Large-print book

Please do not remove from the gallery

Medicine and Bodies

Medicine: The Wellcome Galleries

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Medicine and Bodies gallery introduction

Understanding how our bodies work is the key to understanding and caring for our health. Over the centuries, we have invented many extraordinary tools and techniques to explore the way we function. From looking, listening, tasting and touching to measuring, scanning and dissecting, the human body has now been examined in microscopic detail. What we have discovered has transformed our approach to diagnosis, defining the way we think about medicine and ourselves.

Medicine: The Wellcome Galleries consists of five galleries, each looking at a specific area within medicine. There is a large-print book for each of the galleries.

Accessible features

Features for blind and partially sighted visitors

Three touchable objects are located in three zones in this gallery. They are accompanied by large-print and Braille labels, and audio descriptions are provided through headphones.

Audio content is delivered through single-ear listening cups and accessed using touch screens.

An audio description app called Audio Eyes is available on iOS devices for the Medicine and Information Age galleries. The app offers audio-only descriptions for selected exhibits and enables you to roam freely through these galleries. You can either download it from the app store or borrow a free device from the Information desk located at the Exhibition Road entrance.

Features for Deaf and hard-of-hearing visitors

Induction loops are installed in the listening cups providing audio content. Please look out for the induction loop ‘ear’ symbol for these exhibits and turn your hearing aid to the T setting. Transcripts and British Sign Language are also available for selected audio where signposted.

Accessible events

A programme of accessible events will be delivered within the gallery, including audio-described tours. Please refer to the Science Museum website for the schedule and additional details, or ask at the museum Information desk. These accessible events are part of a wider Medicine events programme for adults and children.

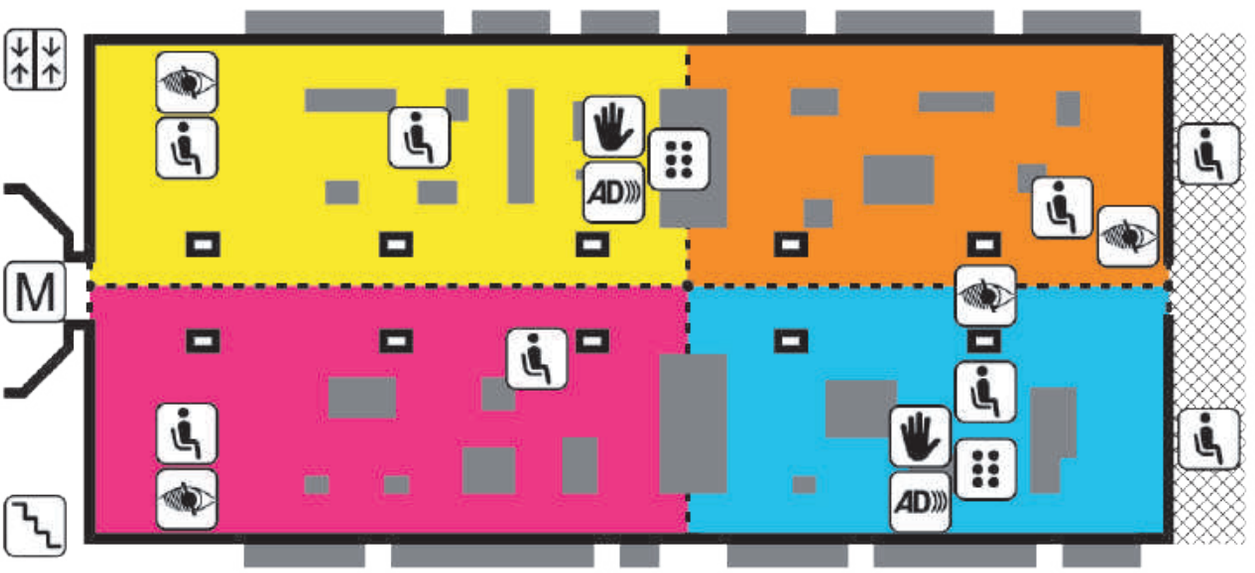
Wi-Fi is available throughout the gallery.

Gallery layout

The Medicine and Bodies gallery is located on one floor. It is a rectangular-shaped space that can be accessed from two entrances at opposite ends; Lift C and Stair C are at one end, the Exploring Medicine gallery is at the other. The gallery is about 18 metres wide and 40 metres long. Lifts and stairs near both entrances provide access to the rest of the museum.

The gallery is divided into four zones and visitors can browse through them as they wish. Each section is introduced by a star object and text (on tall red panels). Within each section are a series of display cases with important objects highlighted by cream-coloured text panels.

Gallery map



- Studying the Dead
- Measuring the Body
- Revealing Our Building Blocks
- Imaging the Body
- Wall
- Show case
- Medicine: The Wellcome Galleries (continued)
- M Main museum
- Seating
- Stairs
- Lift
- Large-print and Braille books
- Braille
- AD Audio Description
- Touch object

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Studying the Dead

Section introduction

The human body is fantastically complex, and we have been exploring how it works for many centuries. Dissecting the dead – cutting them open – was central to medical training and research by the 1500s. Dissecting the human body also raised wider questions about the nature of life, death and humanity.

From understanding how our organs function to charting the circulation of our blood, anatomists have revealed our complex architecture and mechanics. They have also paved the way for major medical advancements and thinking. Artists working alongside anatomists created detailed models of the findings, which could then be shared with students and the general public.

Object: Female wax anatomical figure
1818

The fresh skin tone and calm expression of this anatomical model sharply contrast with the dramatic exposure of her open chest. It is the work of Italian model-maker Francesco Calenzuoli, renowned for his precision and accuracy. He has re-created the body's vibrant colours, details as fine as thread veins, as well as major organs such as the heart. Some of the organs can be removed for closer scrutiny.

Florence, Italy
Donated by Oxford University,
Department of Human Anatomy
Science Museum Group
Object no. 1988-249

Object: Dissecting table

1750–1870

This dissecting table has a large hole for the head to rest in and smaller holes through which blood and other fluids can drain. There are also holes down the sides to tie the body down with cord or rope. The folding legs suggest the table could be moved easily from room to room, depending on where the dissection was held.

Europe
Lent by Wellcome Collection
to the Science Museum Group
Object no. A630937

Object: Iron cage to protect a body from grave-robbers

1801–1822

Grieving relatives in the 1800s rented heavy iron cages known as mortsafes to protect the fresh bodies of their deceased loved ones from being stolen and sold for dissection. Bodies were kept for a few days until they began to decompose beyond use, after which they were buried. Families who could not afford a mortsafe stayed awake to guard the body during the night.

Britain
Lent by Wellcome Collection
to the Science Museum Group
Object no. A600162 pt 1

Object: ‘The Anatomy of the Human Gravid Uterus’ by William Hunter

1774

These drawings record the dissection of a pregnant, or gravid, woman, carried out by anatomist William Hunter. He was a pioneer in obstetrics, the area of medicine that looks at childbirth and pregnancy. The illustrations are by Dutch painter Jan van Rymsdyk, who worked from plaster casts of the woman, taken before decomposition set in. Hunter's work advanced knowledge about complications in pregnancy. Little is known about the woman.

England
First published in 1774
Lent by the Royal College of Obstetricians and Gynaecologists Heritage Collections
Object no. L2018-519

Object: Postmortem table

About 1921–1930

Dead bodies were laid on this table in London's Rotherhithe mortuary for a postmortem examination. Made by the English manufacturer Royal Doulton, the ceramic structure was easily washed. Anatomists in the past had died from examining infected bodies, so they needed equipment that could be cleaned thoroughly.

By 1900 postmortems had become the principal way to establish how someone died.

England
Donated by Southwark Borough Development Department
Science Museum Group
Object no. 1979-787

Participation project:
Diagnosis, labelling and normality

Listen to five individuals with diverse experiences of conditions share personal stories of how diagnosis and labelling of conditions can affect them.

This display is one of four in this gallery and part of a project entitled ‘When medicine defines what’s “normal”’. A group specifically set up to address this subject directed the content for this project.

“We are a group of people with personal experience of the impact of how medicine defines normal, and we have shaped the contents of this project with the aim of questioning what is normal. We were responsible for helping to create the audio interviews that are featured in the displays designed by the museum.”

Photographs by Siân Davey

Measuring the Body

Section introduction

There are many sources of information that doctors use to assess our health. By examining various physical and chemical aspects, as well as our lifestyle and environment, they can build a picture of what is happening inside our bodies.

Over the past three centuries, the ability to measure, visualise and track the body's functions has given rise to a new era of evidence-based health care. Statistics from millions of patients have revealed patterns in the health of populations and have helped doctors decide if an observation they make is expected, normal or an indication something might be wrong. Blood pressure, temperature, height and electrical activity can all reveal information about a person's health.

By the late 1990s technologies that could record and interpret vast amounts of data changed medicine in previously unimaginable ways, in the laboratory, the hospital and the home.

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Object: Kymograph for recording body activity

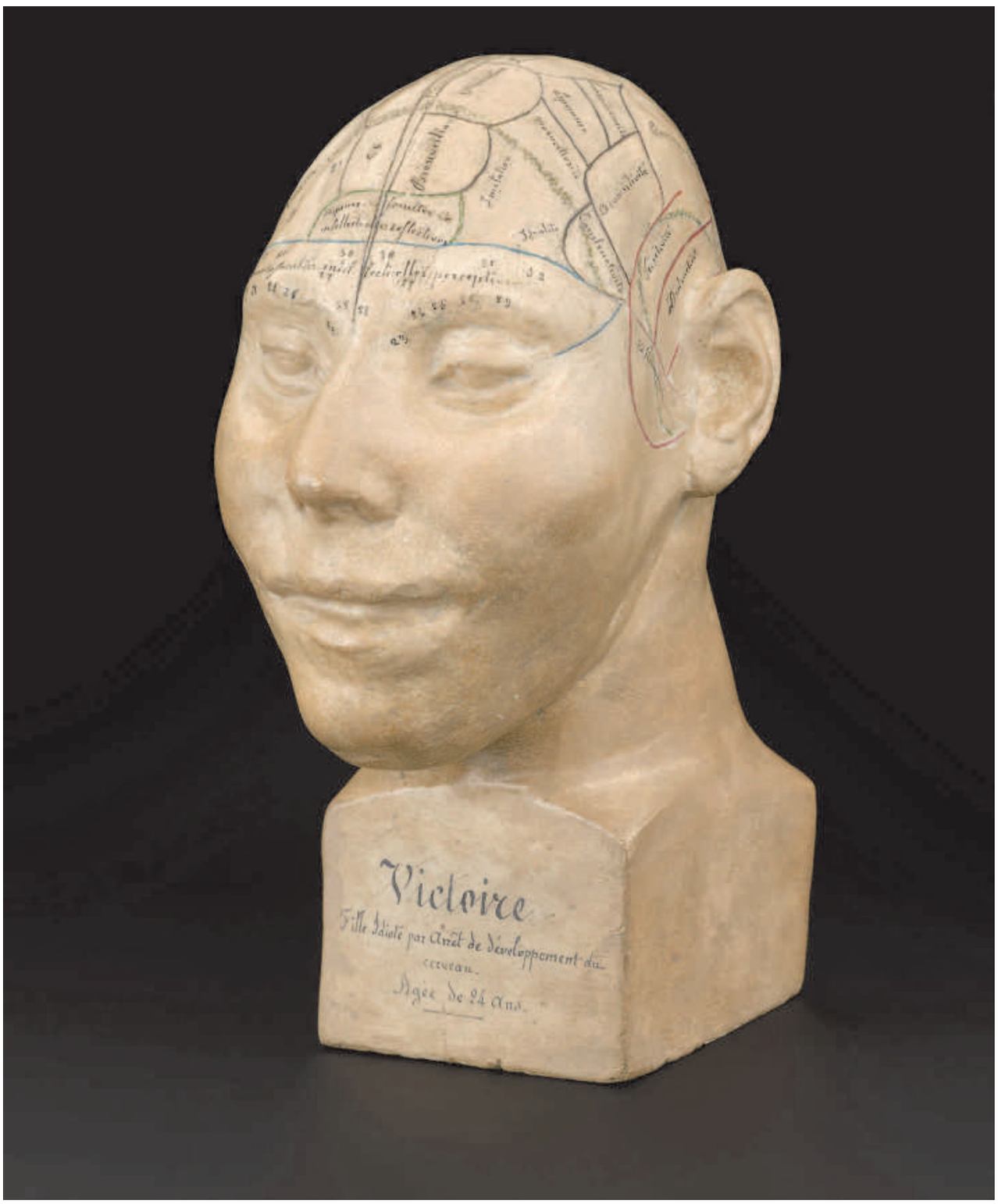
1925–1935

The kymograph was an early machine used to make written records of physiological experiments. It could be connected to equipment designed to measure activity such as blood pressure or breathing. A pen on the kymograph recorded the movement as wavy lines on paper wrapped around a rotating metal drum. These paper records enabled the results of experiments to be discussed and compared.

England
Lent by Wellcome Collection
to the Science Museum Group
Object no. A602430

Phrenological head cast of Victoire

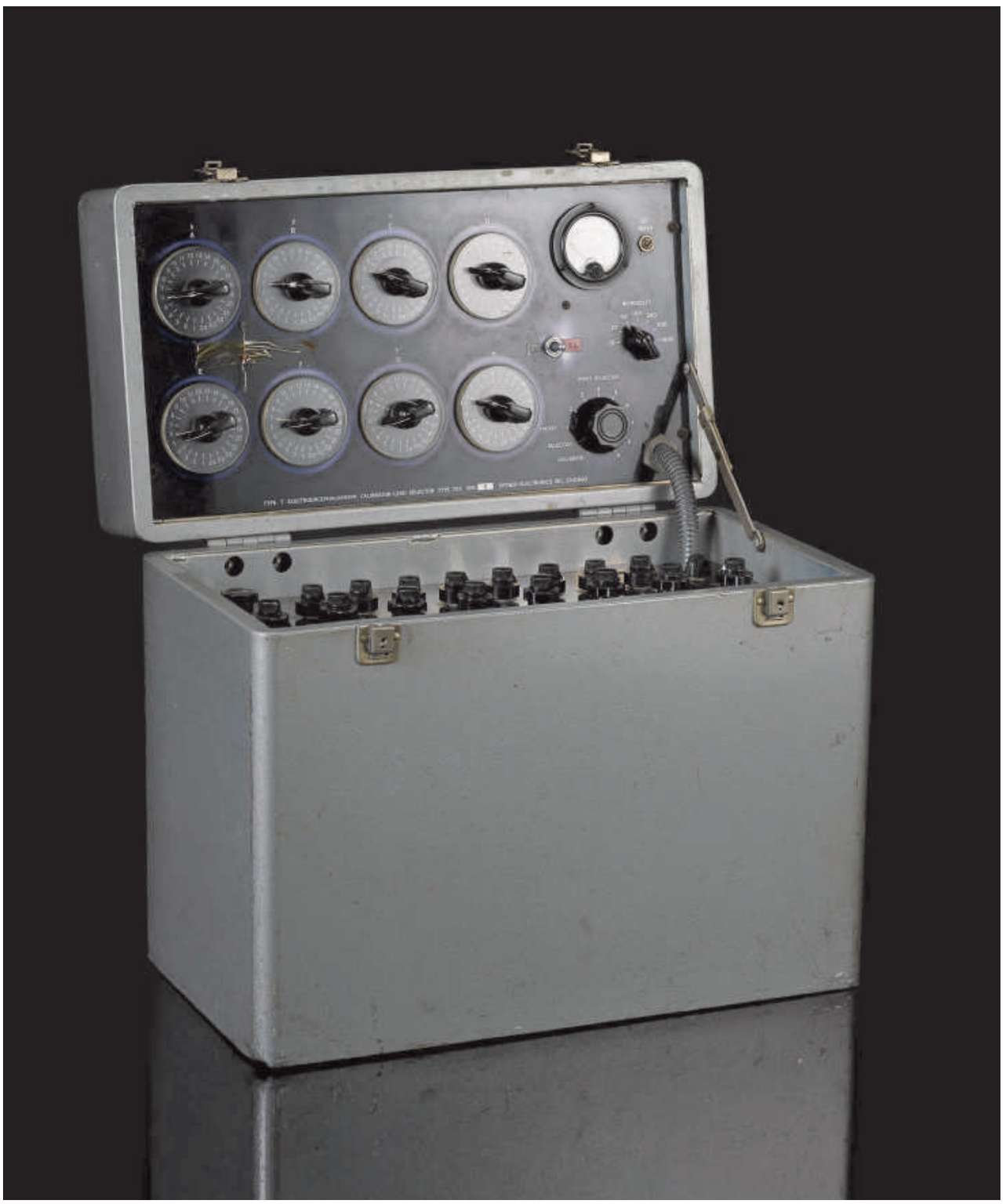
1820–1830



This cast is from a 24-year-old woman named Victoire, taken to document her condition. She appears to have microcephaly, a rare condition that restricts brain development, resulting in a smaller head. Doctor Franz Joseph Gall claimed that an adult head circumference of less than 36 centimetres made ‘normal mental function impossible’.

France
Lent by Wellcome Collection
to the Science Museum Group
Object no. A137205

Object: Electroencephalograph machine
1958



This electroencephalograph, known as an EEG, recorded electrical activity in the brain of people with head injuries, or those who experienced seizures, at the Burden Neurological Institute in Bristol. The first person it was used on, known only as RC, was then diagnosed with a type of epilepsy. On the basis of the data recorded, part of RC's brain was surgically removed.

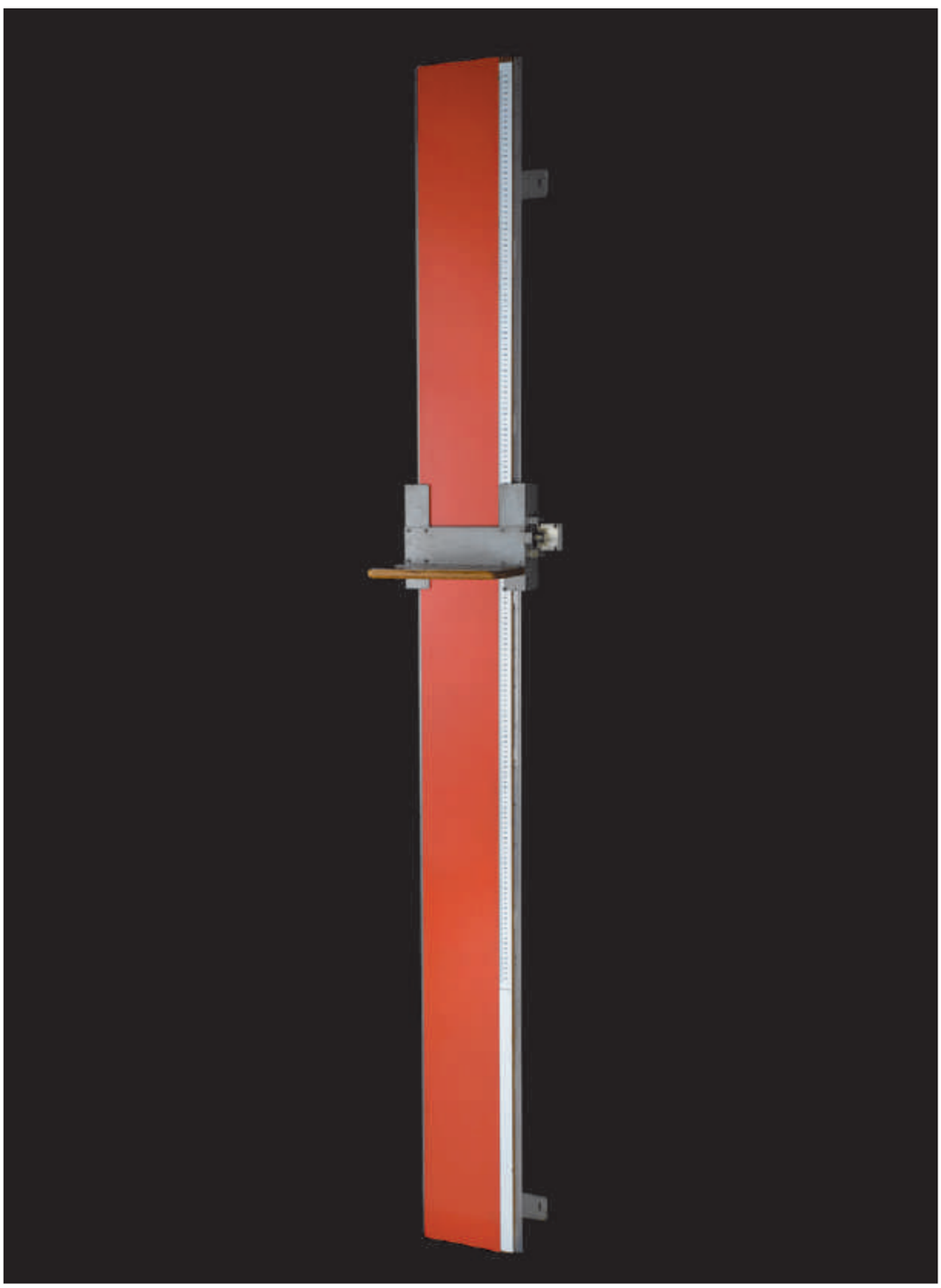
Science Museum Group

EEG control unit and printer
USA
Made by Offner, Chicago
Object nos. 2001-181/1, 2001-181/2

First recording of RC's brain activity
Facsimile
Britain
Made by Burden Neurological Institute
Object no. 2001-193

Object: Height measure used in child growth studies

1965

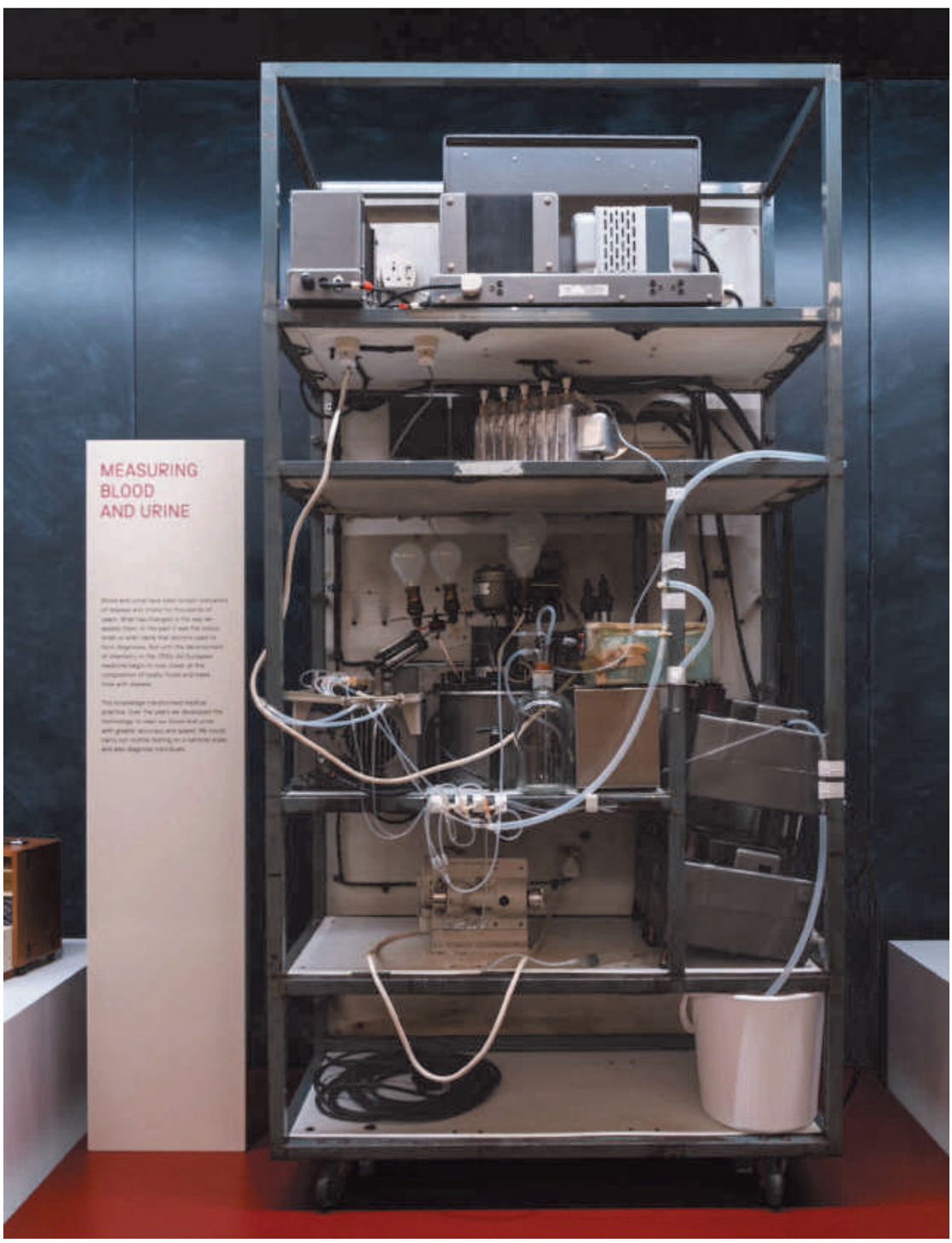


Known as a stadiometer, this giant ruler measured the height of children in James Tanner's growth study at a children's home in Harpenden. The wooden panel slid to rest on top of the child's head, indicating their height according to the scale. Tanner made detailed charts tracking the growth of hundreds of children over many years, which were used to determine 'normal' patterns of development.

Donated by Institute of Child Health, London
Science Museum Group
Object no. 1996-392/4

Object: AutoAnalyzer machine to test blood and urine

1966



The AutoAnalyzer could test up to 60 blood or urine samples per hour. Launched in the 1950s, this machine automated sample analysis, where previously it was done by hand. It used a technique called continuous flow. By separating each sample with an air bubble, the machine could process a flow of multiple samples much faster than manually doing them one by one.

England
Made by Technicon Instruments Co Ltd
Donated by Simpson Memorial Maternity Pavilion
Science Museum Group
Object no. 1983-1261

Object: Electrocardiograph to measure the heart's electrical activity

1930

This is an early machine designed to measure the electrical activity of a human heart. It was used by heart specialist Thomas Lewis at University College Hospital, London. Known as an electrocardiograph, or ECG, it detects the electrical signals that trigger and regulate the heartbeat and translates them as lines on a piece of paper called traces. By examining these traces, doctors can diagnose a wide variety of heart conditions.

England
Lent by Wellcome Collection
to the Science Museum Group
Object no. A602426

Participation project:
Normality and changing perceptions

Listen to five individuals with diverse experiences of conditions share personal stories about the impact of changing perceptions and definitions of normality within medicine and society.

This display is one of four in this gallery and part of a project entitled ‘When medicine defines what’s “normal”’. A group specifically set up to address this subject directed the content for this project.

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Photographs by Siân Davey

Revealing Our Building Blocks

Section introduction

Technologies have allowed us to ‘zoom in’ on our body’s building blocks, including our cells and genes. By revealing this previously unseen and microscopic world, we have found new ways to understand, diagnose and treat ourselves.

From microscopes to DNA sequencers, technologies have helped us answer fundamental questions about human life and health. How is a life formed? What are we made of? How do our bodies work? What is disease?

Genetics transformed our understanding of disease. It gave rise to new categories of patient and new ways to diagnose and treat them. Medicine at this scale not only impacts on our own bodies, but also ties them to those of our families and the lives of generations to come.

Supported by The Vitabiotics Foundation and the Lalvani family.

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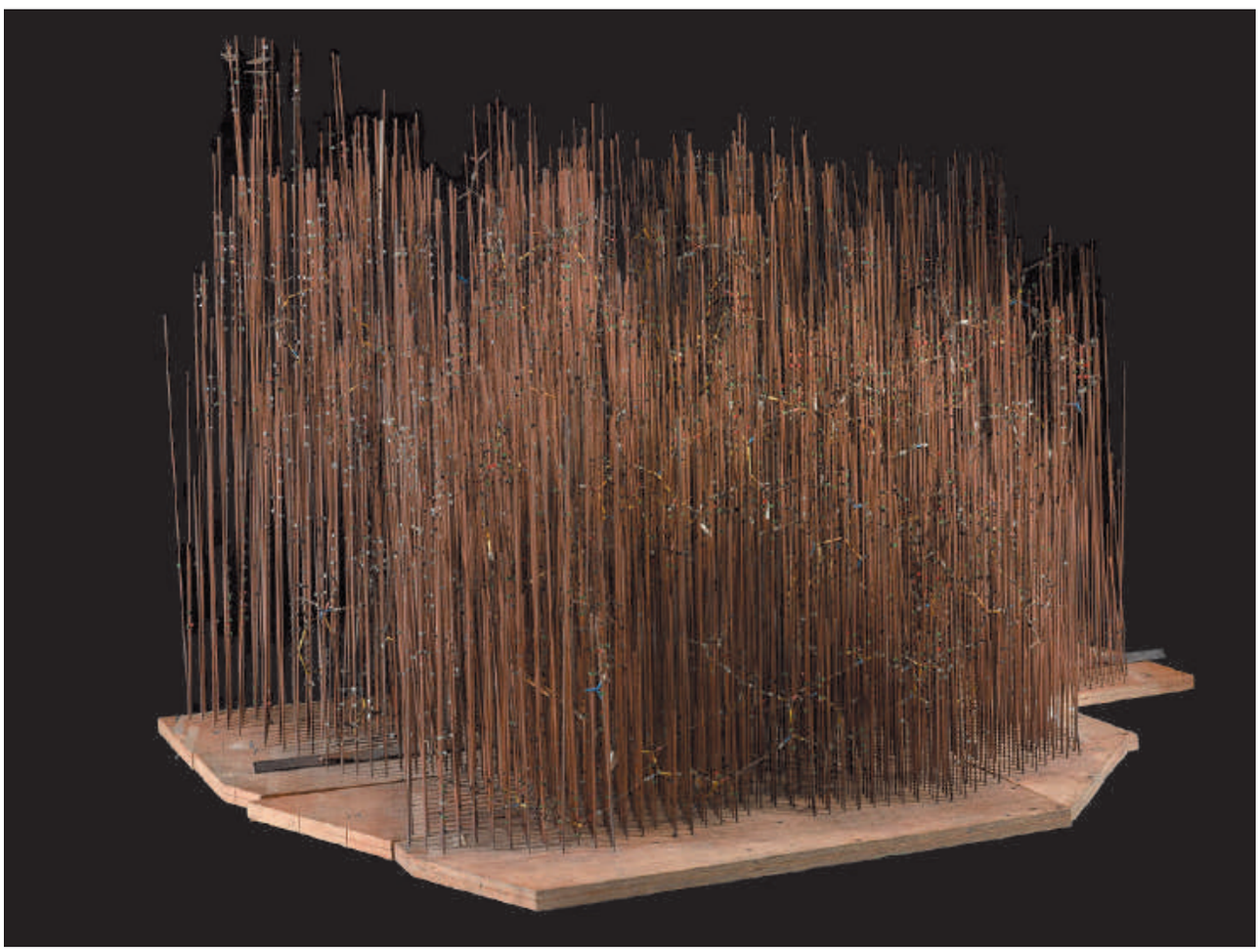
Object: ‘Forest of rods’ model of the protein myoglobin

1960



Woven among these rods is the structure of myoglobin, the protein for storing oxygen in our muscles. It was made by John Kendrew, who painstakingly revealed the intricacies of the molecule's many atoms. Before computers, model-building was used to reveal the shape of proteins and how that governs the role they perform in the body. Using a toy building kit, Kendrew plotted more than 1,200 atoms.

Britain
Made by John Kendrew and Max Perutz, Cambridge
Science Museum Group
Object no. 1977-219

Object: Van Leeuwenhoek's microscope
1900–1930

Dutch cloth merchant Antoni van Leeuwenhoek was the first person to see the microscopic cells of blood, sperm and bacteria, using a device similar to this one. It worked by placing a specimen on the tip of a screw and adjusting its position to align with a magnifying lens set inside a small hole. By holding the microscope up to his face, Van Leeuwenhoek could see the specimen 200 times bigger than life-size.

Replica
The Netherlands
Made in Leiden, original made mid-1600s
Lent by Wellcome Collection
to the Science Museum Group
Object no. A500644

Object: Cell screening equipment

1960–1965

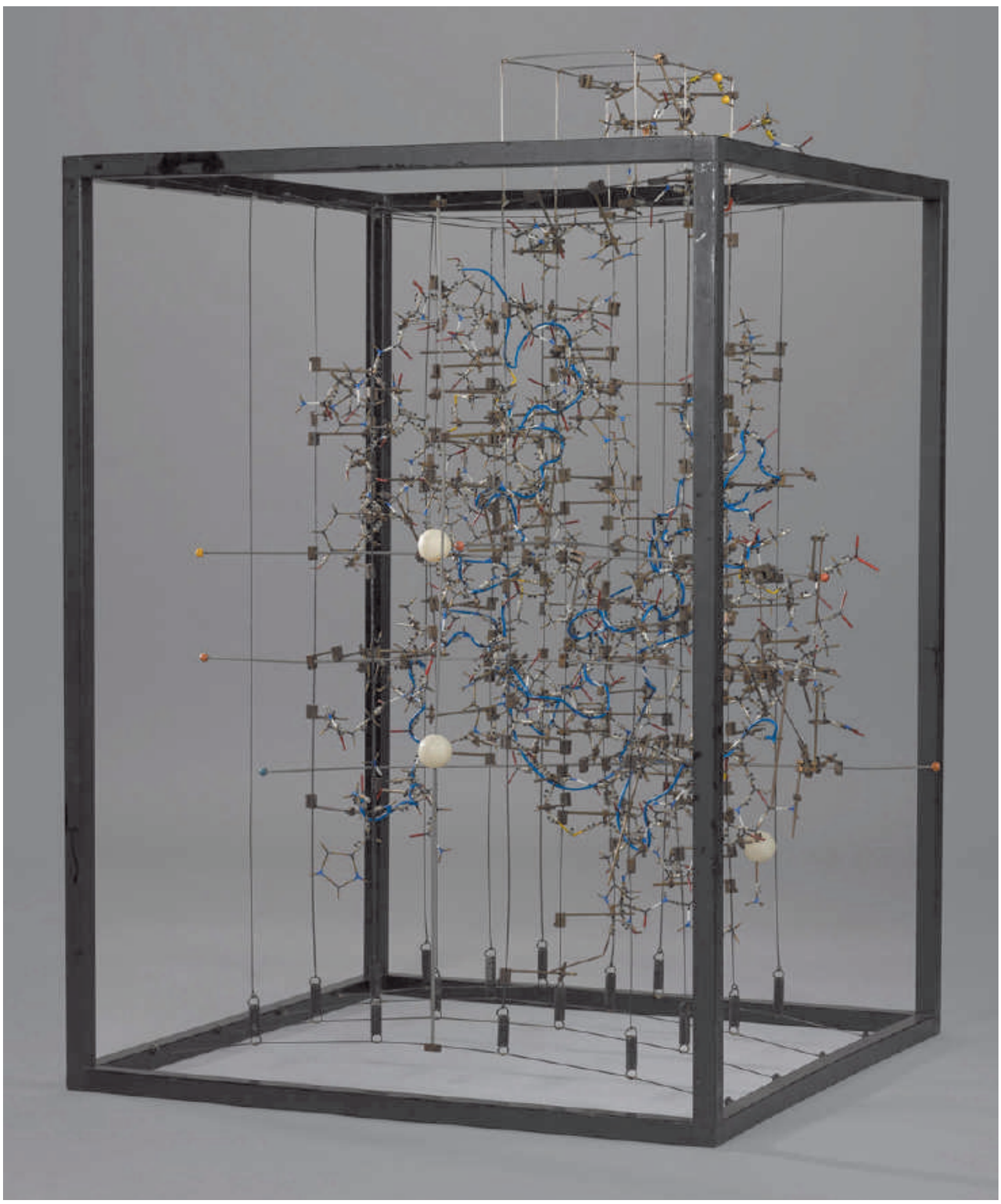
This machine, known as the Vickers Cytology Screening Apparatus, was used to check cells taken from the cervix for signs of cancer. It automated the preparation of samples onto a tape system, scanned them, and marked out which ones showed signs of abnormality. Up to 40,000 specimens could be screened in a year. Automating the process made a National Health Service cervical screening programme possible in Britain in 1989.

Britain
Made by Vickers Instruments Ltd
Science Museum Group

Scanning machine: detects abnormal cells
Object no. 1989-425/4

Staining machine: to colour cells to identify abnormalities
Object no. 1989-424/1

Object: Molecular model of pig insulin
1967



Dorothy Crowfoot Hodgkin spent 30 years unravelling the intricate structure of insulin – the hormone that helps break down sugars in the body – using X-ray crystallography.

Pig insulin is almost identical to human insulin and was used to control diabetes until the 1980s. Hodgkin's breakthrough led to improvements in diabetes care.

Britain
Made by Professor Dorothy Crowfoot Hodgkin
Science Museum Group
Object no. 1991-286/2

Object: Dolls showing inheritance of genetic disease

1970–1975

These peg dolls were used as a teaching tool to show how haemophilia, a genetic blood-clotting disorder, could be transmitted over three generations. Women can be carriers, while men usually exhibit the disease. The theory of genetic inheritance was developed in 1866 by Austrian scientist Gregor Mendel, and laid the groundwork for understanding how genetic diseases are passed between generations.

England
Made by E M Harris
Science Museum Group
Object no. 2001-294

Participation project:
Family, genes and normality

Listen to five individuals with diverse experiences of conditions share personal stories about the impact of genetic conditions on individuals and their families.

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Photographs by Siân Davey

Imaging the Body

Section introduction

Imaging technology has revealed aspects of the body that a scalpel during dissection never could. It has shown us the living body in action. This ability to see how the body works in life has been so insightful, it is now an essential tool of diagnosis and treatment.

Early explorations to see into the living body involved doctors inserting mirrored devices into our ears, mouths and other orifices. By 1895, X-rays had been discovered. This technology has been transformative, and can penetrate the skin without making a single cut.

Since the 1950s, increasingly sophisticated digital scanning technologies have given us unprecedented images of ourselves, from the start of life in the womb to the secrets of our most complex organ, the brain.

Supported by the Wolfson Foundation.

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Object: Rotating X-ray machine

1925

Patients stepped into this machine, known as an omniscope, to be X-rayed. It used counterweights and a motor to position them at a variety of angles to capture different views of internal organs such as the stomach.

The machine belonged to Jewish German doctor Ernst Rachwalsky. During Nazi rule in the 1930s, Rachwalsky left for England. He took his omniscope with him, shipping it over in parts.

Germany
Lent by Wellcome Collection
to the Science Museum Group
Object no. A600315

Object: Examining the throat

Late 1800s

Singing teacher Manuel Garcia is considered one of the first people to see their own larynx or voicebox in action, in 1854. He used a small dental mirror to look into his mouth, and another to reflect sunlight, so many credit him with the invention of the laryngoscope. The use of light-reflecting mirrors in this way enabled doctors to identify problems with the throat and airways with greater ease and accuracy than before.

Fauvel-style lamp and mirrors laryngoscope
Late 1800s
France
Lent by Wellcome Collection
to the Science Museum Group
Object no. A67738

Object: Portable X-ray kit

About 1914

X-rays were a vital diagnostic tool during the First World War. All the necessary equipment was packed into portable units including a power source and then set up near the battlefield. The kits were transported by specialised X-ray vehicles, which were often converted cars or cabins pulled along by a tractor. Thanks to these portable kits, doctors could assess and treat the wounded quickly and accurately.

Germany
Lent by Wellcome Collection
to the Science Museum Group
Object no. A655772 pts 1–3

Object: Supersonic flaw detector

1956

By the 1950s ultrasound was being used in industry to detect imperfections in metals, using machines such as this one. Professor of obstetrics and gynaecology Ian Donald thought the same technology could be used in medicine to detect ‘imperfections’ in the human body. Using this type of equipment, he was the first person to take images of an ovarian cyst, demonstrating the technology’s medical potential.

England
Institute of Cancer Research
Science Museum Group
Object no. 1996-231

Object: Early MRI body scanner
1978

This early magnetic resonance imaging (MRI) machine was built in the late 1970s by British physicist Peter Mansfield and his team at the University of Nottingham. MRI uses giant magnets combined with radio waves to create an image.

England
Donated by Sir Peter Mansfield
Science Museum Group
Object no. 1988-186 pt 8

Participation project: Image, identity and normality

Listen to five individuals with diverse experiences of conditions share personal stories about how their image and identity are shaped and affected by medicine's definition of normality.

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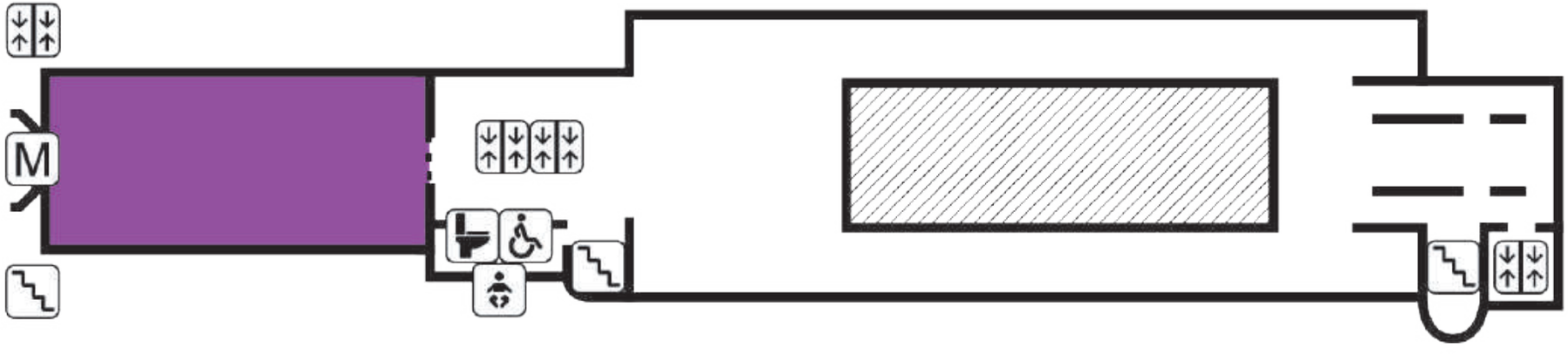
Photographs by Siân Davey

Medicine: The Wellcome Galleries overview map



Medicine and Bodies

Wall

Atrium

M Main museum

Stairs

Lift

Toilets

Accessible toilets

Baby changing