

Barbican launches *Life Rewired*: a season exploring what it means to be human when technology is changing everything

The Barbican today launches *Life Rewired*, an arts and learning season running throughout 2019 exploring what it means to be human in the face of technological and scientific forces that are dizzying in their speed, scale and complexity.

The season investigates the impact of the pace and extent of technological change on our culture and society, looking at how we can grasp and respond to the seismic shifts these advances will bring about.

Life Rewired will interrogate how artists are responding to a time when technology is simultaneously enhancing our lives and challenging our identity by creating machines with human characteristics. It will explore how scientific breakthroughs can affect us at every stage of our life; from expert and first-person perspectives on IVF, to the personal and societal impact of lengthening life expectancy.

The season will demonstrate how artists are finding imaginative ways to communicate the human impact of unprecedented technological shifts, as well as finding creative new uses for Artificial Intelligence, big data, algorithms and virtual reality.

Sir Nicholas Kenyon, Managing Director, Barbican, said: *"Life Rewired in 2019 will be a thought-provoking mix of new ideas from the worlds of the arts, technology, science, culture, economics, philosophy and politics, which aims to help us understand the big questions facing our society. The Barbican's commitment to exploring arts without boundaries see us embark on a year-long season which asks how the arts can help us understand and shape our future, at a time of unprecedented volatility and uncertainty."*

Louise Jeffreys, Artistic Director, Barbican said: *"With scientific and technological change having the potential to alter everything we think we know about being human, the arts are uniquely placed to find creative and accessible ways to present and respond to the complex ideas and technological developments that will affect us all. The Barbican's cross-arts approach enables us to offer something for everyone, presenting work that showcases the creative potential of new technology, while starting a conversation about the role we want it to play in our world."*

The *Life Rewired* season follows a record-breaking year for the Barbican, with the organisation's annual review, which is published today, revealing that the Centre attracted a record 1.3 million people to its events in 2017/18.

Further highlights from the Barbican's 2019 programme will be announced in the coming months.

Chris Salter (Concordia University Research Chair in New Media, Technology and the Senses) has been the Barbican's Creative Consultant on *Life Rewired*, undertaking over a year of new research and planning in collaboration with the Barbican to develop the season.

A number of projects in the *Life Rewired* season have been generously supported by **Wellcome**.

Life Rewired programme highlights include:

- *AI: More Than Human* – a major new exhibition offering an unprecedented survey of creative and scientific developments in Artificial Intelligence, examining the evolution of the relationship between humans and machines. Featuring immersive new commissions and projects that allow visitors to experience AI first

hand from artists, researchers and scientists including **Joy Buolamwini**, **Stephanie Dinkins**, **Mario Klingemann**, **Kode 9**, **Lawrence Lek**, **Massive Attack**, **Lauren McCarthy**, **Yoichi Ochiai**, **Neri Oxman**, **Anna Ridler**, **Chris Salter**, **Sam Twidale** and **Marija Avramovic** and **Universal Everything**, and the interactive **Data Space**, which demonstrates how AI works and its potential to revolutionise how we live. Asking big questions around what it means to be human, whether machines will ever outsmart us and what happens if they do, *AI: More Than Human* will provide an essential guide for anyone curious about AI's role in our current and future society

- *Strange Loops*: a series of collaborative projects and events inspired by Pulitzer prize-winning book *Gödel, Escher, Bach: An Eternal Golden Braid* by Douglas Hofstadter, and exploring whether a machine can become conscious or creative. Led by mathematician **Marcus du Sautoy**, musician **Mahan Esfahani**, actor and mathematician **Victoria Gould**, composer **Ari Benjamin Meyers**, and visual artist **Ben Kreukniet**, *Strange Loops* will include a performance lecture in which du Sautoy and Esfahani challenge an audience to differentiate between music created by an algorithm and music composed by J. S. Bach
- A partnership with **Fertility Fest** to bring together medical experts, artists and audiences to discuss the subject of modern families and the science of making babies. As part of the festival, the Barbican and Fertility Fest have commissioned *Avalanche: A Love Story*, a stage dramatisation of **Julia Leigh**'s memoir on her experience of IVF treatment, directed by **Anne-Louise Sarkis**
- Two ambitious new projects from American artist **Trevor Paglen**
 - *Sight Machine*, a collaboration with **Kronos Quartet**, which examines if it is possible to reduce human creativity and emotional expression to data and calculations. A concert performed by Kronos Quartet will be processed live by Artificial Intelligence software which then projects back its interpretation of the experience, showing how algorithms perceive and respond to a concert
 - A new Curve commission that responds to the themes of the *Life Rewired* season and continues the artist's preoccupation with the historical moment we live in
- Significant new collaborations with leading scientific institutions, including:
 - The *Life Rewired Hub*, a temporary new venue for public programming on Level G designed by architects **Dyvik Kahlen** which will host a year-long programme of talks, workshops, interviews, screenings, research / residencies, small-scale performance and installations inspired by *Life Rewired* and co-programmed with the **Royal Society** and **British Council**
 - A partnership with the **London Mathematical Laboratory** on the *Science on Screen* season, which invites a series of scientists to select and discuss films on how changing technologies affect human experience and the relationship between humans and machines
 - A project with **King's College London Department of Psychiatry** in which Guildhall School of Music & Drama students will experiment with new approaches to arts and neuroscience
- Three new projects that look at the human impact of our ageing society:
 - A free Level G installation by **The Liminal Space** that uses a major research project undertaken with 2,000 over 70s in Camden to discover what it means to grow old in today's society and put forward new narratives around ageing

- *A Family Outing – 20 Years On*, in which **Ursula Martinez** revisits her 1998 theatre production, appearing onstage with her mother in an honest and frank performance exploring ageing and identity
- An evening with singer songwriter and technology innovator **Beatie Wolfe**, whose ground-breaking *Power of Music & Dementia* project explores the therapeutic benefits music can achieve
- Innovative new commissions and curated projects and seasons including:
 - The world premiere of a new Barbican-commissioned work by composer **Emily Howard**, Director of the RNCM's Centre for Practice & Research in Science & Music (PRISM), to open the **London Symphony Orchestra** and **Sir Simon Rattle's** 2019 season.
 - Two projects that combine electronic music and scientific research, with Berlin-based techno composer-producer **Pantha Du Prince** translating the communication of trees into music and London electronica and techno producer **Max Cooper** investigating infinite data
 - A new Curve commission from **Daria Martin**, who combines psychoanalysis and digital gaming technology to reimagine trauma and resilience
 - *Tesseract*, a new dance piece choreographed by former Merce Cunningham Dance Company members **Rashaun Mitchell** and **Silas Riener** and developed with video artist **Charles Atlas**, explores the relationship between the human form and technology through choreography and 3D film
 - In Barbican Cinemas, *Smart Robots*, *Mortal Engines: Stanislaw Lem on Film* is a film season devoted to cinematic adaptations of the work of Polish science fiction author **Stanislaw Lem** while *Anime's Human Machines* explores how Anime has imagined the future relationship between humans and technology
 - *Design Yourself* and *The Artist and the Machine*; two new learning projects exploring the relationship between technology and human creativity and what it means to be an artist in the digital age

Full programme details

Cross Arts

AI: More Than Human

16 May–26 Aug 2019, Barbican Centre

Media View, 15 May 2019, 10am –1pm

www.barbican.org.uk/morethanhuman

#morethanhuman

Co-produced with Groninger Forum

Opening in May 2019, the Barbican presents a major new exhibition: *AI: More Than Human* - an unprecedented survey of creative and scientific developments in Artificial Intelligence, exploring the evolution of the relationship between humans and technology.

AI: More Than Human presents new commissions and projects by artists, researchers and scientists **Joy Buolamwini**, **Stephanie Dinkins**, **Mario Klingemann**, **Kode 9**, **Lawrence Lek**, **Massive Attack**, **Lauren McCarthy**, **Yoichi Ochiai**, **Neri Oxman**, **Anna Ridler**, **Chris Salter**, **Sam Twidale** and **Marija Avramovic**, and **Universal Everything**.

With digital media, immersive art installations and a chance for visitors to interact directly with exhibits to experience AI's capabilities first hand, this festival-style exhibition

takes place all over the Centre; in The Curve, The Pit and across Level G to examine the subject from multiple global perspectives and give visitors the tools to decide for themselves how to navigate our evolving world. It will ask the big questions: What does it mean to be human? What is consciousness? Will machines ever outsmart humans? And how can humans and machines work collaboratively?

A series of new digital commissions will run across the Barbican Level G throughout the exhibition. Digital art and design collective **Universal Everything** will create a new installation, where visitors can interact with an AI version of themselves and **Lawrence Lek's** site-specific open-world video game *2065* gives visitors a chance to play the role of an AI and imagine what life might be like in future years.

Chris Salter's piece *Phos* (Greek for 'light') is a large-scale, dynamic installation that uses sensing and machine learning to inform its patterns, rhythm and behaviour; **Mario Klingemann's** piece *Circuit Training* invites visitors to take part in teaching a neural network to create a piece of art. Visitors will first help create the data set by allowing the AI to capture their image, then teach it to select the most interesting imagery. The final projection will be a constantly changing piece of live art.

The exhibition tells the rapidly developing story of AI, from its extraordinary ancient roots in Japanese Shintoism; Ada Lovelace and Charles Babbage's early experiments in computing; to AI's major developmental leaps from the 1940s to the present day to show how an age-old dream of creating intelligence has already become today's reality. Told through some of the most prominent and cutting-edge research projects, from **Deepmind, Jigsaw, Massachusetts Institute of Technology (MIT) Computer Science Artificial Intelligence Laboratory, Sony Computer Science Laboratories** and **Hiroshi Ishiguro**, who famously created a robot version of himself, alongside the artists who are embracing its new possibilities in their work.

At the heart of the exhibition is the **Data Space**; this responsive environment invites visitors to experience how AI works through a series of digital interactives that examine its capability to improve commerce, change society and enhance our personal lives, looking at AI's real-life application and addressing important ethical issues such as bias, control, truth and privacy, through projects by leading figures including scientist and activist **Joy Buolamwini**.

Artist and electronic musician **Kode9** presents a newly commissioned sound installation on the golem. A mythical creature from Jewish folklore, the golem has influenced art, literature and film for centuries from *Frankenstein* to *Blade Runner*. Kode9's audio essay adapts and samples from many of these stories of unruly artificial entities to create an eerie starting point to the exhibition.

For the first time in the UK, Japanese media artist **Yoichi Ochiai** presents projects from his research lab, *Digital Nature*, including a half real, half artificial butterfly.

Architect, designer and MIT Professor **Neri Oxman** and members of The Mediated Matter Group present *Vespers*, a collection of masks exploring what it means to design (with) life, and **Stephanie Dinkins's** *Not The Only One* continues her ongoing dialogue around AI and race, gender and ageing using dialogue between three generations of black women to create an AI with whom visitors can hold their own conversation. **Anna Ridler** looks at the politics and process of using large datasets to produce a piece of art, by photographing and tagging thousands of tulips.

Sam Twidale and **Marija Avramovic** explore notions of animism and techno-animism through the lens of Japanese Shinto beliefs, and **Lauren McCarthy** presents her experiment to become a human smart home intelligence.

Marcus du Sautoy, Mahan Esfahani, Rob Thomas, Ben Kreukniet, Victoria Gould –
Strange Loops
Mar 2019, Various Barbican Venues

Strange Loops is a collaboration between mathematician **Marcus du Sautoy**, musician **Mahan Esfahani**, composer **Rob Thomas**, visual artist **Ben Kreukniet**, and performer **Victoria Gould**. In a series of curated events at the Barbican in March 2019, this collaboration seeks to create musical, visual and theatrical “strange loops” to explore what it means to be human and whether a machine can become conscious or creative. It will leave audiences wondering what distinguishes human and machine.

The project is based on *Gödel, Escher, Bach: An Eternal Golden Braid*, a Pulitzer Prize winning book by Douglas Hofstadter which celebrates its 40th anniversary in 2019, about the common themes in the lives and works of logician Kurt Gödel, artist M. C. Escher and composer Johann Sebastian Bach. In his books, Hofstadter examines the concept of a “strange loop” to explain consciousness and the sense of “I”. A “strange loop” is a hierarchy of levels, each of which is linked to at least one other. A strange loop hierarchy is tangled, in that there is no well-defined highest or lowest level. Moving through the levels, one eventually returns to the starting point.

Strange Loops launches with a **performance lecture** entitled *The Eternal Golden Braid* on Artificial Intelligence and the arts. With the help of harpsichordist Mahan Esfahani and composer Rob Thomas, mathematician Marcus du Sautoy guides the audience through the extraordinary architecture of Bach’s work and beyond, explores the paradoxical world of Escher and introduces the elusive logical ideas of Gödel. Bach’s work has always been considered mathematical but is it possible to algorithmically generate music that convinces an audience that it is in fact composed by Bach and not a machine? As part of this event, Mahan Esfahani performs a musical Turing test with the audience to see if it can differentiate between music by Bach and a piece created by a machine.

The second event in the series is an algorithmic **installation** titled *Behind a Facade of Order*. Dutch artist Escher was fascinated by spatial loops and seemingly impossible worlds. Inspired by the self-referential, the infinite, and the nature of illusion, this installation by Ben Kreukniet creates a complex digital world of feedback loops and visual paradox, building a tangled hierarchy between human, machine and architecture.

The final chapter in this project is a **theatrical performance** called *I is a strange loop* featuring mathematicians and actors Marcus du Sautoy and Victoria Gould – both collaborators on Complicité’s hit show *A Disappearing Number*. This two-hander is an intriguing take on mortality, consciousness and artificial life. Alone in a cube that glows in the darkness, X is content with his infinite universe and abstract thought. But then Y appears, insisting they interact, exposing him to her sensory and physical existence. Each begins to hanker after what the other has until a remarkable thing happens...involving a strange loop.

Art & Design

Daria Martin
Thu 31 Jan–Sun 7 Apr 2019, The Curve

Barbican Art Gallery presents London-based artist and filmmaker **Daria Martin**’s first solo commission for a major London public gallery, in The Curve. Martin stages a series of intimate encounters with an extensive archive of dream diaries. Combining digital gaming technology and anamorphic optics, the artist aims to create an immersive film environment, in which visitors can explore the unconscious and vivid memories of her grandmother who fled from the Holocaust. These forensically recorded accounts created over a 35 year period, initially for the purposes of psychoanalysis, frequently return to the curious and traumatic history of her childhood home, a modernist villa in the city of

Brno, then Czechoslovakia. Martin envisages that the installation will become simultaneously a portrait of the artist's ancestor, a self-portrait and an exploration of intolerance, migration, loss, and resilience.

Trevor Paglen
Sep 2019 –Jan 2020, The Curve

Barbican Art Gallery has commissioned the artist and geographer **Trevor Paglen** to create a new work for The Curve. Paglen's work spans image-making, sculpture, investigative journalism, writing and engineering. Among his primary concerns is learning to see the historical moment we live in and developing the means to imagine alternative futures. In 2012 Paglen launched an artwork into distant orbit around Earth in collaboration with Creative Time and MIT, contributed research and cinematography to the Academy Award-winning film *Citizenfour* in 2014, and created a radioactive public sculpture for the exclusion zone in Fukushima, Japan in 2015. This autumn, he will launch a satellite into outer space with the Nevada Museum of Art.

Paglen's visual work has been exhibited at the Smithsonian American Art Museum, Washington D.C.; The Metropolitan Museum of Art, New York; Tate Modern, London; as well as numerous other solo and group exhibitions. He won the MacArthur Genius Grant in 2017 and has been nominated for the Artes Mundi 8 Award.

Cinema

Science on Screen 2019
Tue 5 Feb 2019-Tue 4 Feb 2020, Cinema 2

Reality meets fiction in this year-long series of six talks and films which uncovers the connections between science and cinema. In partnership with the London Mathematical Laboratory, a series of scientists will explore how changing technologies affect human experience. The 2019 season begins on Tuesday 5 February with Paul Verhoeven's 1987 cult classic *Robocop*, with a presentation by founder and director of robotics company Engineered Arts, Will Jackson, who will muse on whether technology is to blame for its misuse. Who are the villains, the machines or their masters?

Smart Robots, Mortal Engines: Stanislaw Lem on Film
Thu 11–Tue 16 Apr 2019, Cinema 3

Curated by Barbican Cinema in partnership with **Kinoteka Polish Film Festival**, this season presents a selection of lesser-known adaptations of the work of Polish author **Stanislaw Lem** (1921-2006). Lem wrote across genres, but is best known in the West for his science fiction – a realm inhabited by robots, cyborgs and intelligent machines of all varieties. Much of his work is concerned with the encounter of human and Artificial Intelligence, and by extension with what it means to be conscious, what it means to be human.

In *The Interrogation of Pilot Pirx* (Marek Piestrak, 1979) the commander of a flight to Saturn must work out which of his crew are androids and which human – is it possible to distinguish the two when all physical clues are eliminated? In *Maska* (Stephen & Timothy Quay, 2010) a killer-robot in the form of a beautiful woman gradually discovers her true identity and, summoning all her will, tries to subvert her pre-programming and not kill the man she was made to destroy. In *Solyaris* – screening in the rare Russian TV version from 1968 directed by Lidiya Ishimbaeva and Boris Nirenburg – an astronaut is confronted with a replica of his dead wife, an emanation of the planet he is orbiting; is she to be discounted as a mere simulacrum, or should she be respected and loved as a human?

Further titles to be announced.

Anime's Human Machines
Thu 12–Mon 30 Sep 2019, Cinema 3

In 1963 Osamu Tezuka's TV series *Astro Boy* brought a new kind of robot to Japan. The robot child with a loving heart began a line of compelling, conflicted cyborgs in Japanese animation whose existence challenges humanity.

Japanese animation has embraced robotics, cybernetics and Artificial Intelligence as major themes. At its most ambitious, it uses these themes to explore complex moral and social questions: humanity's responsibility for its actions, response to the Other, greed, short-termism and failure to care for the ecosystem.

Curated by anime expert **Helen McCarthy** (*The Anime Encyclopedia*) and produced by Barbican Cinema, this season of eight titles examines the challenge of the human-machine interface. Featuring classic Anime from 1989 onwards, the films touch on various aspects of humanity's response to technological change, demonstrating how views about technology have shifted over the years, but how humanity still refuses to take responsibility for the impact of our actions. These films give no answers, but suggest responses.

In *Ghost in the Shell* (Mamoru Oshii, 1995) an Artificial Intelligence named the Puppet Master is roaming cyberspace hacking human and artificial minds. Fighting against it is a police officer conflicted between her cyborg body, her digital enhancements and the residue of her corporeal self. In *Metropolis* (Rintaro, 2001), inspired by Fritz Lang's silent masterpiece, robots have replaced humans in the workforce; against a backdrop of civil unrest a scheming industrial magnate commissions a life-like robot replica of his dead daughter to control the global weapon system concealed in his new skyscraper.

Other films bring audiences into the realms of medical technology. *Paprika* (Satoshi Kon, 2006) features a revolutionary device used by psychiatrists to treat patients by allowing doctors to enter and record their dreams. When the technology is stolen by "sleep terrorists", dreams start to enter reality.

Concerns about how far cybertechnology has already infiltrated human society surface in *Summer Wars* (Mamoru Hosoda, 2009), in which a teenage maths geek is caught up in a family feud that could bring about the end of the world, unless the whole family can defeat an Artificial Intelligence at its own game.

Also included, in tribute to its status as a key work of Japanese cyberpunk and important influence on anime's post-human imaginings, is SFX classic *Tetsuo, the Iron Man* (Shinya Tsukamoto, 1989), in which a businessman undergoes a bizarre mutation, re-emerging as a hybrid of flesh and scrap metal.

Further titles to be announced.

Framed
Nov 2019

In November 2019 Framed Film Club and Framed Film Festival will delve into the world of *Life Rewired* with screenings and events for families featuring cyborgs, super-beings, robots and more.

Narratives for young audiences – both contemporary and past – have often chosen to

focus on the effects of technology as a force both out of control, and taking control. Showcasing films like *Wall-E*, *The Iron Giant* and *Astroboy* as jumping off points alongside live events, talks and activities, Framed will ask what it means to be human in the face of ever advancing technology and what the future might hold.

Creative Learning

Design Yourself Throughout 2019

Twelve Young Creatives from Barbican Guildhall's programmes will work with new media artist and curator **Antonio Roberts** to create work that explores what it means to be an artist in the digital age. Through a series of cross-arts collaborations, the artists will explore how scientific and technological advances are allowing artists to become 'more human' by heightening our human qualities or strengthening our natural instincts.

From creating glitch art to performing with Amazon's Alexa, Antonio Roberts' work and curatorial practice uses technology-driven processes to explore issues surrounding open source software, free culture and collaborative practice. Through a series of events and workshops, Antonio and the young creatives will release regular works which will be featured both online and onsite at the Barbican throughout 2019.

The Artist and the Machine Sun 26 May 2019

A Level G programme of activity for visitors of all ages, exploring human creativity in the context of technological change. Inspired by the *AI: More Than Human* exhibition, the programme will ask: how do machines augment our creative abilities? How does technology support creativity? While also exploring ownership in the context of human and machine created work. This event will include a mix of demonstrations, talks and hands-on activity that includes everything from 3D printing to slime mould. As part of the event, work will be showcased by partners Crafts Council and the Institute of Making at UCL.

Performing Art & Neuroscience: Enterprising Adventures In association with: King's College London's Department of Basic & Clinical Neuroscience (IOPPN – Institute of Psychiatry, Psychology & Neuroscience) Jan–Mar 2019; Sharing & Panel: Wed 20 Oct 2019

Artist **Iris Musel** and ex-Guildhall School musician turned medic and neuroscientist **Felix Josza** (KCL/Imperial College Healthcare) will join Barbican/Guildhall School BA (Hons) Performance and Creative Enterprise students and tutors to explore collaborative approaches in arts and neuroscience. Participants will explore this growing field through creative and scientific investigations during a series of labs.

Students will be given a basic introduction to neuroscience and explore the fragility of identity. The project will culminate in a sharing of practices through performance and a panel discussion exploring the growing field of neuroscience and creativity.

Barbican Box Music 2019: Native Instruments Oct 2018–Apr 2019

Barbican Box Music 2019 will be curated by leading manufacturers of soft/hardware for music production, **Native Instruments**. Working in secondary schools across east London, the 2019 Box will explore music machinery that enables teachers and their students to create and compose their own sounds and music. The project will support students to

explore the interface between man-made and machine-made sound, and the way in which technology can enhance, alter and influence the creative process. The project will culminate in an evening event in the Barbican Hall on Wed 24 Apr 2019.

Teacher Labs Throughout 2019

Teacher Labs is a pioneering new programme by Barbican Guildhall Creative Learning, where artists are paired with teachers to co-create new pedagogic approaches to the curriculum through a skills and knowledge exchange. Throughout 2019, new collaborations between artists and science teachers at our Associate School, Greenleaf Primary School will be piloted, looking at ways to re-imagine the delivery of the science curriculum at primary level both through and with the arts.

Barbican Box Primary Autumn 2019

Celebrating the 50th anniversary of the first human on the moon, the 2019 Barbican Primary Box will explore space travel, and adventures into the great unknown. Students and teachers from primary schools across east London will be supported to create cross-curricular responses to humanity's past, present and future relationship with space.

M-SET: Schools Tour Autumn 2019

M-SET are a company creating multi-sensory and educational theatre in a variety of settings. Their approach uses the full range of technical resources to encourage children to get involved with all aspects of the performative environment. In 2019, Creative Learning and Theatre will work in partnership with M-Set to commission and produce a new interactive, multi-sensory theatre experience at the Barbican. Taking inspiration from the 50th anniversary of the first man on the moon, the show will be an immersive journey into space and an exploration of our own imaginations with light, shadows and music.

The experience will be supported by off-site workshops in schools across the City and east London.

Level G

The Liminal Space - *Unclaimed* Feb–May 2018, Level G

"The UK population is ageing. In mid-2014, the average age exceeded 40 for the first time. By 2040, one in four people will be over 60."

The ageing of our population is one of the greatest social challenges we face but could it also be an opportunity? In a culture that prizes youth and "agelessness" over ageing, there is little meaningful public discourse around what it really means or how it feels to grow old within our society. How do we experience and consider ageing in relation to our sense of self, each other and our wider society? And what impacts will technological and scientific changes have on the total experience of ageing in the future? Can we reimagine old age as a time of continued vitality and social contribution?

Unclaimed is a cross-disciplinary project which blends cultural, academic and public engagement practice to explore and create new narratives of ageing. The first phase commenced in spring 2018, working with UCL's gerontology research team in Camden

to uncover what it means to age in today's society. In the second phase of the project, this information will be combined with leading academic research to create an installation in the Barbican's public spaces; taking the form of a strange but familiar Lost Property office. Within the space visitors can explore the surprising, illuminating or 'unclaimed' stories emerging from the project – ranging from the personal to the societal.

This project has been commissioned by the Barbican and is being led by creative public engagement specialists, **The Liminal Space**, in partnership with the UCL's gerontology research team, specifically LINKAGE (Long-term Information and Knowledge on Ageing). This study is following the journeys of some 2,000 over-70s in Camden, from their first contact with the social care system over a period of two years.

Unclaimed is funded by the Wellcome Trust and supported in an advisory capacity by Flourishing Lives, Age UK and Professor Molly Andrews from the University of East London and The Centre for Narrative Research.

Nina Wakeford – We Must Make All Men Into Machines Throughout 2019, Level G

Is scientific and technological development really progress for all? Who speaks to say 'stop', 'pause' or 'let's think again'? Who can speak as a witness to change? And how do they do this?

With a series of performances in the Barbican's public spaces, **Nina Wakeford** will revisit and redeploy radical critiques of scientific and technological development from the 1970s and 80s, uncovering alternative feminist and anti-consumerist visions on technological development.

Wakeford suggests we can develop a variety of new methods to witness and speak about scientific and technological change. Arguing that the past gives us an alternative vocabulary with which to be witnesses to today's change, she challenges audiences to question the inevitability of technological 'progress' with which they are presented.

Based on her own research in the public spaces of the Barbican, Nina Wakeford will create a set of performances and interventions throughout the Centre which invite the audience to be able to see, or even inhabit, a different vision of technological change. The performances will emerge out of a residency in the Barbican's Level G Studio, in which a collective 'jury' has been convened, re-enacting and improvising with scripts developed from these alternative technological visions.

Life Rewired Hub Jan–Dec 2019, Level G

Motivated by the need to develop and test new models of public engagement, the Barbican is constructing a temporary new venue for public programming on Level G. The *Life Rewired Hub* will explore the key ideas in our 2019 programme, inviting audiences to encounter the voices who are witnessing and revealing some of the elusive forces shaping our lives today.

Architects **Dyvik Kahlen** will design the flexible new space, which will be a platform for a year-long programme of talks, workshops, research, and residencies. These events will stem from the themes in the *Life Rewired* programme, and a significant strand of activity co-programmed in partnership with the **Royal Society** and the **British Council**.

The *Life Rewired Hub* will also house an exhibition which presents curated content from the complex, vast, and all-too-often confusing discourse taking place around the impact of technology on our lives. This will feature newly-commissioned contributions from writers and thinkers including Jaron Lanier and James Bridle.

Troika – Borrowed Light
5 Jun 2018–May 2019
Free

Borrowed Light is a suspended mechanised structure that moves a 20m-long scroll of photographic film, thereby resembling an artificial infinite loop of sunset and sunrise. The installation was formally inspired by moving panoramas and the potential these offered to blur the boundaries between experience and physical spheres, natural and man-made spaces.

Borrowed Light is a site-specific installation commissioned by the Barbican Art Gallery to activate the unique architectural features of the Lightwell at the centre of the Barbican's public spaces.

Music

Pantha Du Prince – *Conference of Trees*
Sat 19 Jan 2019, Barbican Hall

Conference of Trees is a new audio-visual project by Berlin-based techno composer-producer Hendrik Weber, aka **Pantha Du Prince**, exploring the communication of trees and translating it into music with a live ensemble.

From second century Indian intellectual Patanjali to 19th century mathematician Riemann and contemporary cell biologist Baluska, countless researchers have written about the communication of trees. In addition to converting CO₂ into oxygen through photosynthesis, trees can communicate and share information with each other through a solid network of receivers and senders based on cell biology. In *Conference of Trees*, Hendrik Weber transforms this biochemical conversation into a musical performance: cell biological data of different trees is converted into sound and further into notation for acoustic instruments. Trees have been the topic of many musical compositions throughout history but in this project, Weber lets the trees speak for the first time. The live ensemble on stage uses instruments that have been handcrafted by the composer during his exploration of the different sound characteristics of wood. The fact that wood as a material for musical instruments is both alive and dead at the same time adds another fascinating aspect to the exploration.

With this project, the artist wishes to remind audiences of the importance of trees for our ecosystem, whilst also trying to encourage the listeners to take trees seriously as intelligent subjects, and to promote a better coexistence for humankind and nature.

Trevor Paglen/ Kronos Quartet – *Sight Machine*
11 Jul 2019, Barbican Hall

Barbican presents the UK premiere of *Sight Machine*, a project between American visual artist **Trevor Paglen** and San Francisco based string quartet **Kronos Quartet** that focuses attention on the growing ubiquity of artificial intelligence technology in our lives by analysing a shared human experience – a concert – with machine-vision systems in real time.

Many companies are currently developing technologies that can analyse emotions in real-time in order to better understand human behaviour. This technology makes use of

self-learning deep neural networks, complex mathematical systems which can teach themselves to carry out tasks by analysing large quantities of data. In his work, Trevor Paglen examines whether it is possible to reduce human creativity and emotional expression to data and calculations.

Paglen's large-scale multimedia performance *Sight Machine* shows how machines and their algorithms perceive a live concert and urges audiences to consider the social, ethical, economic, and political consequences of such new ways of "seeing". On stage, the world-renowned string quartet **Kronos Quartet** performs works by composers Terry Riley, Laurie Anderson, Steve Reich and Trio Da Kali's Fodé Lassana Diabaté. During the performance, the musicians are being monitored by an array of cameras that feed into a suite of computer vision algorithms used in applications from self-driving cars and guided missiles to facial recognition and biometric surveillance. The software has been modified so that it, in turn, produces images of the information that it "sees", which are then projected onto a screen behind the performers in real time.

Sight Machine illustrates the discrepancy between what we experience as human beings and what machines "see".

Debuted for an invited audience in San Francisco in January 2017 as part of Trevor Paglen's artist residency at Stanford University's Cantor Arts Center, *Sight Machine* received its world premiere at the Holland Festival in June 2018.

London Symphony Orchestra/Sir Simon Rattle/Emily Howard
Sat 14 Sep 2019, Barbican Hall

Sir Simon Rattle opens the London Symphony Orchestra's 2019/20 season on 14 Sep 2019 with the world premiere of a new work by Emily Howard, commissioned by the Barbican. A graduate in mathematics and computer science from Oxford University, Howard holds a PhD in Composition from the University of Manchester, and her music is known for its particular connection to science. Diverse influences from geometry and magnetism to the human brain and neural networks have shaped a series of her orchestral music. The Barbican commission will complete a triptych of orchestral works, following *Torus (Concerto for Orchestra)*, which won the orchestral category of the 2017 British Composer Awards, and *sphere*, which was premiered by the Bamberger Symphoniker in the same year. Emily Howard is the Director of PRiSM, the Centre for Practice & Research in Science & Music at the Royal Northern College of Music in Manchester, which brings together creative collaborations between the sciences and music including cutting-edge research involving AI-assisted composition.

Max Cooper – *Yearning for the Infinite*
Sat 28 Sep 2019, Barbican Hall

Yearning for the Infinite is a project by London-based electronica and techno producer **Max Cooper** about our human obsession with the unobtainable, and its embodiment in the modern data explosion. Cooper has long been fascinated by the concept of infinity in many areas of life such as religion and cult (Kabbalah and the divine infinite), mathematics (limits, irrational numbers and Cantorian set theory), visual arts (perspective and illusion in painting) and music (infinite harmonic series). All topics are tackled via an entirely new live visual performance and musical score, commissioned by the Barbican.

In the present day, the infinite is taking on a whole new form in the endless creation of data, where human beings are "drowning" in infinity in a more literal sense than ever before. Cooper, a scientist as well as a musician with a PhD in computational biology, wants to capture this overwhelming vastness in the Barbican Hall. The project is based on a multi-surface projection system, using generative artificial processes and data

mapping techniques. His starting point is the emotional power and inherent imagery in the many different embodiments of the infinite, each capturing a different aspect of our thirst for growth.

Beatie Wolfe – *Orange Juice for the Ears: From Space Beams to Anti-Streams*
An evening of film, live performance and conversation with Beatie Wolfe
Tue 8 Oct 2019, Cinema 1

This special evening in the Barbican's Cinema 1 features the retro-future work of Anglo-American singer songwriter and technology innovator **Beatie Wolfe** in film, live performance and conversation, exploring what music can look like in the digital age and asking what has been lost due to technological advances, what can be reclaimed, and what remains to be updated and innovated?

Beatie Wolfe is at the forefront of pioneering new formats for music that reunite the digital and physical by reimagining the vinyl experience in retro-future ways – ranging from a theatre in the palm of your hand, an album as a wearable record “jacket” and a space beam from the Big Bang Horn. Wolfe's work, which beautifully blends the tangible and ephemeral and also explores the therapeutic benefits that music can achieve, is featured and presented in a short documentary by LA Indie Director **Ross Harris** that asks how we can use music to transform our daily lives.

The event title, *Orange Juice for the Ears*, is inspired by neurologist Oliver Sacks' *Musophilia: Tales of Music and the Brain*, in which he wrote: 'Music can lift us out of depression or move us to tears — it is a remedy, a tonic, orange juice for the ear.' After reading Sacks' book, Wolfe started her own ground-breaking research project *Power of Music & Dementia*.

Beatie Wolfe's raw, acoustic, indie rock music pulls from the brooding poeticism of Leonard Cohen, the tender and haunting melodies of Elliott Smith and occasionally veers into Americana and grunge and creates a powerful juxtaposition to her high tech album experiences, all of which are world first designs. But Wolfe says: “the tech should be invisible and simply facilitate the magic of presenting the album format in this new way, so in that respect I think of it as low tech.”

“My intention with all my work is to remind people of the true power and magic of music and how it has to have a deeper experience to it in this digital age because music goes way beyond entertainment, it is something that is core to our humanity, identity and wellbeing.”

Theatre and Dance

Charles Atlas/Rashaun Mitchell/Silas Riener – *Tesseract*
Thu 28 Feb–Sat 2 Mar 2019, Barbican Theatre
Press night: Thu 28 Feb 2019, 7.45pm

An inventive exploration of the relationship between the human form and technology, presented in two distinct acts.

To open the show, an astonishing 3D film with vividly contrasting chapters in which movement and setting fuse seamlessly. Space is transformed in imagined and hybrid worlds through manipulating the size and shape of the dancers' bodies and the audiences' proximity to them.

For the second part, a live performance is captured by multiple cameras onstage; the footage mixed and projected onto a translucent screen, offering various perspectives of the crisp, intricate and innovative choreography.

Tesseract is an ambitious work by choreographic duo **Rashaun Mitchell** and **Silas Riener**, together with pioneering video artist **Charles Atlas** – all past collaborators or members of Merce Cunningham Dance Company. Inspired by science fiction and time travel, and experimental in form and technique, it is rich in psychedelic, potent, disorientating and hypnotic images.

Journalists please note: there is an opportunity to see *Tesseract* in the US in November, prior to the Barbican performances. Please contact the Barbican's Communications Office for more details.

Ursula Martinez – *A Family Outing – 20 Years On*
Wed 27–Sat 30 Mar 2019, The Pit
Press night: Wed 27 Mar 2019, 7.45pm

Twenty years after bringing her parents onstage in the sublime *A Family Outing*, **Ursula Martinez** attempts to recreate the show, without her dad, and with a mother who can no longer remember her lines.

Absorbed in wryly honest and frank conversation, a mother and daughter expose the banalities, hilarity, foibles and frustrations of their relationship. Contrasting past and present, they bicker, cajole and encourage each other through this endearingly ad hoc, entertaining and ultimately uplifting performance.

Since *A Family Outing* original premiered in 1998, Martinez has turned 50, her father Arthur has passed away and her mother Mila has been diagnosed with early stage dementia. Through a shrewd interplay with the first production, this bracingly funny new show blurs the lines between artifice and reality while grappling with identity and the march of time.

Lynette Wallworth – *Collisions*
Wed 10–Sat 20 Apr 2019, The Pit
Journalists are invited to review the screening on Thu 11 Apr 2019.

This immersive Emmy Award-winning documentary is a startling collision between cultures, encompassing 360-degree vision, CGI animation and enveloping sound.

Provided with VR headsets, audiences embark on a journey together to the ancient homeland of indigenous elder Nyarri Nyarri Morgan, as he recounts the moment his world was turned upside down. Amid the endless horizon of the remote Western Australian desert, this is a rare insight into the hidden history of Britain's nuclear testing.

Pioneer of interactive digital technologies, **Lynette Wallworth** combines masterful storytelling and virtual reality to share the profound truth of one man's first and fateful encounter with Western science. The short, powerful piece, seen at Sundance, Davos and screened at UN meetings, shows how events can reverberate through generations, and how to care for the planet from the perspective of one of its oldest peoples – the Martu tribe to which Morgan belongs.

Fertility Fest 2019
Tue 23 Apr–Sat 18 May 2019, Various Barbican venues

Fertility Fest, the only arts festival devoted entirely to the subjects of modern families and the science of making babies, arrives at the Barbican for the first time.

Fertility and infertility take centre stage in this programme of performances and panel

discussions that brings together medical experts, artists and audiences. Offering a multitude of views and voices, the festival draws on female and male experiences, looks at new models of family making, and seeks to break taboos around IVF.

Fertility Fest is founded by **Jessica Hepburn**, influential activist and author of *The Pursuit of Motherhood*, in partnership with theatre producer **Gabby Vautier**. A rare, open and collaborative platform, it aims to drive social change. This third edition features the first theatre production based on Julia Leigh's memoir *Avalanche*.

***Avalanche: A Love Story* by Julia Leigh**
Barbican and Fertility Fest
Sat 27 Apr–Sat 18 May 2019, Barbican Theatre
Press night: Wed 1 May, 7.45pm

Julia and her new husband long for a child together. Enough to gather their courage and explore IVF treatment. As she navigates a successful career as an artist with the demands of her relationship and hopes of motherhood, this real-life account follows the making and breaking of her dreams.

Love in all its manifestations, from unflinching hope and optimism to obsession and loss is at the heart of this stage dramatisation of Leigh's memoir, directed by Anne-Louise Sarkis – with its focus on one woman and her desire to create life.

Avalanche: A Love Story is produced by Barbican Theatre Productions and Fertility Fest and co-produced by Sydney Theatre Company.

ENDS

Notes to Editors

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All Barbican Centre press releases, news announcements and the Communications team's contact details are listed on our website at www.barbican.org.uk/news/home.

About the Barbican

A world-class arts and learning organisation, the [Barbican](http://www.barbican.org.uk) pushes the boundaries of all major art forms including dance, film, music, theatre and visual arts. Its creative learning programme further underpins everything it does. Over 1.1 million people attend events annually, hundreds of artists and performers are featured, and more than 300 [staff](#) work onsite. The architecturally renowned centre opened in 1982 and comprises the Barbican Hall, the Barbican Theatre, the Pit, Cinemas One, Two and Three, Barbican Art Gallery,

a second gallery The Curve, foyers and public spaces, a library, Lakeside Terrace, [a glasshouse conservatory](#), conference facilities and three restaurants. The City of London Corporation is the founder and principal funder of the Barbican Centre.

The Barbican is home to Resident Orchestra, [London Symphony Orchestra](#); Associate Orchestra, [BBC Symphony Orchestra](#); Associate Ensembles the [Academy of Ancient Music](#) and [Britten Sinfonia](#), Associate Producer [Serious](#), and Artistic Partner [Create](#). Our Artistic Associates include [Boy Blue Entertainment](#), [Cheek by Jowl](#), Deborah Warner, [Drum Works](#) and [Michael Clark Company](#). The [Los Angeles Philharmonic](#) are the Barbican's International Orchestral Partner, the [Australian Chamber Orchestra](#) are International Associate Ensemble at Milton Court and [Jazz at Lincoln Center Orchestra](#) are International Associate Ensemble.

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