



# Who am I?

Large-print gallery book

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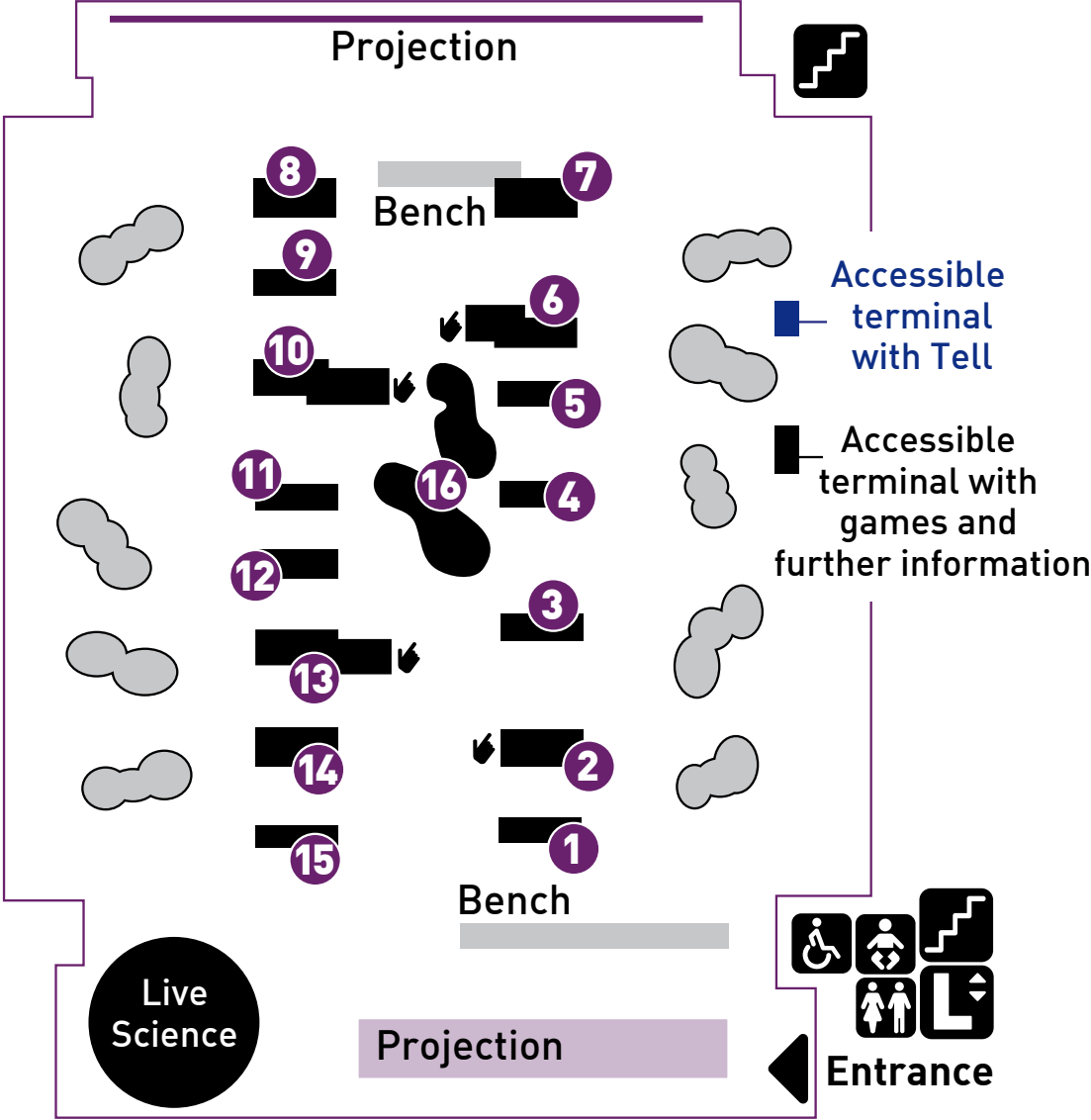
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# Who am I? gallery map



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## Introduction

**What makes you uniquely you? The Who am I? gallery investigates everyone's favourite subject – themselves. Explore the science of who you are through intriguing objects, iconic artwork and hands-on interactive exhibits...**

Beautiful and provocative, Who am I? invites you to get to grips with the ways new discoveries in genetics and brain sciences are transforming our understanding of what it means to be human. Investigate the traits that make humans such a successful species, such as personality, intelligence and language. Discover why and how your genetic sequence impacts on your life, from your physical attributes to your relationships with other people.

Visitors can experience and touch objects on open display, reflect on the big questions that new techniques in science are raising, and explore how the workings of their genetics and brain combine to create their unique identity.

All images © Science Museum unless otherwise stated

## Who am I?

### I am my body

You know that you are special. Your tissues are unique and they know that too. The tiny differences in your DNA that make you quite unlike anyone else also influence your health, for good or ill, and your life span. One day artificial eyes, tissue transplants grown from your own cells and computer-assisted limbs could quite literally keep you going.



Artificial retina system.

## Showcase 1: Can you be rebuilt?

Starfish grow new limbs, so why can't you? Your body naturally rejects transplants, but one day you might benefit from organs freshly grown from your own cells. Computers could give you a new lease of life. Technology could rebuild you, perhaps even enhance you. But would you still be you?

### Artificial retina

It's early days, but this bionic eye is restoring people's vision. The camera sends signals to an implant on the person's retina, helping him or her distinguish shapes in black and white.

### Cochlear implant

Designed to allow hearing, a cochlear implant digitises sound and sends it straight to a nerve connected to your brain, bypassing inactive areas.

**'My implant hasn't changed who I am, but it means I can interact better with my surroundings and with other people, which gives me a greater awareness of what is going on around me.'**

Peter Mugridge

Cochlear implants have been widely used since the 1990s, but not everyone wants to be 'fixed' in this way.

**'Cochlear implants help you to hear and speak English better, but you still need other deaf people to help build your identity. In the Deaf Community, it's a matter of language – if you sign, then you are one of us.'**

'Tamara'



Cochlear implant.

## Showcase 2: Why do you look like that?

Your features, your physique and your colouring were mainly decided in your mother's womb. Your fetal development was subtly orchestrated by a set of genes that you share with mice, butterflies and even worms. But genes weren't the only factor – your environment also shaped the way you look.

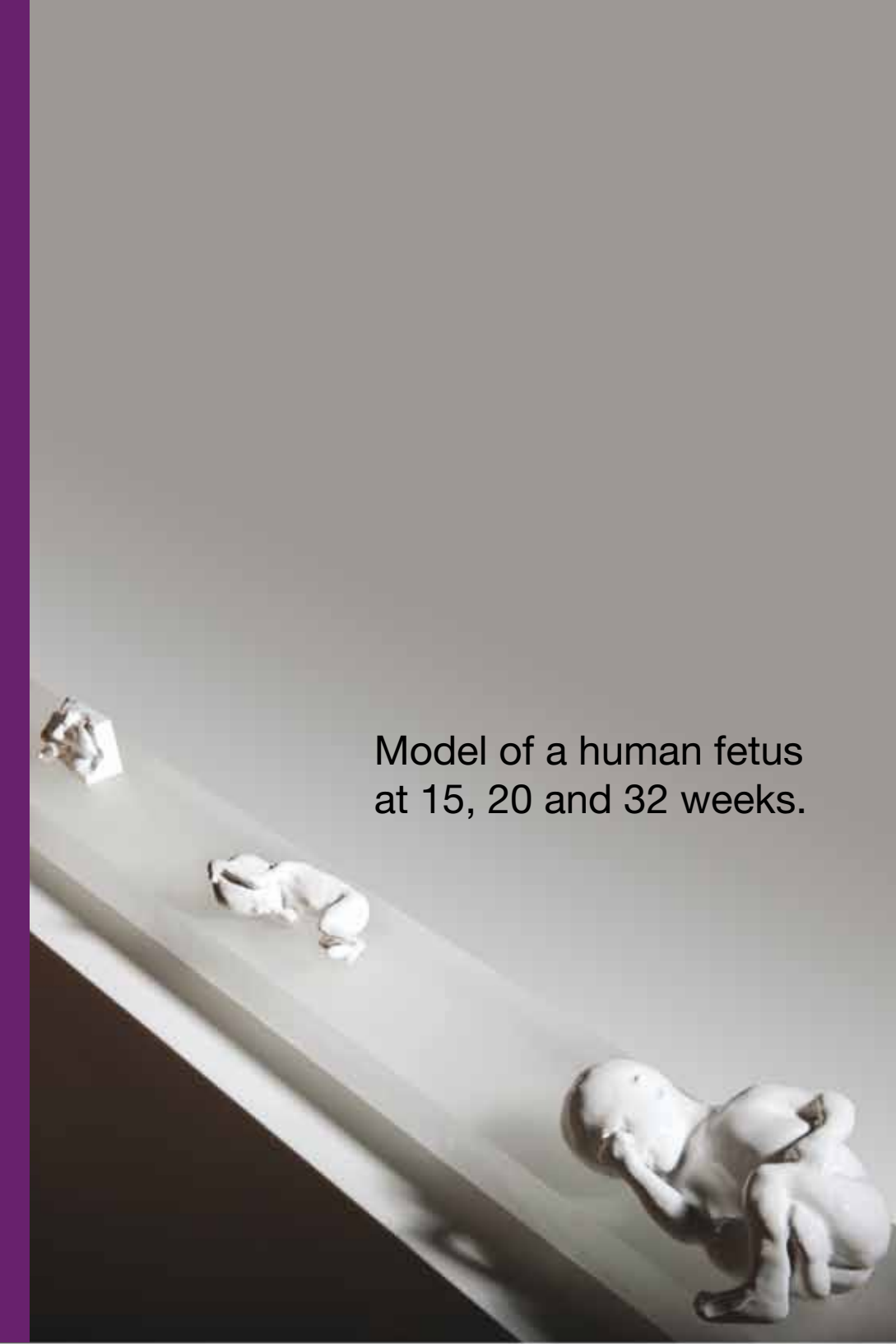
## Touch object

### Human fetus models

It takes 37 weeks for a baby to develop in the womb. Those born prematurely often need complex medical help.

The fetus begins to move at around 15 weeks – represented by the smallest of these models. At 20 weeks the fetus will start to grow fingernails, toenails and hair. By 32 weeks – the largest model – the rapidly growing brain is almost fully developed.

These models and those inside the showcase were created by machines that build directly from digital files based on ultrasound and MRI scans.



Model of a human fetus at 15, 20 and 32 weeks.

## Nature, nurture and you

Acting together, your lifestyle, environment and genes give you your physical appearance. Some of your genes influence whether you are likely to be fat or thin, muscle-bound or puny. But your body shape also depends on what you eat and the exercise you take.

## Body plans

Why is it that we all have our head at the top of our body and our legs at the bottom? Homeotic genes directed the shaping of your body from when you were just a few cells old. All animals use these same genes to build their body plans whether an elephant, a fly – or you.

## Seven-toed cat

Why does this cat have too many toes? Similar genes govern the number of fingers and toes both you and a cat have. A change in just one type of these genes can mean the development of extra digits.

## How outside affects us inside

Where and how you live is changing you at a genetic level. Surprised? Research shows that your lifestyle and environment can turn genes on and off – an area of science called epigenetics. And the latest findings are that some of these changes may even be passed on to your children.



Seven-toed cat.

### Showcase 3: Will you be the first person to live for 1000 years?

Our DNA carries the instructions for our survival and quite a few spelling mistakes that could be the death of us. There are potentially thousands of relatively rare disorders that stem from a mutation in a single gene, but for most of us the outcome is far more complicated. The risks of cancer or cardiovascular disease or late-onset diabetes depend not on any one genetic variation, but on the interplay of many, and on factors such as diet and lifestyle too. These probabilities represent hazards, but once we know the hazards we can take steps to avoid the danger or limit the damage.

Advances in genetics and medical technologies are already saving, improving and lengthening lives. But where might this research eventually lead? Some creatures, such as jellyfish, appear never to age. By studying their genetic make-up, scientists might reveal how we could have not only healthy but potentially never-ending lives.

Would you want to live for ever?

If you could pause time, what age would you choose to be?

And if your brain could be coaxed into completely regenerating, who would you become?



This case asks, will you be the first person to live 1000 years?

## Showcase 4: Are you acting your age?

Sooner or later, time makes its mark upon you. Your age is part of your identity. It shows in how your body changes, and in how others treat you. How well you age depends on the complex interplay between your genes and the life you enjoy. But why does it happen – and is it inevitable?

### How long will you live?

Babies born in Britain today have a good chance of living beyond 100, so some scientists think. Life expectancy is increasing, and more importantly your life span isn't fixed. How long you live – and how well you age – depends on the genes you inherit and the lifestyle you choose to lead.

## Only as young as your cells?

Your cells constantly replicate and renew themselves. When cells are copied, your genetic code is protected from damage by stretches of DNA called telomeres, which sit at each end of your chromosomes. Worn-out telomeres eventually lead to ageing. Some scientists think replacing telomeres may hold the key to longer life spans.



Knitted representation of chromosomes with long and short telomeres.



Memory Box.

## Preserving lost memories

Dementia encompasses a number of diseases that affect the brain, causing memory loss. Until science comes up with more treatments, aids such as this Memory Box can help people reconnect with their memories.

## Who am I?

### I am more than myself

Your identity is shaped by the people you meet and the things that happen to you.

Your face gives you away – it reveals your gender, your heritage and your feelings.

Brain science confirms startling likenesses in the human family. You share the same emotions, you read faces in the same way, but your responses could be completely different.



Average man.



Average woman.

## Showcase 5: Boy or girl?

Meet the average man and woman! We asked for volunteers to have their bodies printed out in 3D and Jose and Susan matched the UK's average stats most closely. But what does your body mean to you?

**‘My body is a physical symbol of my identity as a mixed-race man, blending in well with today’s multicultural society,’ says Jose.**

**‘My body is just a canvas for my identity. Society tells us that only certain bodies are attractive, but this shouldn’t be an excuse to feel undesirable. My body’s average, but I’m not,’ says Susan.**

## Hard-wired gender?

Your combination of X and Y chromosomes defines your biological sex. Some scientists think your gender identity is hard-wired into your brain even before you are born. But whether you feel male or female is a part of your identity only you can define.

## IVF machine

IVF treatment artificially fertilises the eggs of couples who have difficulty conceiving. As with natural conception, the baby’s sex is determined when the sperm fertilises the egg. Eggs have one X chromosome, sperm have either an X or a Y. Together they make a female (XX) or a male (XY) embryo.



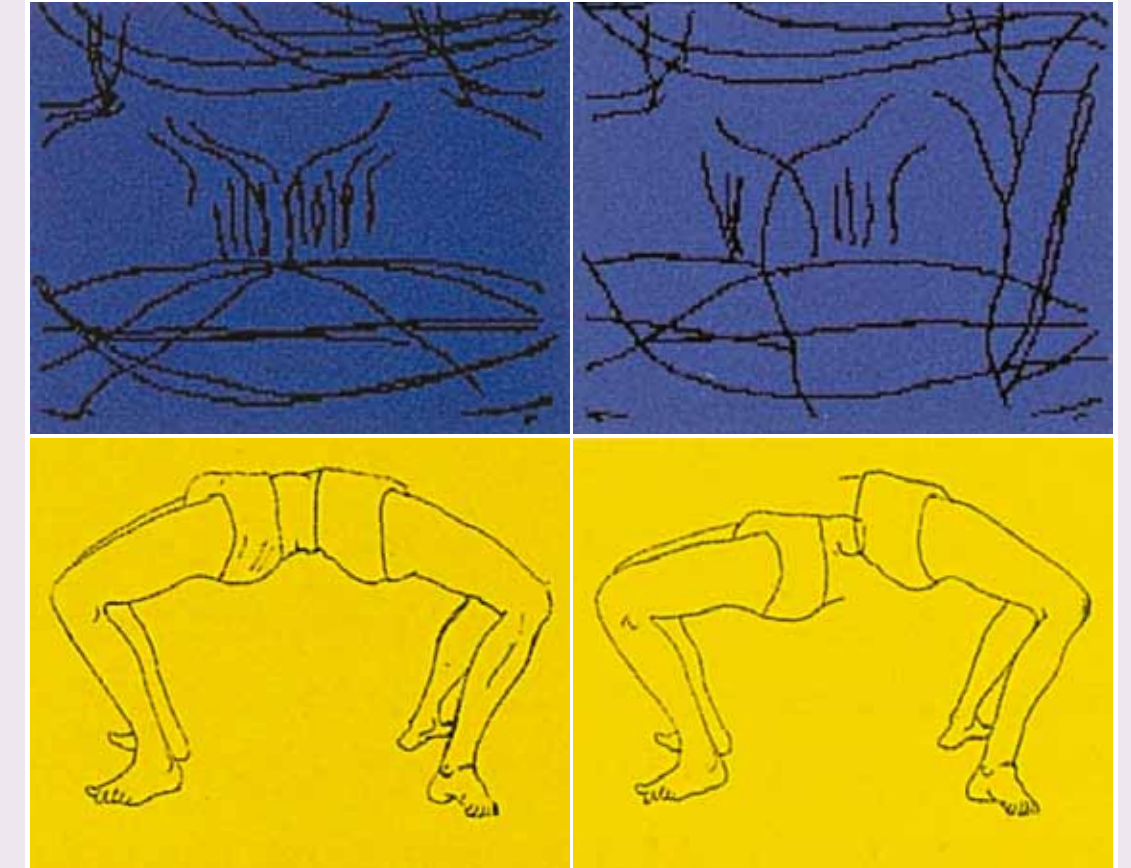
IVF machine.

## What turns you on?

Gay, straight or bisexual, you probably think you know what you're looking for. Is it slinky hips, a bursting bank account or a good sense of humour? Scientists think attraction is all about the body's chemicals, but one thing is clear – chemistry alone can't explain your choice of partner.

Artist Angus Fairhurst's hand-drawn animations challenge ideas of identity and sexuality. In the 'blue' animation, the increasing pace of spinning makes the male and female torsos impossible to tell apart. The puzzling rising and falling legs of the figures with uncertain genders in the 'yellow' animation suggests longing and frustration. We think of gender identity as fixed, but is it? Angus's works suggest people trying to find their place in life.

## Things That Don't Work Properly, Things That Never Stop (blue) and (yellow)



Hand-drawn animations made in 1999  
(Edition I/III) Artist: Angus Fairhurst (1966–2008)

Image © Angus Fairhurst

## Showcase 6: Is that face familiar?

### Our basic emotions

Your strongest, most basic emotions appear on your face – you can't help it. All around the world, everyone experiences the same six key emotions: anger, fear, disgust, happiness, sadness and surprise.

What triggers these emotions and how you respond to them is personal. It depends on your culture, your past experiences or your genes.

## Touch object

### Face models

These face models were made by scanning an actress's face in 3D. Can you guess which emotion is showing on each model?



Face models.

## Is that face familiar?

Your brain is programmed to recognise thousands of faces. Strangers will know you again, because your face is the most memorable thing about you. Your face reveals you – your mood, your genetic inheritance, sometimes even your thoughts. What is so special about two eyes, a nose and a mouth?

## Do I know you?

Face? Feet? Elbows? Where do you look to check if you know someone? Our brains have evolved a fundamental ability to identify and recall faces – and most of us can easily remember thousands and thousands of them.

## Photofit kit

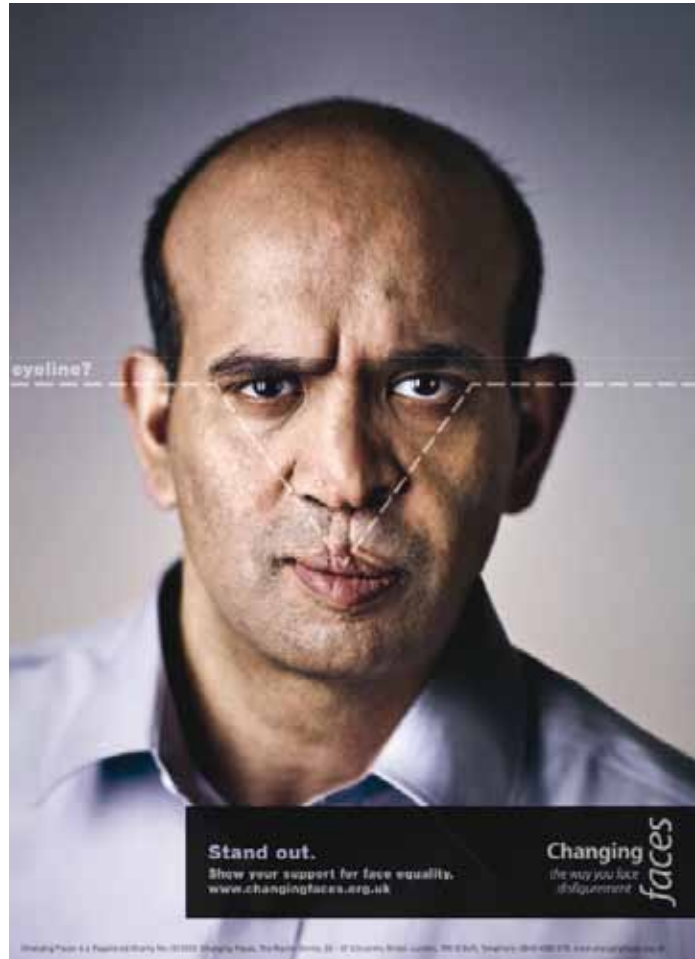
How well could you describe someone's face after just a glimpse? Witnesses to a crime can sometimes only recall a suspect's prominent features. This kit contains thousands of facial combinations which help eyewitnesses recall other key details about a face – such as the distance between the eyes.

## Here's looking at you

Your looks are a product of your genes – but that's not the whole story. From facial hair to make-up and piercings, many people choose to change their appearance. When time adds scars and wrinkles to the mix, you end up with a face that's unique.



Photofit kit.



Kapil.

Image: Changing Faces

## Facial equality poster

People whose appearance is unusual, such as Kapil, can choose reconstructive surgery or medical intervention. But Kapil believes face equality is more important than trying to conform.

Kapil: **‘Face equality means I do not need to undergo the trauma of several operations just to keep society happy.’**

## Genes and faces

Do you have your mother’s nose? From your face shape to skin tone, your looks are influenced by complex interactions of the genes you inherit. By using a combination of genetic analysis and 3D facial scanning, scientists are working out which genes determine which facial traits.

## Express yourself

Wrinkling your nose, a smile or a scowl – are you even aware of the look on your face? Although we can consciously choose what expression we wear, often our faces can’t help but show the emotions we’re really feeling. Scientists are now trying to decode our most subtle expressions.

## Electrotherapy machine

Can you spot a fake smile? In the 1860s, Guillaume Duchenne, a French physiologist, used electrical pulses to tweak patients’ faces, creating a map relating muscles to expressions. He found that truly happy smiles not only used the muscles of the mouth but also those of the eyes.



Guillaume Duchenne using the electrography machine with a patient.

Image: Science & Society Picture Library



Electrotherapy machine.



Arachnophobia: fear of spiders.

## Showcase 7: What are you afraid of?

Fear and disgust helped you to survive. Your emotions are part of the machinery that connects you with other humans and enables you to interact with the world about you. Phobias may be all in the mind but they are shaped by your genetic inheritance, your experiences and by your environment.

### What's the point of phobias?

Heights, snakes, fire... we're all hard-wired to fear dangers such as these. But 1 in 8 people have a phobia – an extreme fear with no purpose. Scientists trace rational fears to the distant past, when fear would have helped our ancestors survive. Currently, no-one can pinpoint the cause of phobias.

### Why do some people develop phobias?

Phobias often develop during childhood. A stressful experience, such as a visit to the dentist, can condition us to respond with fear whenever that event comes to mind. But identical twins sometimes share phobias even when they've been brought up separately and had different life stories.

### New treatments?

Although we can't always explain phobias, effective treatments exist. Modern medication reduces panic attacks, while cognitive behaviour therapy tackles unhelpful cycles of thought and helps people gradually face their fears. Scientists are also using three-dimensional virtual worlds to understand fears and phobias – with promising results so far.

## Who am I?

### I am my family

You are your own family history. Your ancestors live on in your genes. The telltale DNA sequence within your cells confirms both your unique identity and your kinship to others, alive or dead. By comparing tiny differences in modern DNA, scientists have begun to trace how a small group of early humans ventured out of Africa to people the planet.

## Showcase 8: Can the dead tell tales?

### Messages from the grave

For nearly 2000 years these bones lay buried under the village of Bleadon, Somerset. When building work revealed the skeleton in 1998, experts found it was that of a muscular man, short by today's standards, who died when he was about 50. But DNA testing would soon reveal much more.

### Shared ancestry?

If you're European, you may share some ancestry with this skeleton. Scientists extracted mitochondrial DNA from Bleadon Man's bones, which is passed unaltered from mothers to children. They found a genetic sequence linking him with people still living in Somerset today – and with 1 in 4 Europeans overall.



Bleadon Man skeleton.



Bleadon Man.

## Artistic model of Bleadon Man

Medical artist Caroline Wilkinson used her knowledge of facial muscle structure and soft tissues to build Bleadon Man's face, but had to guess the style and texture of his hair.

## Bleadon Man uncovered

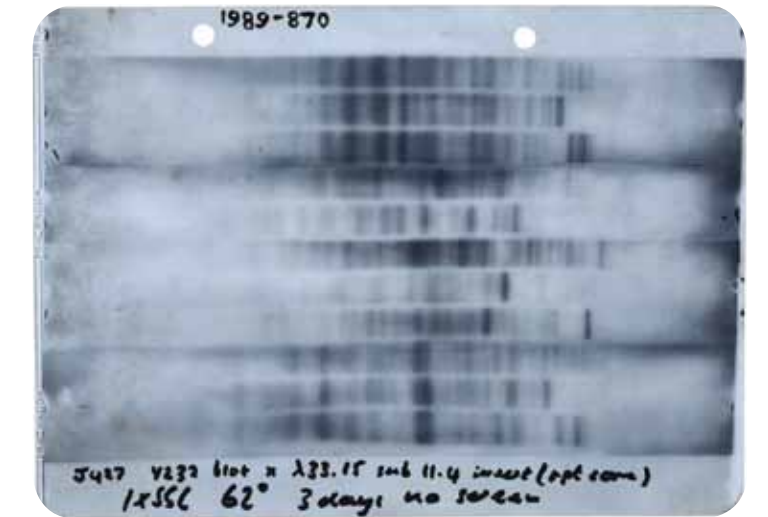
Experts from Avon Archaeological Unit had the task of unearthing Bleadon Man's skeleton. The soil had stained the bones brown and crushed the skull. Later, Oxford University archaeologists used carbon dating to show that the skeleton is about 2000 years old.

## Showcase 9: How do they know it's you?

The DNA in each of your cells identifies you, and only you. Your identity is written in the tiny differences that make you unique. But these differences also link you to others, living and dead. DNA technology is a powerful tool that can identify unknown warrior, terror victim and killer alike.

## The first DNA fingerprint

In 1984 Sir Alec Jeffreys developed what became known as the DNA fingerprint. He noticed that individuals had unique sequences of repeated DNA, and that by comparing these markers he could identify individuals and predict close genetic relationships. Since then DNA profiling has grown ever faster and more sensitive.



Copy of the first DNA 'fingerprint' made by Alec Jeffreys in 1984.



Australian soldiers of the 53rd battalion preparing for the attack at Fromelles, July 1916.

Image: Australian War Memorial



Tobacco pipe.

## Identifying unknown soldiers

The bloody Battle of Fromelles took place in northern France in July 1916 during the First World War. In just 24 hours over 7000 British and Australian soldiers were lost or wounded. Now scientists are starting to identify bodies of fallen soldiers recovered from mass graves nearby, using archaeological, anthropological, historical and DNA evidence.

## On the front line

Only three of the men in this photograph survived. This tobacco pipe was found in the Australian deep dugout near Cordonnerie Farm, where the 5th Australian Division were positioned to attack the German front line.

## Showcase 10: How did you get here?

Genetic samples from around the world reveal a human journey that began in Africa, and led to every part of the habitable globe. Evidence from living DNA backs up the study of language, and of archaeological discovery, and tells the story of those unknown pioneers who opened up new worlds.

## Our African ancestors

Scientific evidence suggests that all humans alive today descend from African ancestors. Africa has the most diversity of genes and languages of all the continents. Humans first began to migrate out of Africa about 60,000 years ago. The San peoples of southern Africa have similar genetic markers to the ancestors of our entire species.

## Saliva collection kit

Members of the San peoples donated DNA for analysis of their genetic heritage. Scientists used kits like this to collect saliva, from which DNA was extracted.

## The San peoples

The San are descendants of the first populations that inhabited southern Africa over 20,000 years ago. Their rich culture is rooted in thousands of years of hunting and gathering. San languages belong to three major language families and are characterised by distinctive clicking sounds.

## The American journey

Who first settled in the Americas, and where did they come from? Recent evidence suggests people travelled there from Asia in three independent waves over 16,000 years ago. Some early settlers may have journeyed down the Pacific coast, while others took land routes.

## Polynesia – the final frontier

From Hawaii in the north to New Zealand in the south, the scattered islands of Polynesia were among the last regions on Earth to be populated by humans. Archaeological, linguistic and genetic evidence suggests that the islands' first settlers left Southeast Asia about 5000 years ago.

## Who am I?

I am human

Everything about you is amazing. You have a great memory, an astonishing ability to learn and your way with words is matchless. The study of human genes and human brains reveals what makes you special. You have so much in common with everyone else, but because your brain is shaped by your experience of life, you are also unique.

## Touch object

### The first European?

This is the closest we can currently get to knowing what our early European ancestors looked like. Thirty-five thousand years ago, Europe was home to both Homo sapiens – humans anatomically the same as us – and Neanderthals.

Bone fragments found in a Romanian cave belong to a Homo sapiens from this time, according to fossil experts. They used pieces of skull and jawbone to create this model, which is a similar shape to a modern human head, but has a larger cranium and molars, and is more robust. No-one knows whether it is a man or a woman.



First European head.

## **Showcase 11:** What do you think you are?

The human brain could be the most complex structure in the known universe. By comparing its structure and genetic make-up with other animal brains, scientists explore what it is that makes us unique. We call ourselves Homo sapiens – ‘wise humans’. But what is intelligence, and can you measure it?

### **What’s so special about your brain?**

We’re not much different from animals, genetically speaking. But slowly, scientists are uncovering crucial differences that make humans special. By comparing the human genome with that of chimps and other animals, researchers have discovered a region of DNA unique to people – and it controls how our brains develop before birth.

## **The brilliant human brain**

You’ve got 100 billion brain cells. But what really makes your brain brilliant isn’t so much its size but its connections. The trillion links between your brain cells encode your memories, abilities and personality. Researchers are making computer models of clumps of brain cells to try to understand how.

### **Human brain**

Three pounds of wrinkly, grey flesh... Scientists now know that our thoughts, feelings, memories and reason all emerge from the brain. People used to believe their heart was the seat of their identity. Do you feel your brain is what makes you you?



Phrenological callipers.



Phrenological head.

## Phrenological callipers and phrenological head

Nineteenth-century phrenologists thought they could predict personality from the skull's shape. They measured and mapped people's skulls, believing that lumps and bumps indicated more highly developed areas of the brain.

### Measuring intelligence

Tests, grades, measurements, rankings... Scientists have been attempting to define and measure human intelligence since Victorian times. And although it may seem like a modern obsession, assessment was even more controversial in the past because it was often tainted by blatant racial and social bias.

## Stanford-Binet intelligence test

This tempting toy-box hides a terrible secret. Intended as a toolkit for measuring child development, the Stanford-Binet intelligence test developed out of French psychologist Alfred Binet's work. But in 1920s and 1930s America the eugenics movement adopted it in their campaign to allow only people considered intelligent to reproduce.



Stanford-Binet intelligence test.

## Showcase 12: You must remember this?

You are the sum of your experiences: your memory fashions your identity. Each memory you have is held within the changing network of nerve cells in your brain. Sometimes, tragically, you cannot remember. Sometimes the tragedy is that you cannot forget. Science examines the making of memory, and its loss.

### Manipulating memory

Are there things you'd like to forget? While scientists can't yet remove specific memories from our brains, they are investigating how memories could be manipulated. By breeding mice with specific memory problems, they hope to find out how and why we remember things – and perhaps learn to control memories too.

### Extreme memory ability

Artist Stephen Wiltshire and dedicated memory specialist Dominic O'Brien are memory maestros. They provide living examples of the most extreme memory abilities. Stephen is an autistic savant, one of only about 100 in the world. For Dominic, years of training means he can now demonstrate near-perfect recall.

### Stephen Wiltshire at work

Stephen Wiltshire is an artist who draws and paints detailed cityscapes. His particular talent is for drawing lifelike, accurate representations of cities from memory, sometimes after seeing them only briefly.

### Memory maestro

Dominic O'Brien is an eight-times World Memory Champion. He holds the world record for correctly memorising the sequence of 54 shuffled decks of cards seen once, with only eight errors.



Permanent ink drawing of London scene by artist Stephen Wiltshire.



Dominic O'Brien.

Image: Dominic O'Brien, London

## Showcase 13: What is the recipe for someone like you?

Your genome contains the instructions to build and run your body. Your genetic code instructs your cells when to make proteins and how to use them. This invisible manual of human construction contains the secrets that make you what you are: unique. But what does this mean for your future?

### High-speed decoding

Scientists took 13 years and over £200 million to sequence the complete human genome published in 2003. Now, sophisticated technology is making DNA sequencing dramatically faster and cheaper. As scientists decode more genomes, they can see the tiny differences that make individuals unique – and are surprised at just how varied we are.



X chromosome books.

## Touch object

### The X chromosome

Everyone's genetic material contains a long and tightly coiled strand of DNA called the X chromosome. If you're female you have two copies in each of your cells, while males have one. Humans have 23 chromosome pairs in total.

These books represent the information in an X chromosome. Scientists are investigating how its sequence makes us who we are through the genes it encodes. They estimate the chromosome carries the code for about 1000 out of the 23,000 human genes.



SOLiD™ System sequencer.

## The personal genome

Do you want to trace your ancestry, predict your future health or find out about human origins? Personal genomics offers the chance to do all this. By sequencing your genome and comparing it with others, scientists can see what makes you who you are – at a price.

### SOLiD™ System sequencer

Give it two weeks, and this machine will sequence a human genome for about £100,000. It codes each pair of chemicals using colours, reading each chemical twice for increased accuracy.

Images from the SOLiD™ sequencer show genomes of cells affected by lung and skin cancer. When compared to normal cells, each reveals over 20,000 mutations.

## Showcase 14: Whatever gave you that idea?

### Who do you think you are?

The human brain is a thinking machine with 100 billion nerve cells and 100 trillion connections. This mysterious device creates memories, sparks moments of genius and makes sense of what you see, touch and hear. For centuries, scientists have studied the brain. But the exploration has barely begun.

### Mapping the brain today

Scientists' toolkit for investigating the brain is now constantly growing. Scanners can measure your brain's blood flow and metabolism, while electrode caps can capture the constant communication between brain cells. Researchers are also exploring the brain's gene activity. But there's still a vast amount to find out about this complex organ.



Prototype MRI helmet with 90 channels.

## MRI helmet

You'd wear this helmet during an MRI scan to construct a picture of your brain from the magnetic behaviour of water molecules. Helmets with more channels will capture clearer images.

## Slices of human brain

Scientists can now navigate our brains as never before using a human brain atlas, built up from slides, that maps the genes active in each area. Combining traditional techniques with new technologies and high-powered computing systems, the atlas may help tackle the maze of complex brain disorders.

## Brainbow mouse

Scientists have genetically engineered this 'brainbow' mouse so that the proteins in its brain cells glow in a range of colours under the right light. By imaging the brain in this way, they can pick out the detailed structure and types of cells that make up different parts of the brain.



Brainbow mouse.



## Caul 8 (detail)

Artist Dryden Goodwin makes anonymous drawings and photographs of people seen in passing, such as this image of someone on a night bus. Dryden sees a relationship between his artistic explorations of individuals through his mark-making and scientists' investigations to understand the human brain. Does science or art give us a truer picture, or do they just reveal different things?

Digital photograph with digital drawing,  
light box made in 2010

Artist: Dryden Goodwin (1971–)

Image © Dryden Goodwin

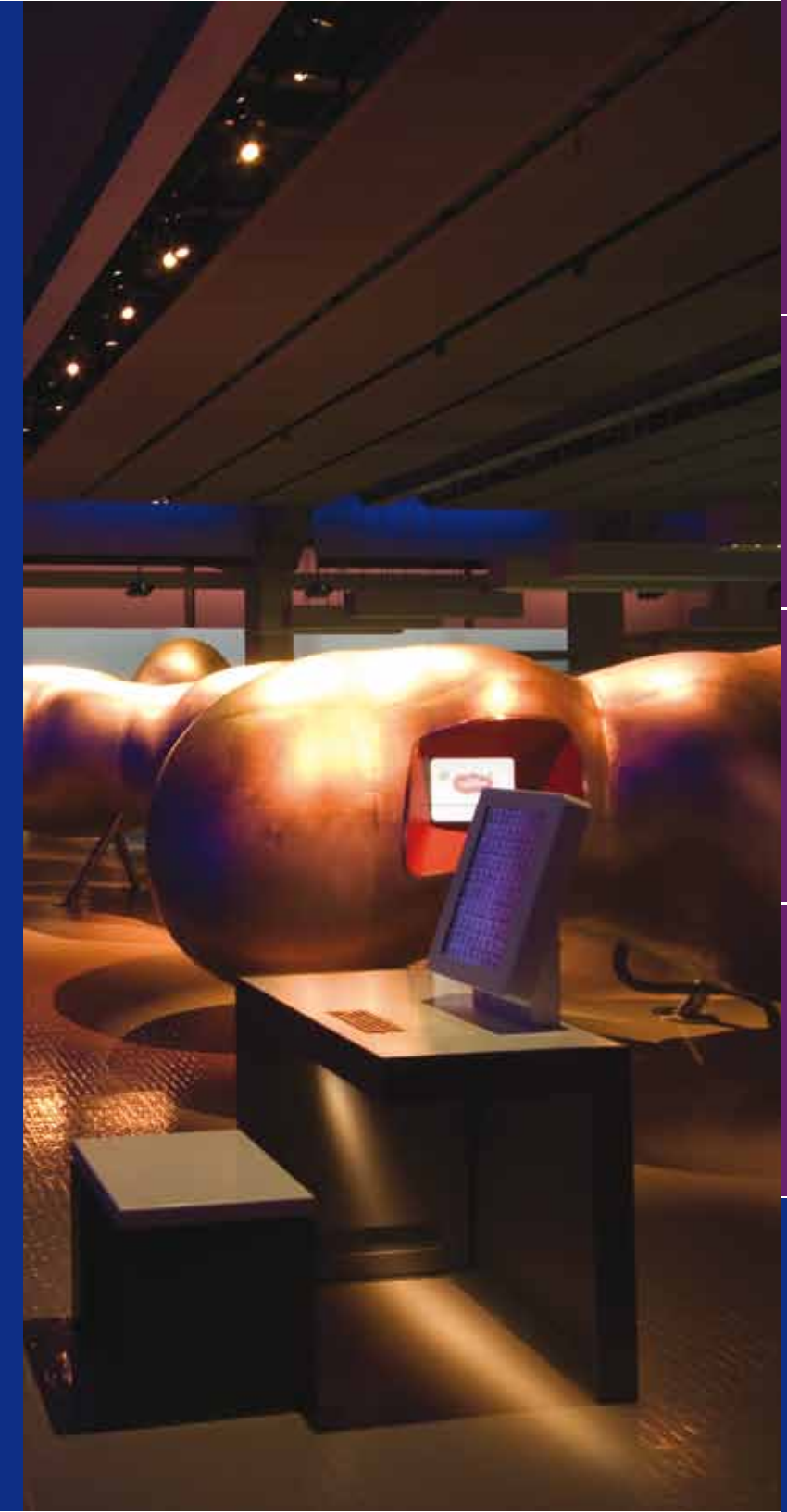
## Tell: What do you think?

### What is Tell?

Science provides new tools that help us investigate aspects of our own and other people's identities.

But applications of scientific technologies can generate controversy. Real life is messy, and although science can help, it won't tell you what to do. We need other perspectives on issues that challenge ideas about how people should look, live, find out about themselves or even die. Tell collects and displays these opinions and asks you – what do you think?

You can enter your opinions on one of the Tell computer terminals around the gallery using the keyboards.



## Question 1: Should it be compulsory to have your DNA in a national database?

The national DNA database is a powerful tool in preventing and solving crime. It has also been used to acquit innocent people.

But the criteria for whose DNA profiles can be added to the database are hotly debated and controversial. How long should someone's DNA information be stored if he or she has never been convicted of a crime? Should everyone's DNA be on the database? And if not who should be selected for inclusion on the database.

Future technologies are likely to make DNA analysis faster and more accurate, making the database potentially more powerful. What are the implications for you and me?

## The facts: National DNA database

Set up in 1995, the UK's national DNA database now stores DNA profiles from over 5 million people, including over half a million under-16s. It's the largest of any country and holds profiles for the majority of known active offenders. However, just under 1 million people represented on the database have no record of a conviction, caution, reprimand or final warning on the Police National Computer.

Human rights groups are concerned about safeguarding personal information, and debate continues in parliament over how samples are collected and retained. But DNA evidence can be crucial in solving crimes, including cold cases.

## Different viewpoints

‘I think people convicted of sexual and violent and serious crimes should be on there so that we can caution against their reoffending in the future and if they do we will be able to match to the database.’

Shami Chakrabati, Liberty

‘To sample everyone in the UK or even to sample everyone who enters the UK would be a significant challenge and a significant cost so I think it is unlikely even though some would argue that is the fairest system.’

Gary Pugh, National DNA Database  
Strategy Board

‘This isn’t a neutral technology and governments are repeatedly showing that they’re not worthy of the responsibility that it confers and I don’t think it gives sufficient societal benefits to the level of control it has to those in power.’

Liz, Plane Stupid

## Question 2: Are we dangerously obsessed with achieving the ‘perfect’ body?

Rates of obesity are increasing in the UK: nearly half of men and a third of women are overweight. We are bombarded with images of the ‘perfect’ body from the fashion and advertising industries. Eating disorders such as bulimia and anorexia are alarming frequent.

Our bodies are fundamental to our identity. We express ourselves, make fashion statements and stand out from the crowd with our physical presence. Should other people dictate what we should look like? And even if they shouldn’t, how do other people’s opinions affect you?

## The facts: Body image

A quest for the ‘perfect’ body leads many people to change their lifestyle, hit the gym and count the calories. Advances in medicine now offer a variety of shortcuts, including cosmetic surgery and hormone treatments. But surgical complications or abuse of medication can cause long-lasting impacts to a person’s mental and physical health.

That’s not all. In the UK, 1.7 million people have eating disorders, and for women aged 15–24 they’re among the top four causes of disease. Health consequences such as loss of fertility, brittle bones, dental problems and gastrointestinal complications are significant health and financial burdens throughout life.

## Different viewpoints

‘I saw myself as really fat and horrible and I didn’t think anybody liked me or loved me and I really just wanted to make myself perfect and that’s what I wanted perfection, and perfection to me was being tiny and size zero. After recovering from my eating disorder I’m left with many health problems I have to deal with day to day.’

Natalia, b-EAT

‘My opinion of a perfect body is a young body, but because we are aging, once you start the treatment you are inevitably going to need more and more treatments.’

Hassan Nurein, Bodysmooth

‘Our current media is highly visual and it seems to celebrate in evaluating people according to their appearance. And of course appearance is the most superficial of our characteristics, it hides a whole series of talents people have with them and tend to be overlooked.’

Andrew Hills, Leeds University School of Medicine

**What do you think?**



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