and potions can only go so far, as the patient must ultimately take responsibility for their health.

Mental Health and Physical Health

Therefore, mental health is an integral part of physical health. Psychology and psychiatry are the main ways this impacts on medical practice. Today, more general practitioners have access to such specialists as part of their team. It is a long way from shamanism to psychology, which has a strong scientific foundation, but many of the desired outcomes can be the same. The patients should become more confident at being able to manage their lives to meet the challenges of both their environment and their physical condition.

However, when we think of doctors and nurses, we may think more of hospitals and surgeries. Of course, in the early days of medicine, those facilities were few and far between. Indeed, in most parts of the world that is still the case. It is mainly in the northern hemisphere that medical facilities are available. Large parts of Africa and Asia still do not have enough facilities for their growing population.

Yet, it is only in the last 100 years have we seen the development of effective medicine in the economically well-developed countries. Prior to that, it was the country doctor, often travelling by horse, who was the only hope of treatment. Those that were treated in hospital often contracted diseases they did not have when they entered. Ignaz Semmelweis, whose BioView® features in this book, noted that women having their babies in the street had a better chance of survival than those in many hospitals. That was only 150 years ago. For suggesting that the doctors were transferring disease to their patients and killing them, he was roundly condemned - despite the fact that he was right.

So when it comes to changing attitudes and ensuring changes are made, the doctors and nurses need to be open to change, particularly in a fast-moving world where new treatments are being discovered.

Hygiene

Medical work can be dangerous. After all, doctors and nurses know that most days they will be going to work with people who have infections and injuries. Therefore, one of the major breakthroughs in medicine was the improvement of hygiene. Joseph Lister, amongst others, led the way with Ignaz Semmelweis. However, many doctors ignored the findings and continued

surgical practise without sterilizing their equipment. The result was that more people became ill and died.

At that time, the perception of medicine was mainly one of curing rather than preventing illness. But, why did people become ill? Louis Pasteur proved that bacteria were transmitters of disease. Therefore, if they could be reduced then the number of people becoming ill would decline. Prevention was better than cure. Again, it took time before that approach was accepted.

Interestingly, the work of doctors and nurses was greatly aided by a person who was not directly involved in the medical profession. William Lever was an industrialist who focused on making soap. He was a great advocate for his product and advertised widely. Sales increased dramatically. As people washed their hands and their clothes more regularly the level of infection was reduced.

Action Learning

A lot of valuable information on the prevention of disease was gained by walking around and asking questions. For example, John Snow toured the streets of London searching for the cause of cholera. Although he had no scientific evidence on the cause, he found a solution.

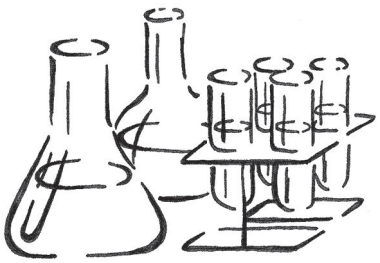
He asked people to stop drinking dirty water from a pump in Broad Street, London, and the death rate fell. He showed that effective medicine was as much about prevention as it was about cures. Indeed, Edward Jenner had done this long before with his vaccination efforts against smallpox.

Many of the major breakthroughs were made by observation and action learning. Semmelweis developed his proposals for improvement after observing doctors racing from the pathology room to the maternity wards without washing their hands. In the field of nursing, Florence Nightingale improved nursing conditions by on-the-ground observation and practical action.

Scientists and Medicine

It was scientists that brought the major change to the medical profession. Most of the great innovative developments in the 19th century came from chemists, not surgeons and physicians. Today, if you go to the doctor, he or

she will give you an examination and then write out a prescription. It may be a document for further tests, or it may be a script for some tablets. These are the result of complicated chemical research. The doctor focuses on diagnosis and prescription and patient benefits from the solution provided by pharmaceutical science.



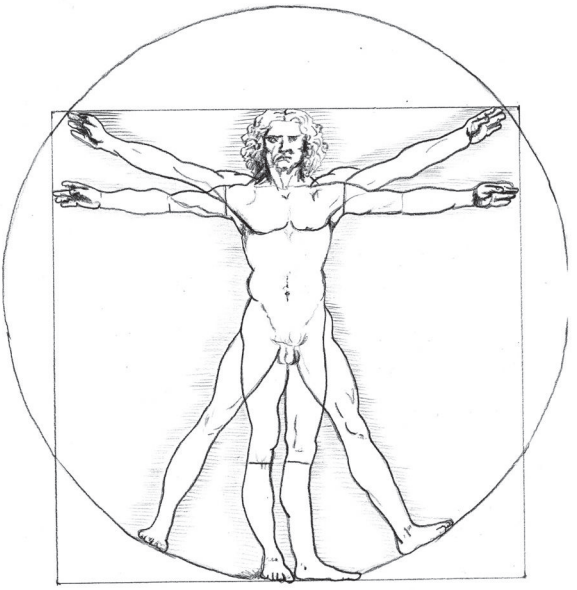
Penicillin is now a well-known treatment. Yet, the discovery came from a chance observation by Alexander Fleming which was mainly ignored by his peers. Only years later did the in-depth research support his discovery. The modern doctor and nurse rely on medical researchers to give them the weapons to fight disease. Yet, all doctors will tell us that we should try and prevent illness through regular exercise and a balanced diet.

Therefore, in studying amazing doctors and nurses, we should also look at the work of amazing scientists. Some doctors took on both roles. Robert Koch, who was a country doctor, used to do his research at home in the evening. It was dangerous work, as he was studying the causes of anthrax and ways to control it.

Health Education

In addition to finding the cause of disease or illness and then developing a solution, there is the vital element of education. Some of the people who have made significant contributions to medicine have been women's health advocators, such as Margaret Sanger and Kato Shizue. They provided information on birth control and had major political problems in both the USA and Japan where they worked.

Increasingly, the focus is on managing one's own health. Therefore, more attention is put on helping people understand how to keep healthy and how to recognize symptoms that need investigation. The above developments in the management of women's health led the way on that aspect of medicine.



The Vitruvian Man

Motivations

People become doctors and nurses for different reasons, but all of them assist people with mental or physical health. Some have said it is a vocation, in the sense that one has an internal voice that calls you to do such work. No doubt, many doctors and nurses feel a sense of duty to help others. Florence Nightingale was an example as she felt a divine calling to be a nurse.

Today, being a doctor or a nurse means being part of the medical profession that involves teamwork from specialized services. Both roles have high social status and standing. The roles are attractive to people who wish to gain a sound training and also a reasonably secure career.

In this book, we have covered the amazing lives and experiences of many people from various courses. I trust these notes will further help you understand the amazing people who changed the face of medicine.

Modern Hippocratic Oath

I swear to fulfill, to the best of my ability and judgment, this covenant:

1. I will respect the hard-won scientific gains of those physicians in whose steps I walk, and gladly share such knowledge as is mine with those who are to follow.

2. I will apply, for the benefit of the sick, all measures [that] are required, avoiding those twin traps of overtreatment and therapeutic nihilism.

3. I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug.

4. I will not be ashamed to say "I know not," nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.

5. I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know. Most especially must I tread with care in matters of life and death? If it is given to me to save a life, all thanks. But it may also be within my power to take a life; this awesome responsibility must be faced with great humbleness and awareness of my own frailty. Above all, I must not play at God.

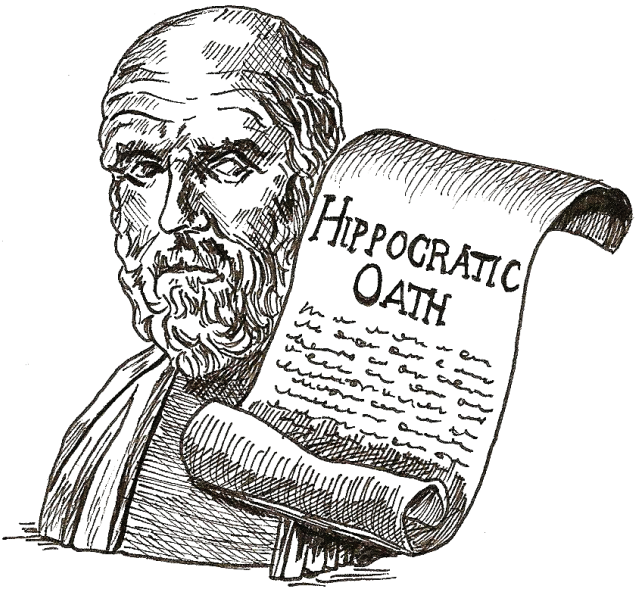
6. I will remember that I do not treat a fever chart, a cancerous growth, but a sick human being, whose illness may affect the person's family and economic stability. My responsibility includes these related problems, if I am to care adequately for the sick.

7. I will prevent disease whenever I can, for prevention is preferable to cure.

8. I will remember that I remain a member of society, with special obligations to all my fellow human beings, those sound of mind and body as well as the infirm.

If I do not violate this oath, may I enjoy life and art, respected while I live and remembered with affection thereafter. May I always act so as to preserve the finest traditions of my calling and may I long experience the joy of healing those who seek my help.

Dr. Louis Lasagna, former Principal of the Sackler School of Graduate Biomedical Sciences and Academic Dean of the School of Medicine at Tufts University - 1964



Doctors and Nurses Timeline

1578 William Harvey (d. 1657) – Anatomy and Blood Researcher

1716 James Lind (d. 1794) – Naval Physician and Researcher

1749 Edward Jenner (d. 1823) – Pioneer of Smallpox Vaccination

1789 Richard Bright (d. 1858) – Physician and Kidney Researcher

1811 James Simpson (d. 1870) – Anaesthetist

1813 John Snow (d. 1858) – Obstetrician and Epidemiologist

1818 Ignaz Semmelweis (d. 1865) – Hygiene Physician

1820 Florence Nightingale (d. 1910) – Nurse and Author

1821 Elizabeth Blackwell (d. 1910) – First Qualified Female Doctor

1827 Joseph Lister (d. 1912) – Surgeon and Anti-Sepsis Research

1832 Mary Walker (d. 1919) – Civil War Doctor

1836 Elizabeth Garrett (d. 1917) – Founder of The Women's Hospital

1843 Robert Koch (d. 1910) – Anthrax and Tuberculosis Research

1849 William Osler (d. 1919) – Medical Educator

1863 Alexandre Yersin (d. 1943) – Physician and Bacteriologist

1865 Edith Cavell (d. 1915) – First World War Nurse

1875 Albert Schweitzer (d. 1965) – Musician and Physician

1879 Margaret Sanger (d. 1966) – Women's Health Organizer

1897 Kato Shizue (d. 2001) – Politician and Women's Health Organizer

1900 Priscilla White (d. 1989) – Diabetes Specialist

1903 Benjamin Spock (d. 1998) – Physician, Writer and Political Activist

1910 Irena Sendler (d. 2008) – Second World War Nurse

1922 Christiaan Barnard (d. 2001) – First Heart Transplant Surgeon

1928 Ernesto Che Guevara (d. 1967) – Physician and Revolutionary Leader

Quotes and Sayings

**"It is infinitely better to transplant a heart
than to bury it to be devoured by worms."**

Christiaan Barnard

**"If society will not admit of woman's free development,
then society must be remodelled."**

Elizabeth Blackwell

**"I realize that patriotism is not enough,
I must have no hatred toward anyone."**

Edith Cavell

**"When I felt rather overcome with my father's opposition,
I said as firmly as I could, that I must have this
(a career in medicine) or something else,
that I could not live without some real work."**

Elizabeth Garrett

"After graduation, due to special circumstances and perhaps also to my character, I began to travel throughout America, and I became acquainted with all of it.
Except for Haiti and Santo Domingo, I have visited, to some extent, all the other Latin American countries.
Because of the circumstances in which I travelled, first as a student and later as a doctor, I came into close contact with poverty, hunger and disease; with the inability to treat a child because of lack of money; with the stupefaction provoked by the continual hunger and punishment, to the point that a father can accept the loss of a son as an unimportant accident, as occurs often in the downtrodden classes of our American homeland.
And I began to realize at that time that there were things that were almost as important to me as becoming famous for making a significant contribution to medical science:
I wanted to help those people."

Ernesto Che Guevara

"I hope that someday the practice of producing cowpox in human beings will spread over the world - when that day comes, there will be no more smallpox."

Edward Jenner

"If my efforts have led to greater success than usual, this is due, I believe, to the fact that during my wanderings in the field of medicine, I have strayed onto paths where the gold was still lying by the wayside. It takes a little luck to be able to distinguish gold from dross, but that is all."

Robert Koch

"But when it has been shown by the researches of Pasteur that the septic property of the atmosphere depended not on the oxygen, or any gaseous constituent, but on minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air, by applying as a dressing some material capable of destroying the life of the floating particles. Upon this principle I have based a practice."

Lord Joseph Lister

"No man, not even a doctor, ever gives any other definition of what a nurse should be than this - 'devoted and obedient'. This definition would do just as well for a porter. It might even do for a horse. It would not do for a policeman."

Florence Nightingale

"No woman can call herself free who does not own and control her body. No woman can call herself free until she can choose consciously whether she will or will not be a mother."

Margaret Sanger

"Do something wonderful, people may imitate it."

Albert Schweitzer

"Every child saved with my help and the help of all the wonderful secret messengers, who today are no longer living, is the justification of my existence on this earth, and not a title to glory."

Irena Sendler

"All pain is *per se* and especially in excess, destructive and ultimately fatal in its nature and effects."

James Simpson

"You and I may not live to see the day, and my name may be forgotten when it comes, but the time will arrive when great outbreaks of cholera will be things of the past; and it is the knowledge of the way in which the disease is propagated which will cause them to disappear."

John Snow

"The more people have studied different methods of bringing up children the more they have come to the conclusion that what good mothers and fathers instinctively feel like doing for their babies is the best after all."

Benjamin Spock

"No young lady, when she is being courted … for a moment supposes that *her* lover *can* … ever wish her to be his slave."

Mary Edwards Walker

"He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all."

William Osler

"Observe, record, tabulate, communicate. Use your five senses. . . . Learn to see, learn to hear, learn to feel, learn to smell, and know that by practice alone you can become expert."

William Osler

"The examination of the bodies of animals has always been my delight; and I have thought that we might thence not only obtain an insight into the . . . mysteries of Nature, but there perceive a kind of image or reflex of the omnipotent Creator himself."

William Harvey

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Amazing People Club Team

The following have contributed to the current publications of the Amazing People Club for which we express our appreciation.

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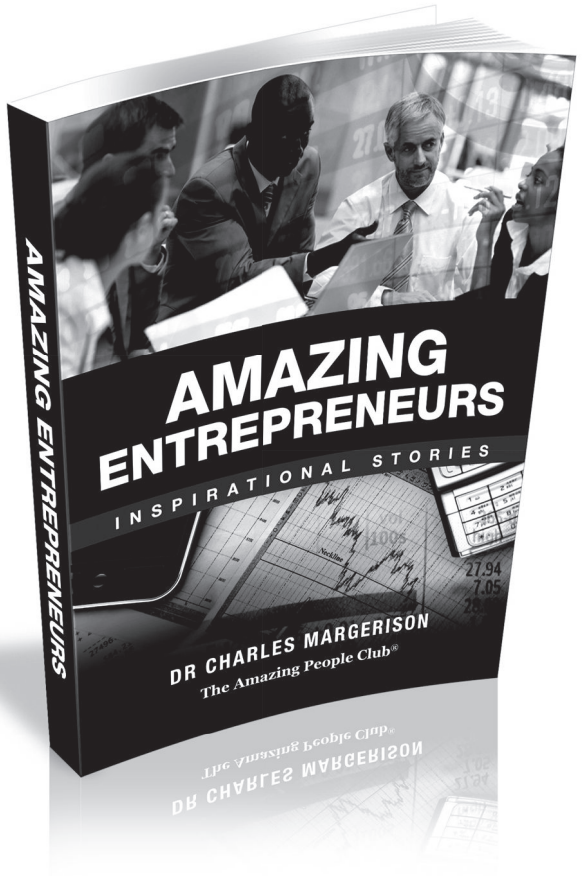

AMAZING ENTREPRENEURS

Were the people who developed successful businesses lucky or did they have special talents? In this book, you can meet some of the world's most famous entrepreneurs and perhaps be inspired to do likewise! Many of the people who made fortunes started in poverty. The founder of the Ritz hotels is one example and Henry Ford the car maker was another. You can find out how they worked their way upwards. How did women develop successful businesses? Helena Rubinstein found a sponsor for her skin care business and then made millions. Beulah Henry was an inventor, who found how to make money from her ideas. Meet others whose names are not so well known. For example Ray Kroc's entrepreneurial talents enabled him to grow McDonalds from a local burger joint into an international phenomenon. These and many other amazing stories are featured in this book and come alive through BioViews®.