



future of
human
reproduction

INTERDISCIPLINARY RESEARCH

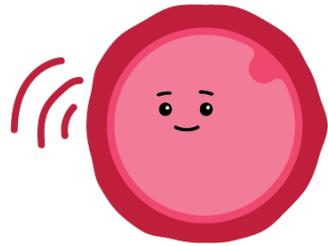
Timeline

What is the timeline?

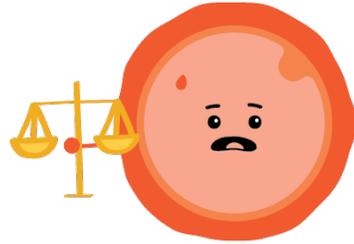
Welcome to The Future of Human Reproduction Timeline! This timeline shaped, and was shaped by, some of our conversations about the future of human reproduction. It represents a messy and partial speculative exploration of the topic area. It is not intended to be viewed as a prediction or to be in any way regarded as being comprehensive. It was made to be scribbled on and scribbled out, to be edited and added to, and most importantly, it was made to prompt other conversations about the future of human reproduction.

Types of Information

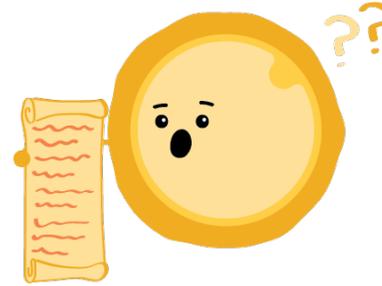
The timeline includes different types of information which are marked with different icons as follows:



Cultural Impact



Regulatory Development



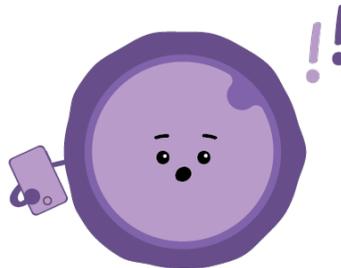
Historical Event



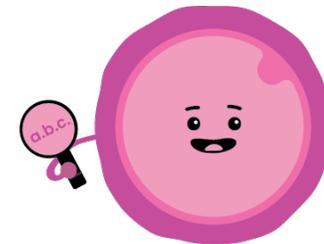
**Popular Figures,
Media and
Literature
Speculation**



Science Development



**Technological / Scientific
Impact**



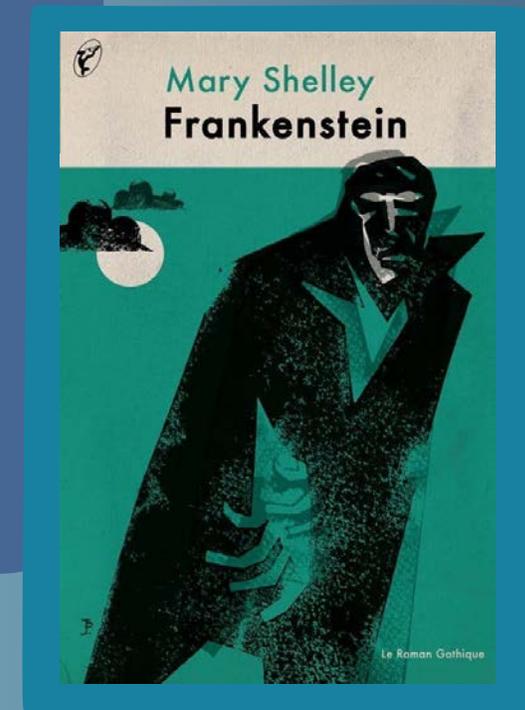
Linguistic Event

1800s

1818



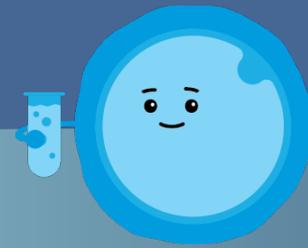
Mary Shelley's novel Frankenstein was published in London, UK. A foundational text in the development of Science Fiction as a genre, it continues to have significant influence on the cultural imagination of artificial creation.



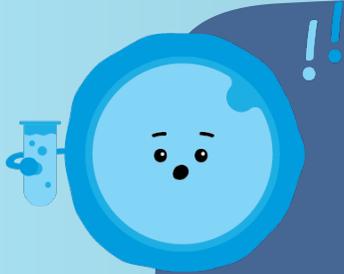
1800s

1835

An infant warming device intended to improve the care of infants was developed by Johann Georg von Rueh for use at the Imperial Foundling Hospital in St. Petersburg, Russia.

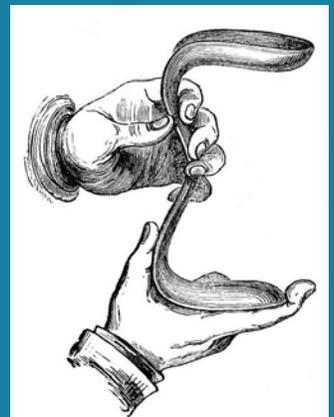


1800s



1845 - 1849

The vaginal speculum was developed by J. Marion Sims in the Southern USA. This device was developed to treat vesicovaginal fistula, a complication which occurs during childbirth causing a hole between the bladder and the vagina. The device was tested through a series of experimental operations on enslaved women in plantations.



1800s

1856

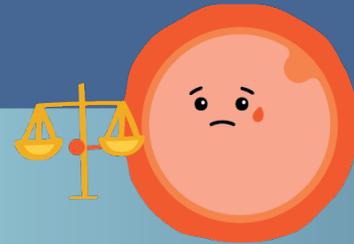
Gregor Mendel, an Austrian Abbot, began experiments on pea plants to study how traits were passed down from generation to generation. His work was not recognised during his lifetime, but its significance was recognised in the early twentieth century.



1800s

1861

The UK's Offences Against the Person Act criminalises abortion. Anyone found guilty of administering or procuring drugs or using instruments to abort a child, could be sentenced to up to life imprisonment.

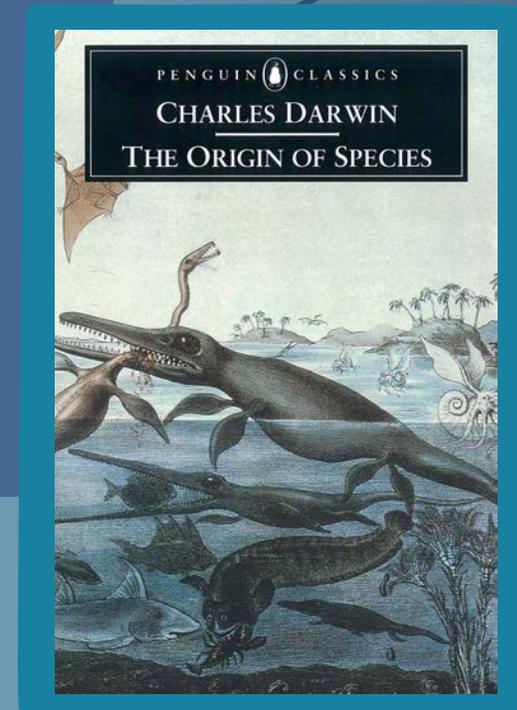


1800s

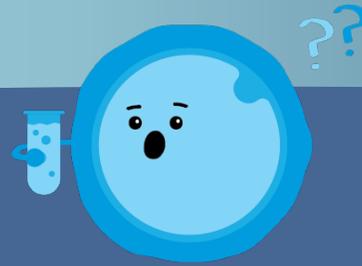


1818

Charles Darwin's *On the Origin of Species* was published in London, UK. This revolutionised understanding of life on Earth.



1800s



1881

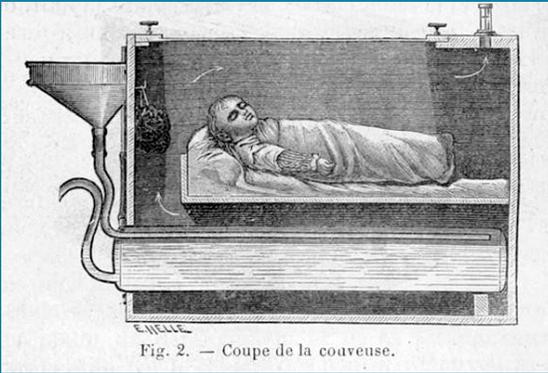


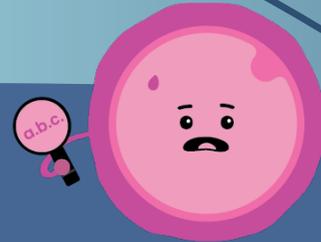
Fig. 2. — Coupe de la couveuse.

Infant warming device prototype was developed by Etienne Stephane Tarnier at the Maternité Port-Royal in Paris, France. These incubators became a standard in neonatal care, used by doctors to save many infants, particularly premature infants.

1800s

1883

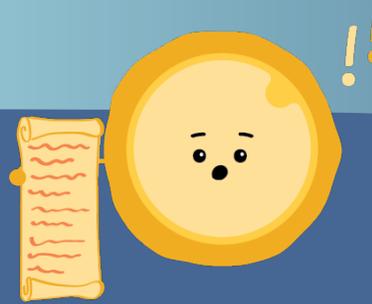
Francis Galton coins the term 'eugenics' to mean 'good breeding' or to 'improve the inborn qualities of a race'.



1800s

1884

The first documented case of successful artificial insemination in humans was undertaken by William Pancoast in Philadelphia, US. He performed the procedure, without consent, on a woman whose husband was infertile, a condition for which they were collectively seeking treatment. The 'patient' was chloroformed before being inseminated with the sperm of a medical student via syringe after which her cervix was packed with gauze. Nine months later she gave birth to a baby.

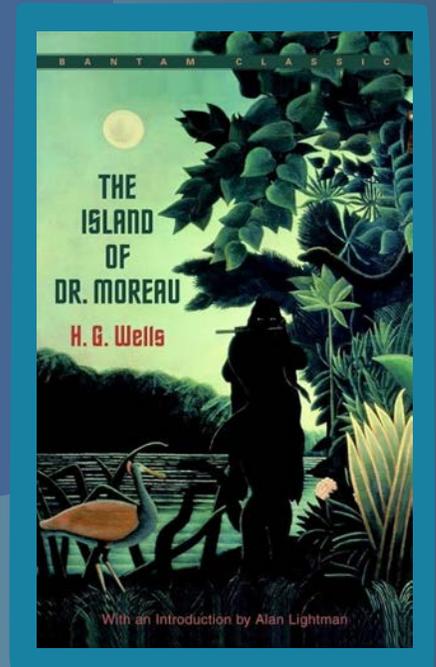


1800s



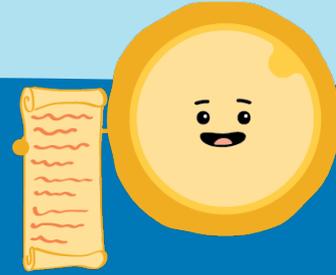
1896

Publication of H. G. Wells' *The Island of Doctor Moreau*. This novel builds on the trope of the mad scientist that Mary Shelley originated in *Frankenstein* to question the ethics of scientific ambition and artificial creation. Wells' Doctor Moreau, an exiled vivisectionist, splices together animals to create humanoid creatures.



1900s

1903 - 1943



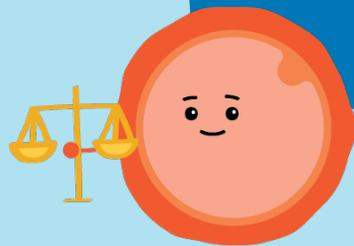
'The Infantorium' run by Martin Couney at Luna Park, Coney Island, US. This attraction allowed visitors to see premature babies in incubators with entry fees helping to fund staff and incubator costs to save these babies' lives.



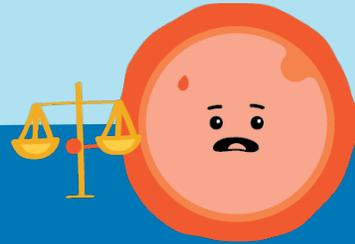
1900s

1911

The first maternity benefit laws were passed in the UK, offering 30 shillings to cover maternity costs.



1910s



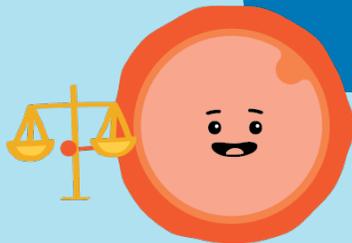
1912

The first International Eugenics Congress was held by the Eugenics Society at the University of London, in South Kensington, London, UK. This conference was held to disseminate and advocate for eugenicist ideas.

1910s

1918

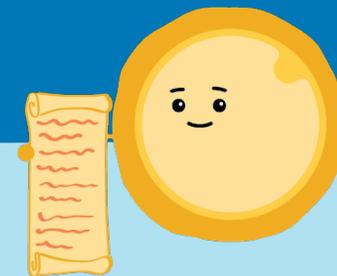
Women over 30 gained the right to vote in parliamentary elections for the first time in the UK, if they already voted in local government elections or were married to men who did.



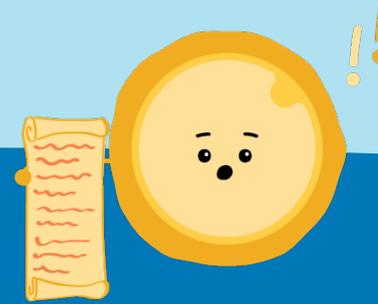
1920s

1920s

The first birth control clinic was opened by Marie Stopes in London, UK.



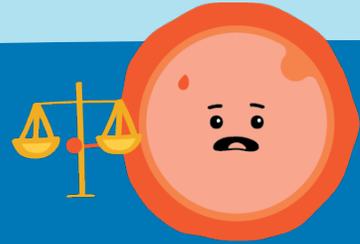
1920s



1923

JBS Haldane gives a speech to the Cambridge Heretics Society that presents a speculative timeline of ectogenesis.

1920s

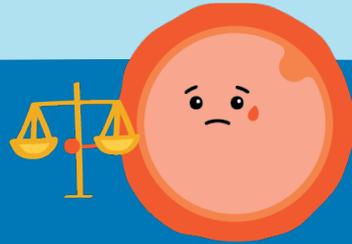


1929

The Infant (Life Preservation) Act 1929 creates the offence of child destruction at or before birth, punishable with up to life imprisonment. It introduces a rebuttable presumption that a fetus of 28 weeks or more is capable of being born alive. The Act applies to England and Wales.

1930s

1930s

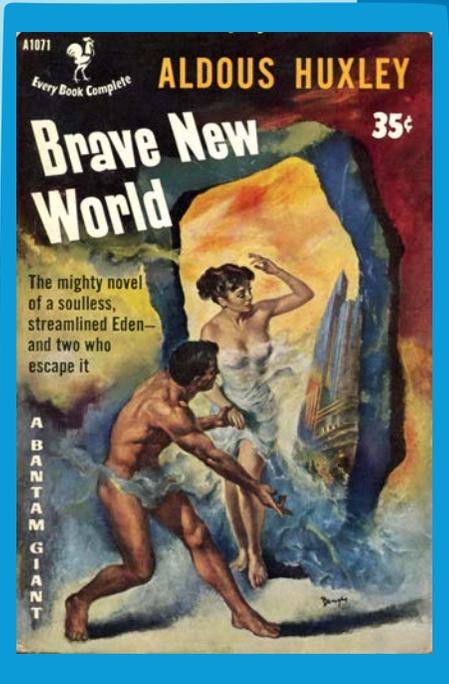


Widespread forced sterilisations under eugenic programs across Germany, Japan and the US, used to control populations considered 'undesirable' or 'unfit' to procreate. This included immigrants, ethnic minorities, those considered mentally unwell, and poor people.

1930s

1932

Aldous Huxley's dystopian novel *Brave New World* was published in London, UK. Set in a world in which reproduction takes place in a factory setting, Huxley's novel includes one of the most famous representations of an artificial womb in Anglophone culture.



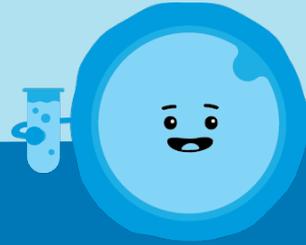
1940s



1948

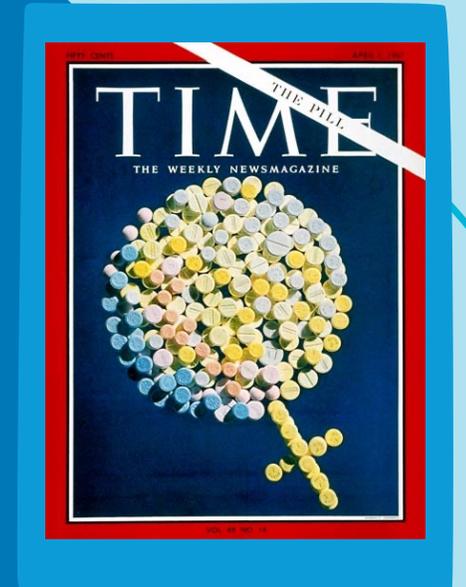
The National Health Service (NHS) was established in the UK.

1950s



1951

Development of the contraceptive pill by scientists begins in the US, led by Dr Gregory Pincus. It works by mimicking the hormonal response to pregnancy to counteract conception.



1950s



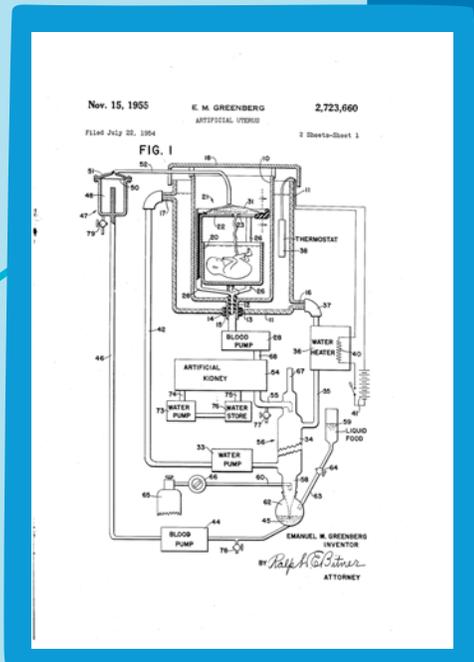
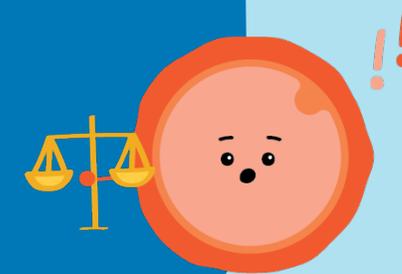
1951

Henrietta Lacks was treated for an aggressive cervical cancer at John Hopkins Hospital, where samples were taken during diagnosis. These cells –later known as HeLa cells– were passed to another researcher without Lacks’ knowledge or consent. The first immortal human cell line, HeLa cells have been used extensively in biomedical research, with over 50 million metric tonnes produced.

1950s

1954

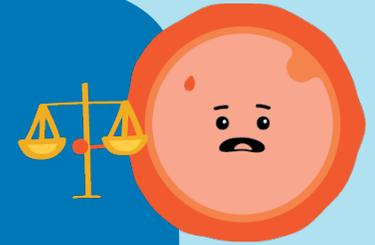
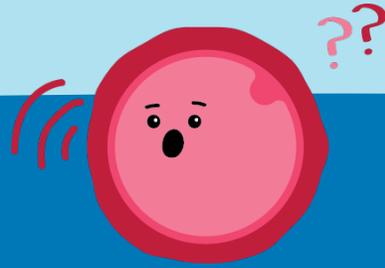
A patent for artificial wombs is filed by Emanuel Greenberg in New York, US. The artificial womb is used to 'support a prematurely born fetus and to provide nourishment and elimination of waste products in a manner similar to that employed by the mother's uterus'.



1950s

1955

Human trials of contraceptive pill trials are held in Puerto Rico, a US territory, by John Rock and Gregory Pincus. The trials took place here due to strong opposition to birth control in America, whereas officials in Puerto Rico supported birth control as a form of population control.

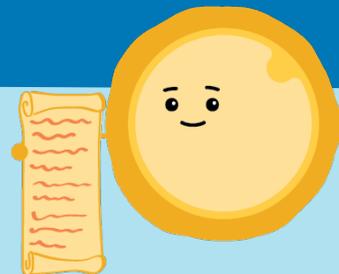


1950s



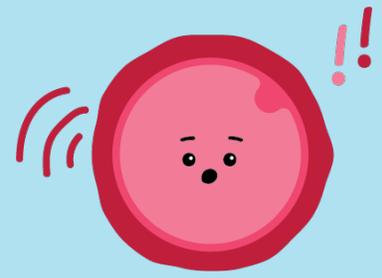
1956

Ian Donald at GRMH (Glasgow Royal Maternity Hospital) first used ultrasound in diagnostic medicine to determine the diameter of the fetal head in 1956. This became essential for prenatal care throughout the 60s and 70s, and represented a step change in understanding fetal development.





Did you know? - The Pill

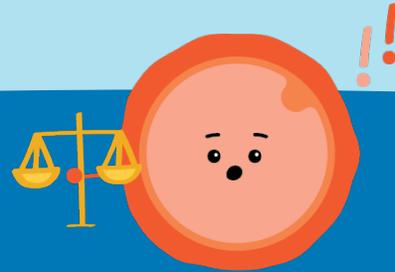


Initial reaction: The Pill is seen as a major disruption to traditional gender roles, family planning and morality, empowering women to have more control over their bodies. There were also fears that this would promote promiscuity with the pill initially only prescribed to married women, reflecting societal concerns. Across the 1960s and 70s it was covered extensively, often with headlines like 'The Pill: Freedom or Moral Decline?'. Time Magazine featured the Pill on its cover, reflecting its impact on women's liberation.

Now: The Pill is widely accepted as a standard form of birth control. It has empowered women in family planning, education, and career choices. It also sparked the development of other long-term contraceptive methods such as implants and IUDs.

1960s

1960



The contraceptive pill is approved by the Food and Drug Administration (FDA), in the US. It was later approved for use on the NHS in the UK in 1961, initially only to married women.

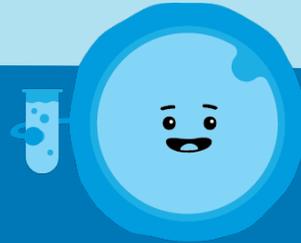
1960s

1962

The photoseries 'Drama of Life Before Birth' by Lennart Nilsson was published in Life Magazine. This was a series of photographs which depicted the stages of human fetal development from fertilisation to just before birth.



1960s

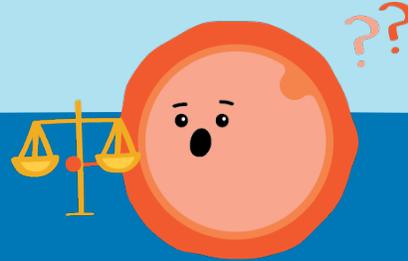


1967

Design prototype of first home pregnancy test by Margaret Crane in New Jersey, US. The kit allowed women to test whether they were pregnant or not without needing to consult a doctor.



1960s

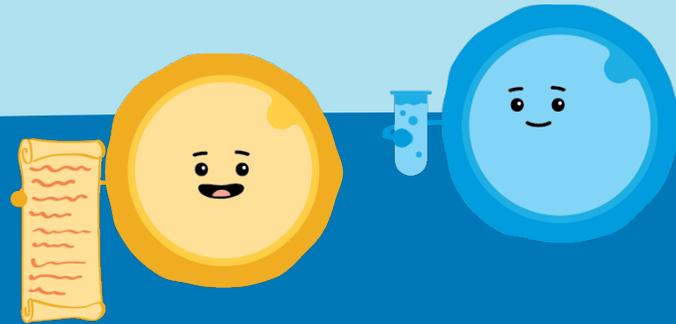


1967

The Abortion Act introduces two grounds on which a registered medical practitioner can terminate a pregnancy if two registered medical practitioners are of the opinion, formed in good faith, that one of these grounds has been met. The Act applies to England, Scotland and Wales.

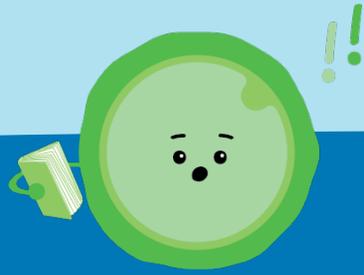
1960s

1969



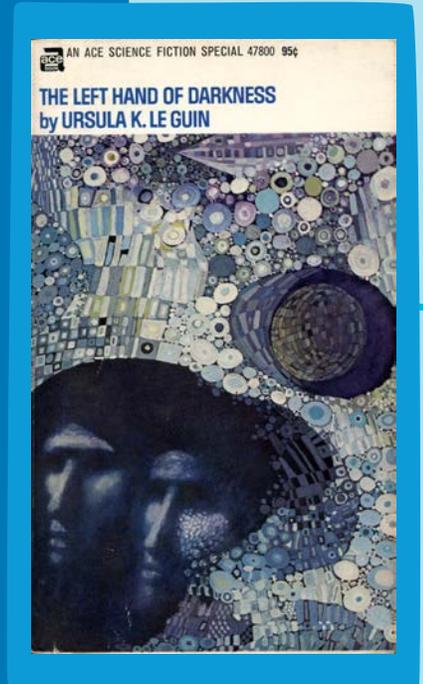
The first time a human egg was fertilised in a test tube by Robert Edwards in Oldham, UK. This started in vitro fertilisation (IVF) attempts in research labs across the UK and US.

1960s



1969

Ursula K. Le Guin's novel *The Left Hand of Darkness* was published in the US. Set on a planet where the population is ambisexual (with no fixed sex), Le Guin's novel explores how relationships between gender and reproduction shape society and politics. Its most famous line, 'the King was pregnant' signals the vast difference between this world and Le Guin's.



1960s

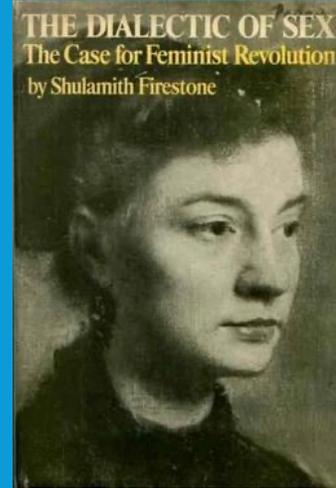


1969 - 1974

The TV show 'The Brady Bunch' was broadcast on ABC in the US. The show portrayed a blended family formed by the marriage of a man and a woman with children from previous marriages, introducing the concept of blended families to mainstream audiences. It showed how families could thrive despite non-traditional structures and was a reflection of societal changes, as divorce rates rose, and remarriage became more common.



1970s

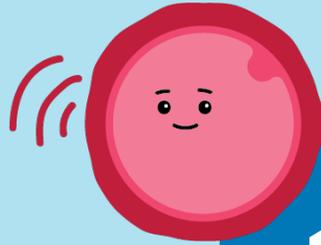


1970

Shulamith Firestone's work of feminist theory, *The Dialectic of Sex* was published in the US. Often cited as an example of techno-optimism, Firestone argues that reproductive technologies such as artificial wombs have the potential to advance gender equality.



1970s



1972

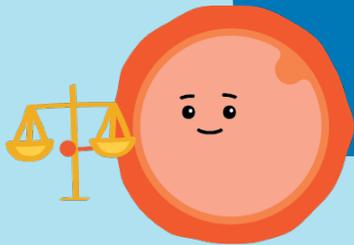
First broadcast of ABC's *That Certain Summer*. This made-for-TV movie about a father who comes out to his teenage son was the first sympathetic depiction of gay parenting to appear on US television.



1970s

1973

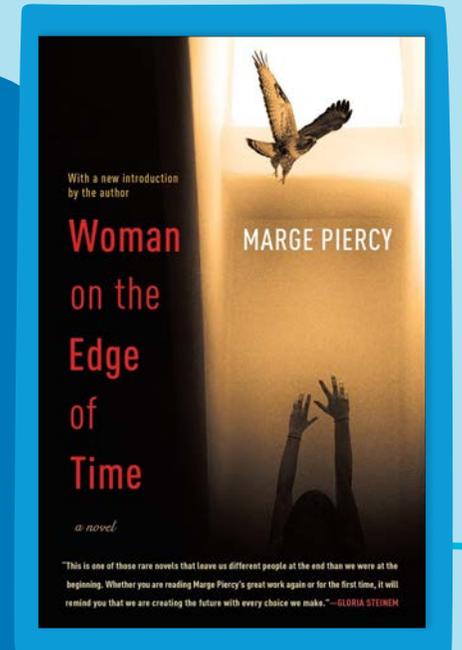
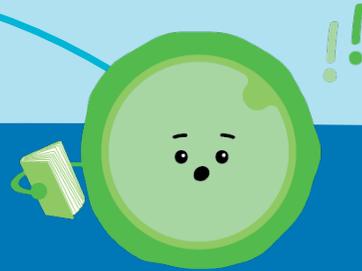
In *Roe v Wade*, the US Supreme Court establishes a woman's constitutional right to have an abortion in the first trimester of pregnancy.



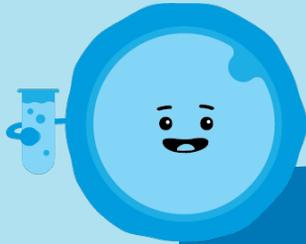
1970s

1973

Woman on the Edge of Time, a novel written by Marge Piercy, was published in the US. It envisions a future with gender-equal reproduction via artificial wombs.

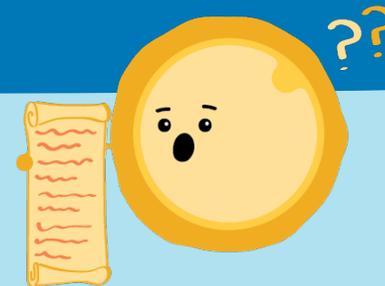
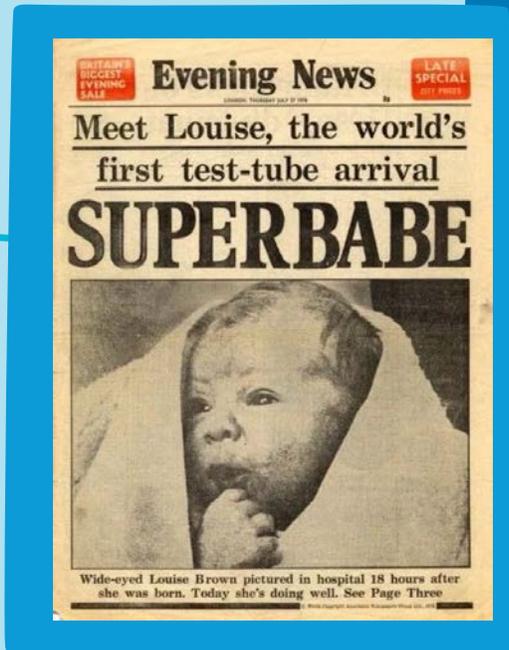


1970s

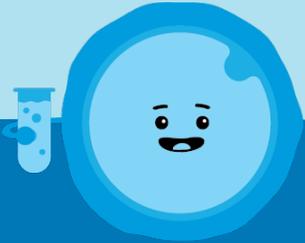


1978

The world's first IVF baby, Louise Brown, was born in Oldham, UK.

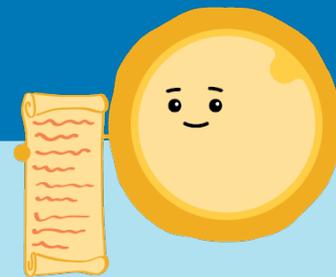


1970s



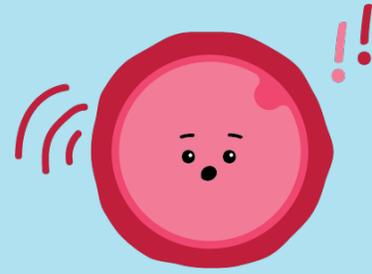
1978

The second ever IVF baby, Kanupriya Agarwal, nicknamed 'Durga' was born in Calcutta, India. This birth occurred 67 days after Louise Brown.





Did you know? - IVF



Initial reaction: When the world's first IVF Louise Brown was born in 1978, the birth made global headlines with The Daily Mail calling her a "miracle baby" while religious groups warned of 'unnatural' reproduction that was 'playing God'. This resulted in infertility becoming a medical rather than just a social stigma and feminist movements pushing for reproductive autonomy, influencing policy changes.

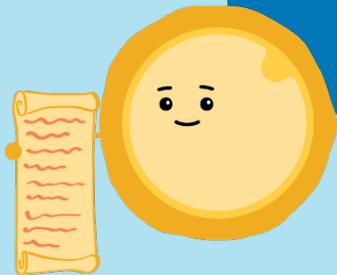
Now: IVF is a mainstream fertility treatment, with over 8 million IVF babies born worldwide. Advances in genetic screening and embryo freezing have further normalised its use.

1980s

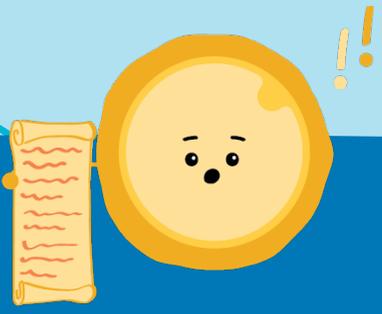


1981

The first in vitro fertilisation (IVF) clinic was founded by Patrick Steptoe, Robert Edwards and Jeane Purdy at Bourn Hall, Cambridge, UK. This clinic created the first ethics committee for discussing IVF.



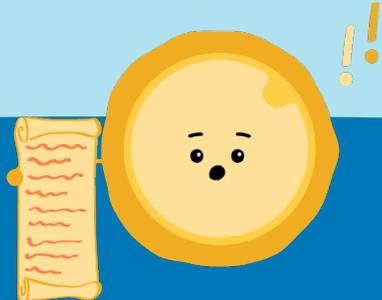
1980s



1981

The first IVF academic conference takes place at newly opened Bourn Hall. This brought together IVF specialists to discuss this emerging field.

1980s



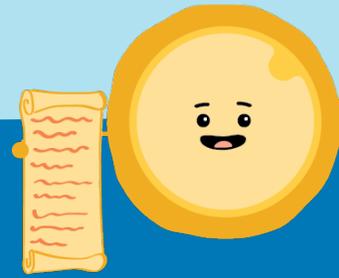
1983

The first NHS-funded IVF service was established at Saint Mary's Hospital, in Manchester, UK.

1980s

1983

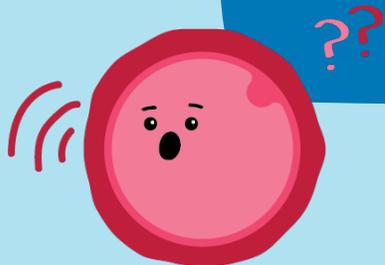
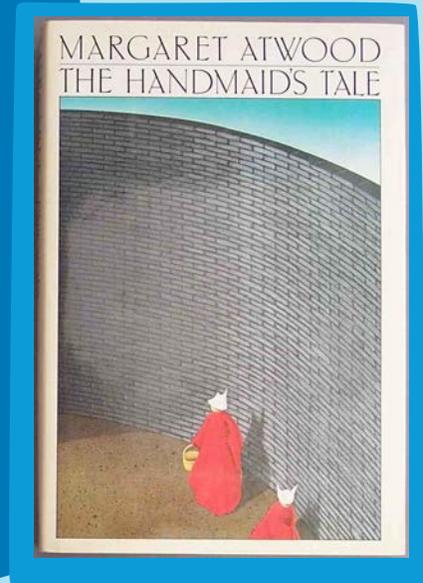
The first ever child conceived with a donor egg was born in Australia.



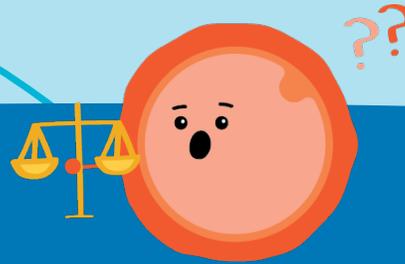
1980s

1983

The Handmaid's Tale by Margaret Atwood was published in Canada. This dystopian novel critiques forced pregnancy and theocratic control. It has had a lasting legacy in US reproductive activism.



1980s



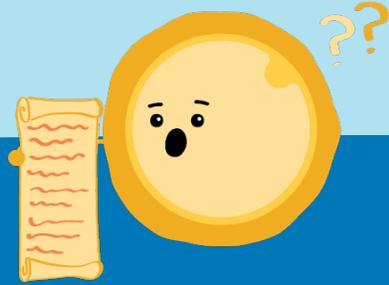
1985

The UK's Surrogacy Arrangements Acts regulates surrogacy arrangements.

1980s

1986

First study to show neonatal preference for listening to stories that had been heard in the womb - Fetuses can learn (DeCasper and Spence)



1980s



1989

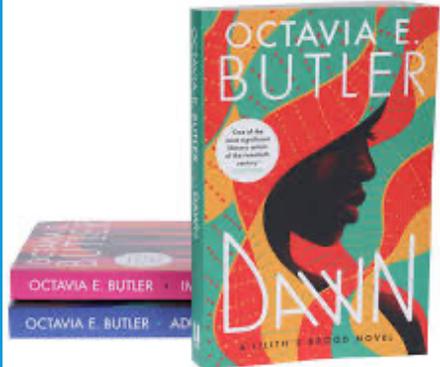
The inception of ICSI (Intracytoplasmic Sperm Injection), aiding male infertility by Gianpiero Palermo in Brussels, Belgium. This treatment provides assistance to couples who were unable to have a baby where the father was the genetic parent.

1980s



1989

Octavia E. Butler's Xenogenesis trilogy was completed. This series of novels depicts the invasion of an alien species who are able to modify the genetic makeup of other life forms. It explores relationships between power and genetic modification, critiquing Cold War politics and nuclear armament.



1980s

1989

Barbara Kruger makes bold text-based art that critiques abortion bans, such as 'Your Body Is a Battleground'.



1980s



1989

Publication of *Heather Has Two Mommies* in the US, a children's book by Lesléa Newman depicting a family with lesbian parents.



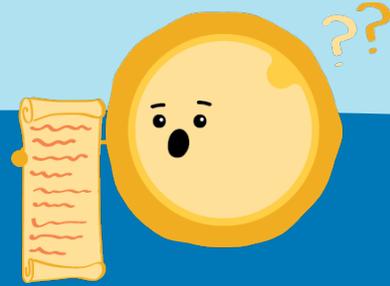
1990s – Internet & Social Media

Initial reaction: Seen as a niche tool for academics and tech enthusiasts. There were early concerns about safety, fraud, and its impact on social skills. Social media was initially dismissed as a fad or a distraction.

Now: The internet is fundamental to communication, work, shopping, and entertainment. Social media is a dominant force in politics, business, and personal interaction.

cultural context

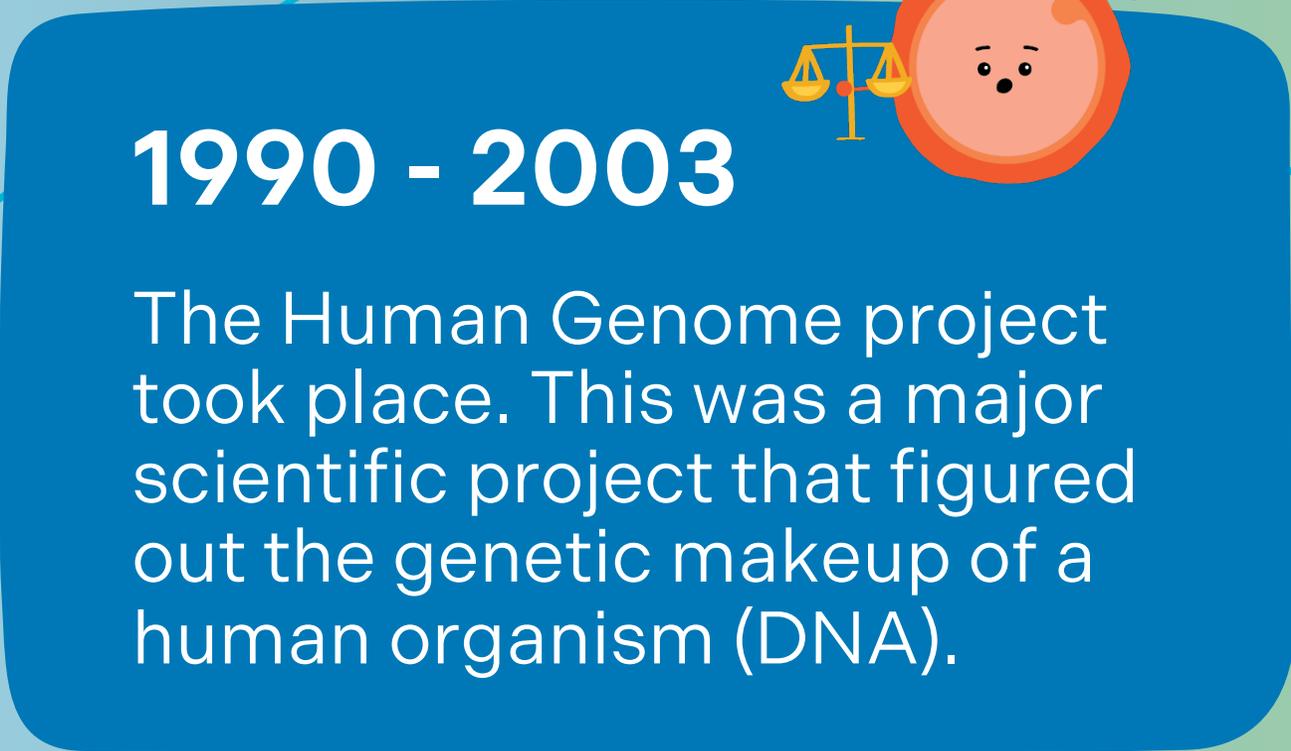
1990s



1990

The UK's Human Fertilisation and Embryology Act regulates the creation and use of human embryos, including in fertility treatment and research. It creates and establishes the Human Fertilisation and Embryology Authority (HFEA) as the regulatory body. It also amends the Abortion Act 1967 to introduce two further grounds on which a pregnancy can be terminated, with a 24-week time limit included in one of those grounds.

1990s



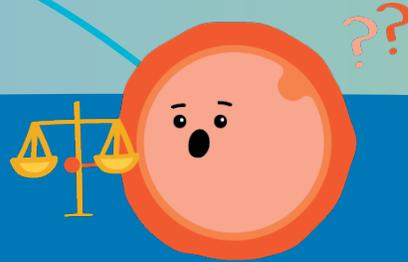
1990 - 2003

The Human Genome project took place. This was a major scientific project that figured out the genetic makeup of a human organism (DNA).

1990s

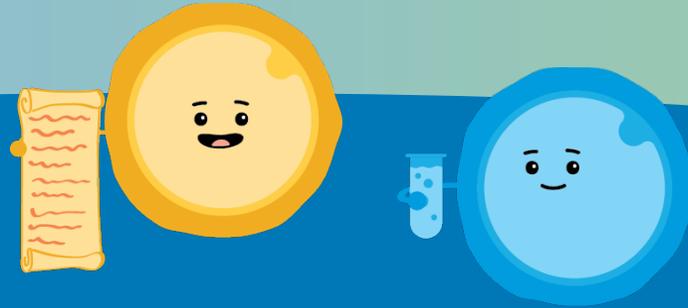
1991

The first edition of the HFEA's Code of Practice is published.



1990s

1992

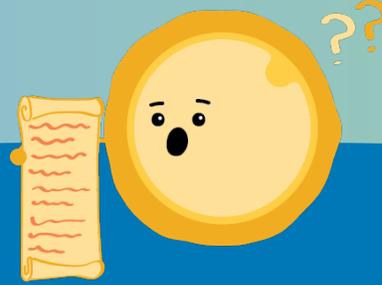
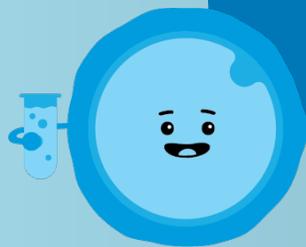


Birth of first child following preimplantation genetic testing (PGT) reported by clinicians at Hammersmith Hospital, London, UK including Andy Handyside and Robert Winston. This procedure is used to prevent genetic disorders from passing from a parent to their child.

1990s

1996

Dolly the sheep is the first cloned mammal created from an adult cell. This was part of the Roslin Institute's research into genetically modified farm animals or livestock at the University of Edinburgh, Scotland, UK, led by Ian Wilmut.



1990s

1999

The Wachowski's science fiction film The Matrix was released by Warner Bros Entertainment. This explores relationships between technology, control and human identity. It includes one of the most famous cultural representations of an artificial womb.



2000s – Online Banking & Contactless Payments

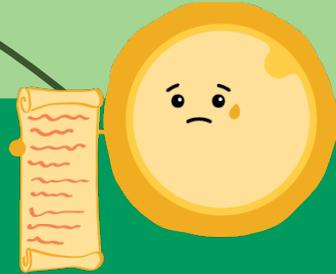
Initial reaction: Many feared online banking was too insecure to be widely adopted. Contactless payments were met with scepticism about fraud risks.

Now: Online banking is the norm, with many banks shifting to digital-first services. Contactless payments are now the preferred payment method in the UK, boosted by COVID-19.

cultural context

2000s

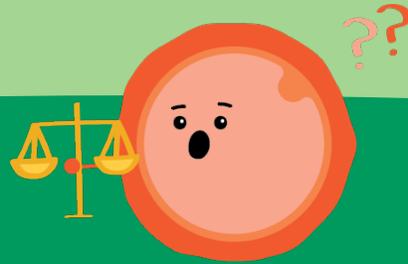
2000



The first report of a human uterus transplant, performed in Saudi Arabia. The transplantation failed after 99 days.

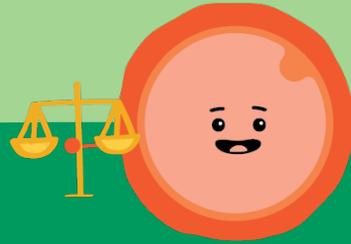
2000s

2001



The UK's Human Reproductive Cloning Act prohibits placing in a woman a human embryo created other than by fertilisation.

2000s



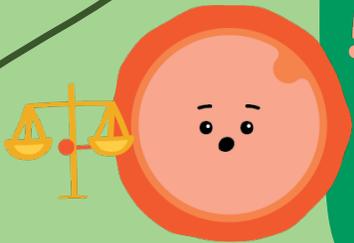
2005

The UK's Gender Recognition Act enables transgender people to have their gender legally recognised, including by changing their recorded sex on their birth certificate.

2000s

2008

The Human Fertilisation and Embryology Act introduces new provisions about who can be treated in law as the parents of a child born following medically assisted reproduction. It also amends the Surrogacy Arrangements Act 1985, the Human Fertilisation and Embryology Act 1990, and repeals the Human Reproductive Cloning Act 2001.



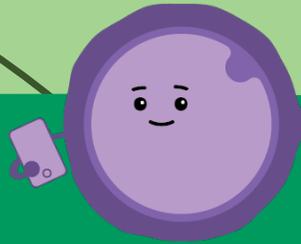
2010s – Ridesharing & Gig Economy

Initial reaction: : Traditional taxi drivers protested Uber's disruption of their industry. Concerns are raised over worker rights and regulatory loopholes.

Now: OnRide-sharing services are a major part of urban transport. Gig work has become a widespread employment model, despite ongoing debates over labour rights.

cultural context

2010s



2010

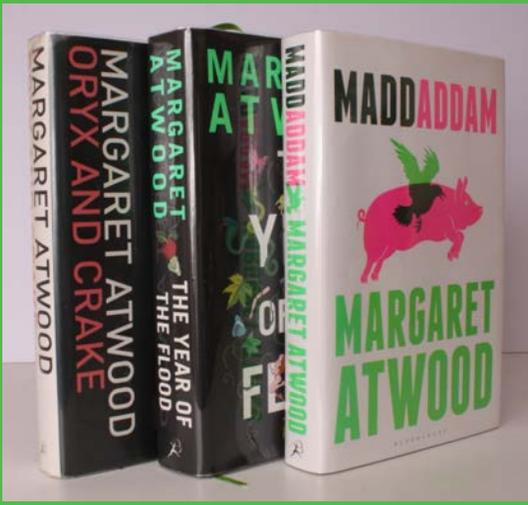
Growth of FemTech, for example period-tracking apps such as Clue, Flo, and Ava, which revolutionize individuals' knowledge and awareness of their menstrual cycles.

2010s



2013

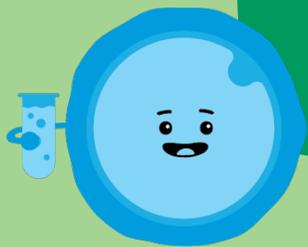
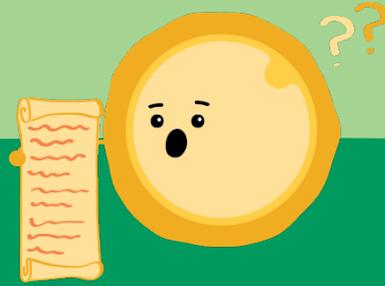
Margaret Atwood's Maddaddam trilogy was completed. These speculative novels are set shortly before, and in the aftermath of, a bio-engineered apocalyptic event. They explore how relationships between the art, nature and technology change under a system of advanced capitalism and imagine some possible effects of genetic engineering.



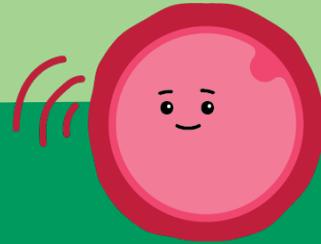
2010s

2014

First publication on CRISPR titled 'The new frontier of genome engineering with CRISPR-Cas9' by Doudna and Charpentier showed a link between bacteria and genome editing.



2010s



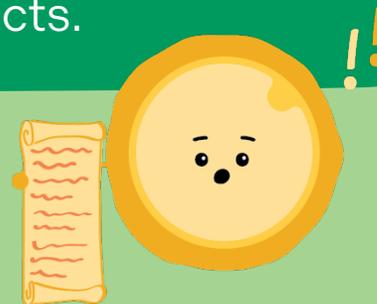
2014

'Social' egg freezing (done for non-medical reasons) becomes a workplace benefit at Apple and Facebook to attract women into the workforce.

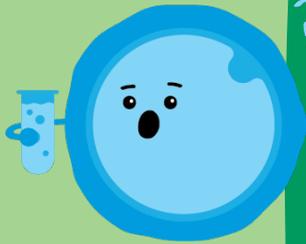
2010s

2017

A team from The Children's Hospital of Philadelphia (CHOP) reported the development of the Biobag, an external gestation environment that closely reproduces the conditions of the womb. The Biobag is a sealable polythene bag containing sterile, synthetic amniotic fluid, with catheters delivering nutrients and removing waste products.

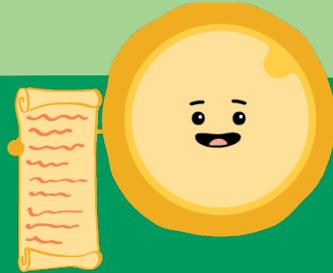


2010s



??

2017



First experimental study to use light and 4D shows that fetuses can process and show preference for visual patterns: can have 4D ultrasound images and light sources used as artefacts.

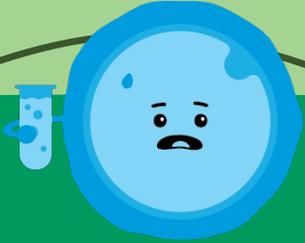
2010s



2018

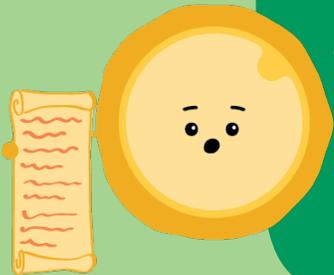
Only one baby born with Down Syndrome in Iceland due to prevalence of selective termination after pre-natal tests.

2010s



2018

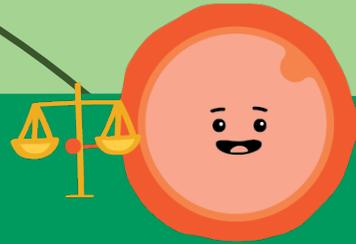
Chinese scientist He Jiankui announces that he has created the world's first gene-edited babies using CRISPR-Cas9. He claimed to have edited a gene in embryos from twin girls (known as Lulu and Nana) to make them resistant to HIV, since their father was HIV-positive. He Jiankui was later sentenced to 3 years in prison by a Chinese court for "illegal medical practices."



2010s

2019

Abortion in Northern Ireland is decriminalised, with the relevant sections of the Offences Against the Person Act 1861 repealed. Abortions can now be legally performed across the UK.



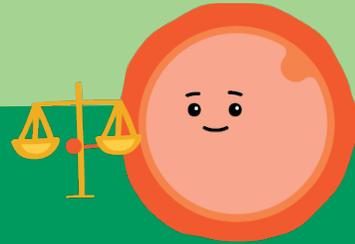
2020s



2020

Human induced pluripotent stem cells re-programmed to the stage before they become eggs.

2020s



2020

Early home abortions (before ten weeks) temporarily approved in England during the COVID-19 pandemic. In 2025 this change was made permanent.

2020s

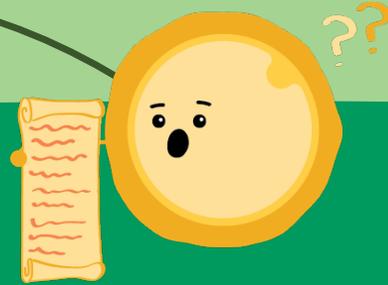


2021 - 2025

Potential movement away from
the 14-day rule for embryo
research

2020s

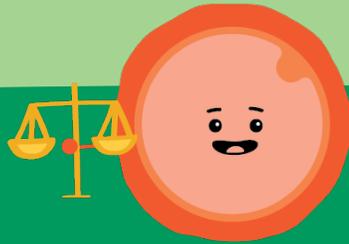
2021



ThermoFisher, sued by the Lacks family, for unjust enrichment in the use and commercialisation of the HeLa cell line, which was obtained without the consent of the donor, Henrietta Lacks, during a medical procedure in 1951.

2020s

2021



International Society for Stem Cell Research (ISSCR) removes support for the rule from its 2021 guidelines, recommending public conversations about the societal and ethical issues.

2020s



2022 - 2023

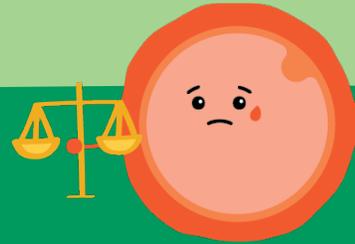


The rise of the trad-wife movement online. Content creators such as Nara Smith and Ballerina Farm advocate for a return to traditional gender roles, particularly women taking on domestic roles like looking after the children and the home.



2020s

2022



The 1973 decision in Roe v Wade is overturned by the US Supreme Court, enabling individual states to enact or enforce laws restricting, banning or permitting abortions.

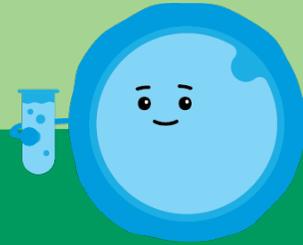
2020s



2023

Teams based in the UK/US and Israel report having created of the first human stem cell-based embryo models.

2020s

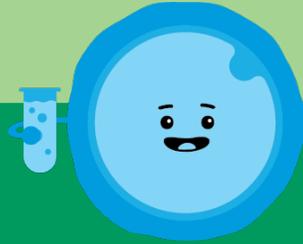


2023

Scientists create mice with two fathers after making eggs from male cells, opening up new opportunities for reproduction.



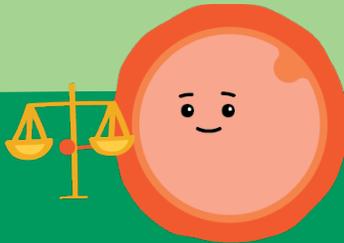
2020s



2023

MHRA authorisation for gene therapy through CRISPR that aims to cure sickle cell anaemia + Beta Thalassemia.

2020s



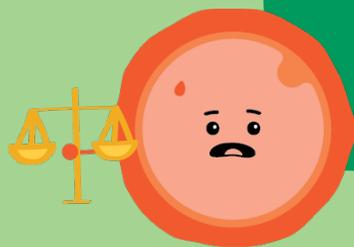
2023

The Health Council of the Netherlands recommends that the 14-day rule for embryo research be extended to a 28-day rule.

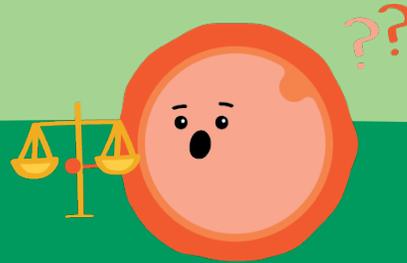
2020s

2023

Nuffield Council on Bioethics publishes its report on stem cell-based embryo models and recommends setting up a distinct a governance framework (separate from that for embryos).



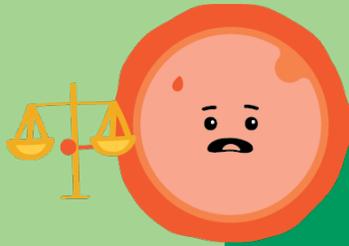
2020s



2024

HFEA recommends that the law is changed to extend the time limit on embryo research.

2020s



2025

Nuffield Council on Bioethics commences a major review of the 14-day rule for research on human embryos.

2020s

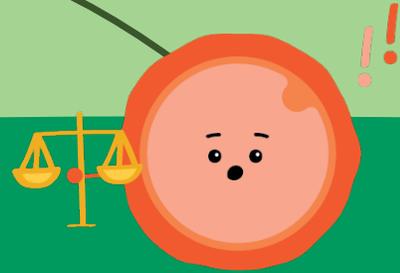
2025



For the first time in the UK, a woman (Grace) has given birth following a womb transplant. The baby is called Amy Isabel, named after Grace's sister Amy, who donated the womb. This follows over 25 years of research by a team led by Professor Richard Smith.



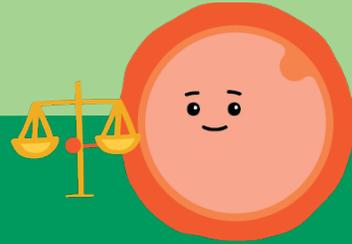
2020s



2025

The UK Supreme Court unanimously rule that, under the Equality Act 1990, the terms 'woman,' 'man,' and 'sex' refer exclusively to biological sex.

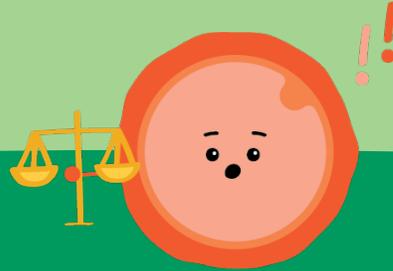
2030s



2030

Human trials of artificial womb technology begin in the US in extremely premature neonates who would have died without intervention.

2030s



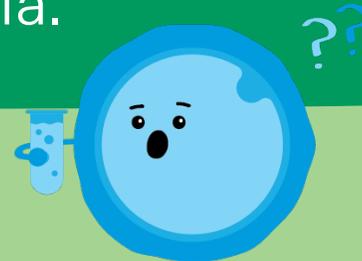
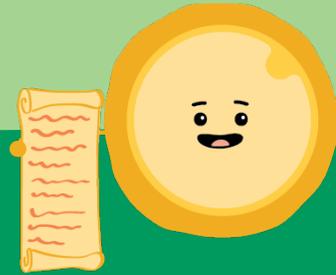
2030

First death of a fetus gestating in an artificial womb as part of US trial, at 24 weeks gestation. Further trials are suspended to allow for investigation.

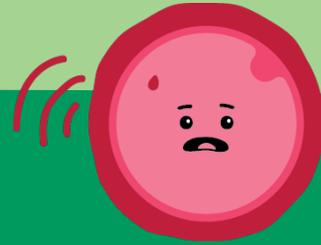
2030s

2031

First birth following gestation in an artificial womb is recorded in the US as part of a trial at the Children's Hospital of Philadelphia.



2030s

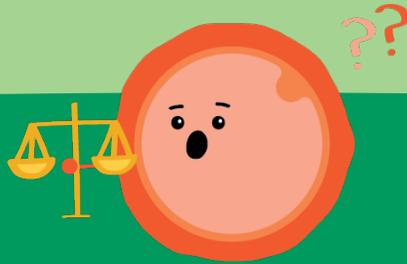


2032

Large scale protests occur in UK, France, Australia and Canada seeking reduction of gestational limits on abortion given recent advances in neonatal care and increased power of the pro-life movement.

2030s

2033

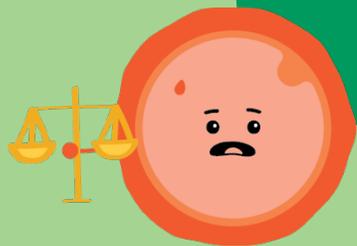


Human Fertilisation and Embryology Act substantially revised and updated. This includes new provisions on: ex utero gestation, IVG, embryo research and the governance of stem cell-based embryos, surrogacy, and the definition of legal parenthood.

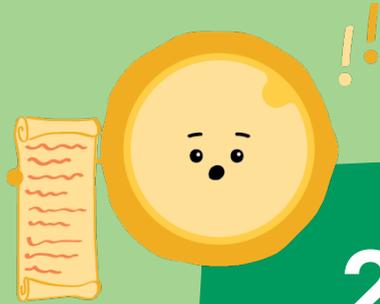
2030s

2035

14-day rule on embryo research extended or abandoned in many countries, while some others prohibit embryo research altogether.

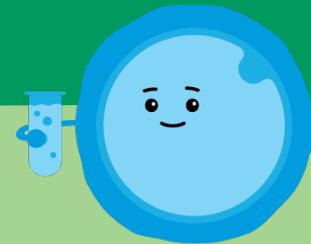


2030s

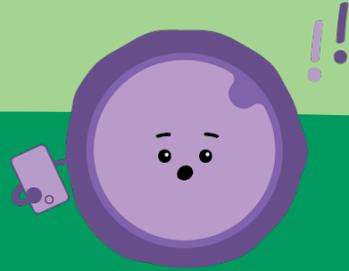


2036

First human egg cells created from stem cells via in vitro gametogenesis are reported by a Japanese team at The International Genome Editing Summit held in Barcelona, Spain.



2030s



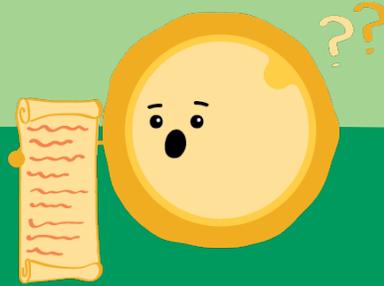
2037

Children born as a result of early artificial womb trials show signs of delayed cognitive development.

2030s

2039

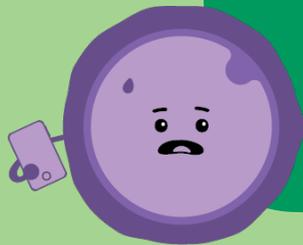
NASA establishes first permanently staffed base on the moon.



2040s

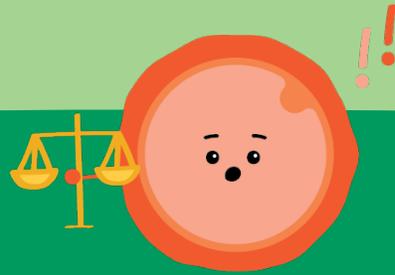
2040

The Association of British Insurers, facing increased costs resulting from insurance claims from individuals who take out life and health insurance after direct-to-consumer genetic testing has revealed a late onset genetic disorder opt out of England and Wales' Code on Genetics and Insurance, allowing the denial of coverage in such cases.



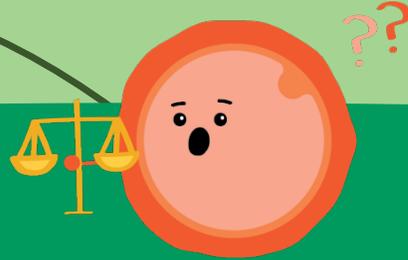
2040s

2041



The Viable Persons Act introduces 22 weeks as the age of fetal viability. It amends the Abortion Act 1967, so that no pregnancy can be terminated after 22 weeks gestation.

2040s



2041

First successful wrongful life case in UK brought by the parents of Rupert Standerwick, a child born with Tay Sachs Disease after a clinic mix-up of IVF embryos following pre-implantation genetic diagnosis.

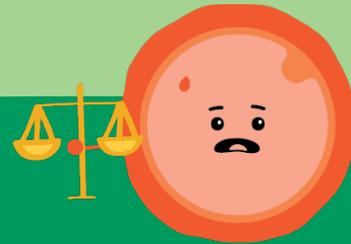
2040s



2042

Birth of Isla Anderson, the first child born with two male genetic parents in Melbourne, Australia. One of the fathers' sisters acted as surrogate.

2040s



2045

The first global class action lawsuit, on behalf of children gestated ex utero and who have significant health problems, is registered at the World Biotech Court.

2040s

2048

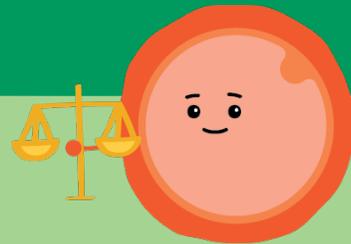
Reboot of historical family drama The Waltons is released on streaming platforms. Depicting the lives of a family (the descendants of characters on the original series) during the Iraq wars and the 2008 financial crash, the show promotes traditional American values and family models.



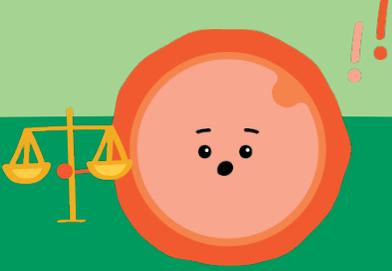
2040s

2049

CRISPR is permitted in England and Wales for dominant genetic disorders where one or both parents have carrier status.



2050s

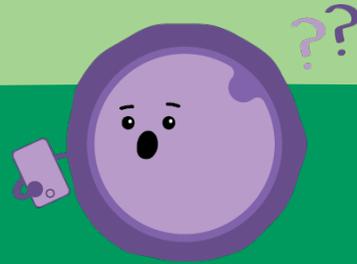


2052

First advance directive requiring fetal removal into an artificial womb in case of fatal accident is recorded in Glasgow, Scotland. Discussions in the media and the academic literature ensue regarding the validity of this request.

2050s

2054



NHS spending reports suggest that dealing with the aftereffects of reproductive medical treatments carried out overseas is costing now £800m per annum.

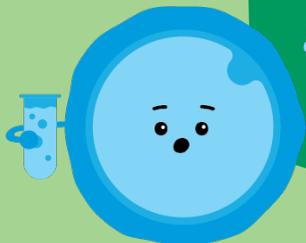
2050s

2057

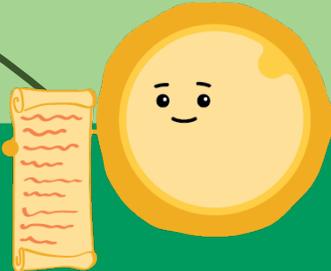


Access to surrogacy and living uterus donor transplantation are restricted in the UK given recent advances in artificial womb technology which allow gestation from conception until birth.

2060s



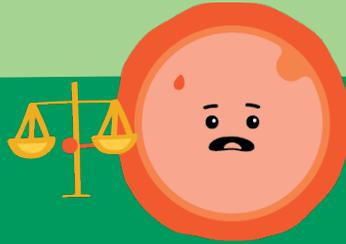
2061



First human baby born on the moon,
as part of a research trial into long-
range space colonisation.

2060s

2064

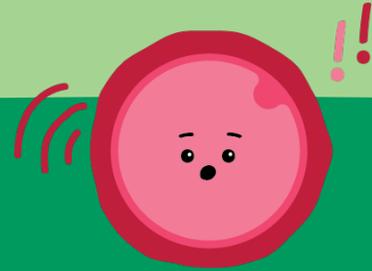


Due to the risks associated with ovarian stimulation this procedure is outlawed in England and Wales. All eggs for IVF must now be created using in vitro gametogenesis.

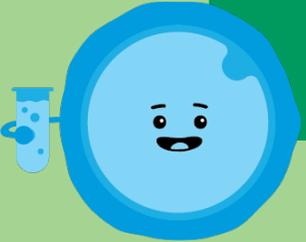
2060s

2065

An underground 'natural' gamete market operated from a fertility clinic in London is raided by police following the hospitalisation and subsequent death of Lena Spetisbury from Ovarian Hyperstimulation Syndrome.

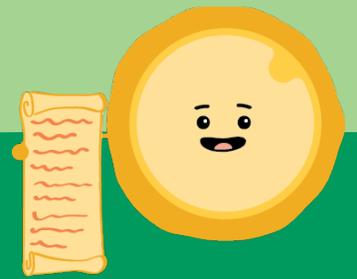


2070s

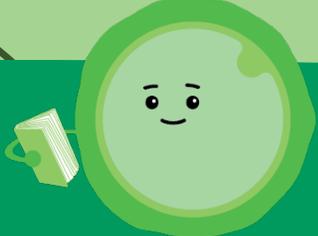


2071

The first child to be successfully gestated through ectogenesis is born in the Netherlands.



2070s

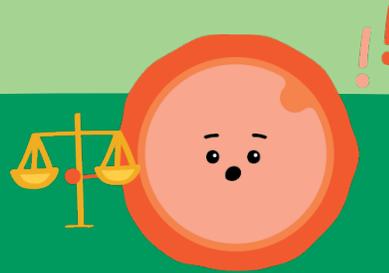


2079

Storyline in Coronation Street that involves an artificial womb in a case of unknown parentage.

2080s

2085

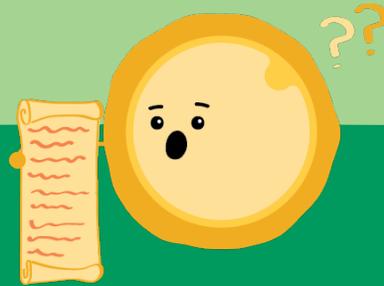


First forced removal of fetus to an artificial womb in Denmark, undertaken on the grounds of 'child welfare' due to maternal substance dependency.

2080s

2086

The 1000th baby born in space is recorded at a lunar colony.



2080s



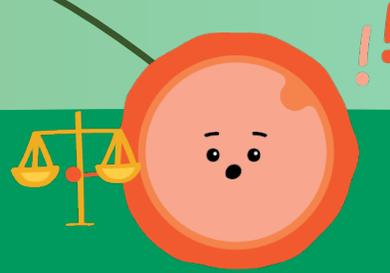
2080s

Pulitzer Prize for Fiction awarded to Cosima Jackson for *Terra Cimmeria*, a realist novel depicting family life among settlers in the first Mars colony.

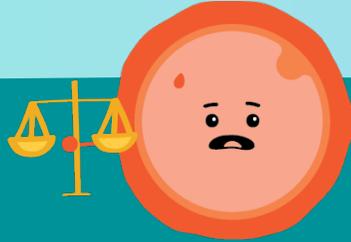
2090s

2095

A mix up of fetuses gestated ex utero at a fertility clinic in California is resolved amicably without litigation.



2100s



2103

First lawsuit filed against clinic in US for misrepresented genome editing, where child was not deemed to be as intelligent as the treatment had promised.

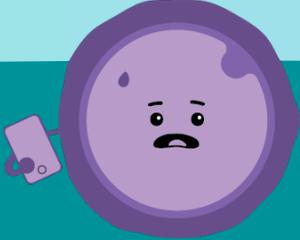
2100s



2119

Liu Wei's historical thriller *The He Jiankui Affair*, which dramatises the fallout from the first use of CRISPR CAS-9 on human embryos in 2018, wins the Academy Award for Best International Feature Film.

2100s



2134

Fatal genetic disease identified in the offspring of genome-edited parents. Concerns resurface regarding the off-target effects of genome editing.

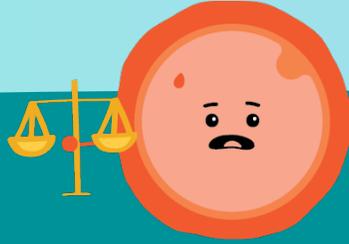
2100s



2141

French research facilities are established to conduct psychological experiments on human fetuses gestated by artificial womb technologies, exposing and depriving them of various environmental stimuli to observe the resulting effects on children.

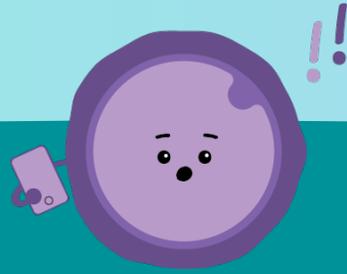
2100s



2159

Use of CRISPR to alter 'social' traits such as skin tone, eye colour, and height is permitted in Brazil.

2100s



2174

A UK research study shows that school attainment gap has narrowed due to widespread optimisation of psychological input prior due to the widespread use of artificial womb facilities.

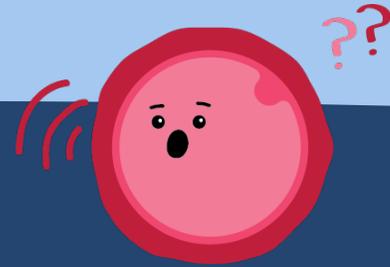
2200s

2202

CRISPR is used to create human-animal hybrids with sonar and gills.



2200s

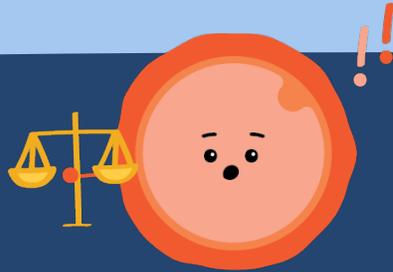


2237

Isolationist community 'Children of the Earth' is founded in Ethiopia. Members aim to preserve 'natural' human reproduction.

2200s

2299



Gene edited populations in North Korea, Chile and The Isle of Man are no longer able to procreate with unedited populations.