The Evolution of *Ent-*:

QXe

@arebyte

Libby Heaney, 2022
Photo by Andrea Rossetti

On Ent– (via Bosch and Barad)

REBECCA EDWARDS

Inhabiting *Ent-*

The scene opens with a luscious emerald landscape, bursting with life forms and other organic matter thirsty for the sun's rays. Encased within speckled clouds, the baby blue sky is feverish in its anticipation of discovery, and the sun dappling through appears as an orb of pure white light.

Ent-er. Ent-er. Ent-er. She's whispering to you.

Gliding over a pool of crystal water you accelerate at the approach of the first sculptural monolith. Dazzlingly blue and resembling a sepultura of histories past, it stands tall with ribbon-like appendages topping its bulbous mound. As you come closer, floating, an oculus at its base pulls you in. Time slows down; something in the air changes.

The space around you darkens and thickens and at the centre of the abyss, a creature emerges from the abstracted darkness, glowing now with a lattice of light pathways and rhizomatic, fluorescent pastel tentacles. The creature is fluid, its colour and shape is ever-changing. Transfixing and transformative, it turns into motes of multi-coloured light and whirls into a frenzy, forcing you out of your cocoon.

Ent-anglements. Ent-ropy. Ent-er.
Ent-wining.
Ent-hralling.
Ent-icing.

Now in the water, you watch as more architectural monoliths spin on their axes, glitching in and out of focus. Dynamic, they bounce with animated abandon, vibrating in a state of constant agitation and impulse to move. Shimmering with potential, the landscape opens up to you and becomes a nest of cable-like blue lights, tangled amidst the green and pleasant land of which you were once part. Powder-blue turns cobalt, turns Aegean blue, turns to dusk, fades to black.

Bosch's Garden

Libby Heaney's *Ent-* is a foray into unknown unknowns, a trip of sorts down a meta-memory lane, carving out a future that might already exist beneath the surface of what is perceptible. Inspired by the central panel of the Hieronymous Bosch triptych *The Garden of Earthly Delights* (c.1510), Ent- is a quantum interpretation and exploration of the parallels between Bosch's garden and the potential futures of quantum computing centred around belief, sin, desire and categorisation. In Bosch's work, we see a celebration of human behaviour: bodies pulsate with the possibility of being, winding themselves around the uncanny, untethered and untold.

As a single narrative, Bosch's painting shows a hellish fate for humanity consumed by passion and pleasure. Whereas for Ent-, the inevitable end dictates a path of entanglement, of shapeshifting reality, and through queering a sense of stability. With desire at the heart of both works, viewers must tread carefully.

From Classics to Quantum

Using quantum theories of entanglement, superposition and interference, the work disbands the structural binaries of classical computing, which uses bits present as zeros or ones. It instead incorporates a quantum understanding, which uses quantum bits present as zeros, ones or a linear combination of both states of being. For example, a classical bit is either on or off, but a quantum bit can be on and off at the same time, a condition known as superposition. If in a superposition, the particles can be in any or both states at once, only when they are observed do they fall into one state or another. Made to solve problems that are unsolvable by traditional methods, the quantum computer calculates in a new way, one that uses a non-binary system as its primary function. This methodology can be applied metaphorically to *Ent-*, which makes visible non-binary reflections on an intrinsically non-binary world. By generously allowing the evolution of forms, matter, pattern, object and materiality, the figures in Bosch's painting are transfigured into what they *could have been*, stretched, re-interpreted and made anew.

Unlike Bosch's triptych, where 'reading' the work from left to right forms an essential part of the understanding of the work, Libby's world unfolds non-linearly and is affected by observation. Tentacles of animal and organic matter sway and double-bend, Möbius-like they swell and pull themselves in strange ways. Everything is weird, but everything feels whole. Throbbing spikes protrude through slimy skin, architecturally built, veins like marble. The city is made drippy where all possibilities exist.

The viewer is led through Bosch's re-made landscape via new combinations of immaterial and material entities, entangled together and

Libby Heaney, 2022
Photo by Andrea Rossetti

ultimately all part of the same state: a state of flux as yet undefined. This interference affords a superposition of looking at the world, to become a powerful tool to reimagine what we might already know. Only by looking do we allow the world to reveal itself to us; until the moment of looking all things are possible and impossible at the same time.

Superposition

In quantum computing, with information stored in superpositions, some problems can be solved exponentially faster than in classical computing. In Heaney's work, we see this speed in the shifting and metamorphosis of three main areas: sky, architecture / landscape and water.

The sky pulsates and glitches in and out of focus, harmonising colours sparkling. Made of watercolour swatches and HDRI imagery[1],it breathes and moves in unexpected ways, vectors appearing and disappearing in the distance. The architectural assets in the landscape ebb and spin on their axes, moving simultaneously closer and further away, fever-dreaming in their relentless morphing. They retreat and then expand, exploding out of their shells and then back, as if on repeat. The landscape is a quantum jungle of creatures, zipping in and out of different dimensions and teleporting through layers of (un)reality. All entities are welcome here, a becoming-*with* of connectivity, feedback loops, interdependence and vulnerability. The water is iterative and all-encompassing. Its swirling, oily flow recounts experiences of past, present and future. Rippling under the weight of the changing world, we see our pathways reflected and refracted in it, the rhizomatic feelers reach for something to grasp, like strings of a web blowing in the wind.

The elements created in Heaney's work are ever-evolving in response to all the agents in the environment. Like if time could be sped up and we see our cities changing at a rapid pace too fast to properly decipher. All parts are contingent upon the others.

Through a feminist lens

Gesturing towards entanglement, hybridity and post-humanity brings with it a feminist perspective on research and outcome. For Karen Barad, the entanglement of matter is inherent to its being. She proposes a theory she calls Agential Realism in which the world is composed of phenomena inseparable from their intra-actions[2]. For her, 'the very nature of materiality is an entanglement. Matter itself is always already open to, or rather entangled with, the "Other." The intra-actively emergent "parts" of phenomena are co-constituted. Not only subjects but also objects are permeated through and through with their entangled kin.'[3] Here, materiality is constituted as already entangled by its inborn openness to intra-action. This can be explained visually in early watercolour

assemblages in Heaney's research. The bleeding together of edges, the ebbing and flowing symbolise quantum reality morphing with different 'objects' bleeding one into another, meshing and blurring boundaries.

Libby Heaney, 2021

Threads and Entanglements

To return to the threads of possibilities in Heaney's work, and to align the work with a more research-based exploration between quantum computing and creativity, it's useful to consider Donna J. Haraway's thinking on the game of cat's cradle. This functions both as a way to position the work within a disruptive arena, and also to celebrate the intertwining and endless possibilities afforded when an openness is granted. As a metaphor, the cat's cradle proposes a seriousness in play, and the collaboration required when redefining or making new patterns in the world. This cat's cradle is both local and global, distributed and knotted together[4], but it is also about movement and the acceptance of knots, tensions and flux within the process of making. The cat's cradle destabilises linear accounts of the research process[5], becoming increasingly complex and interwoven with successive moves, thus becoming an absorbing means of considering insider and outsider

participation from both human and non-human actors. For *Ent-* this takes shape in the quantum remixing of signs and signifiers from the rational world – via Bosch's lucid celebration of the human where bodies throb with frantic energy, winding themselves around the uncanny, untethered and unknown – into a multifaceted environment full of hybrid creatures in a pulsating, collapsing, rational world, the scattered ruins of which become the (new)plural world.

As a prefix, 'Ent-' is to begin, to enter. As a keystroke on a keyboard, 'Ent' is also to return. But a return to what, to where, or to whom? Does this mixing of human, animal and organic free the human body from its preconceived state into another possible being, or does it canonise the existing hierarchy of the social status by pertaining to dominant and subordinate roles?

For Heaney, the work places the responsibility of this ordering with the viewer. Since the work has shaken up and remixed different categories through quantum processes, how the viewer 'measures' the resulting 'superposition' – i.e. the meanings they may glean from the work – is the collapse of an existing hierarchy or the making of a new hierarchy. Utilising a kind of performativity with the work, the world within *Ent-* isn't merely represented but is iteratively (re)produced, the world 'becomes' through inherently material practices of knowing, thinking, measuring, theorising, observing, of intra-acting within and as part of the world. Following Barad in the way that context is built on 'specific material configurations',[6] the audience and the work co-constitute the ultimate meaning of it, dynamically reconfiguring the world around them.

[1]High Dynamic Range Image. 'Dynamic range' is the amount of data about the brightness of the image; such data is the much larger amount of the information than the human eye is able to catch.

[2]'Intra-action is a Baradian term used to replace "interaction," which necessitates pre-established bodies that then participate in action with each other. Intra-action understands agency as not an inherent property of an individual or human to be exercised, but as a dynamism of forces (Barad 2007, p.141) in which all designated "things" are constantly exchanging and diffracting, influencing and working inseparably. Intra-action also acknowledges the impossibility of an absolute separation or classically understood objectivity, in which an apparatus (a technology or medium used to measure a property) or a person using an apparatus are not considered to be part of the process that allows for specifically located "outcomes" or measurement.' W. Stark, *intra-action*, n.d., newmaterialism.eu.

[3]Karen Michelle Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Durham, NC: Duke University Press, 2007.

[4]See Donna J. Haraway, 'A Game of Cat's Cradle: Science Studies, Feminist Theory, Cultural Studies', *Configurations*, vol.2, no.1, 1994, pp.59–71.

[5]See Niamh Moore, *A Cat's Cradle of Feminist and Other Critical Approaches to Participatory Research*, Bristol: University Of Bristol, 2018.

[6]See Barad, *Meeting the Universe Halfway*.
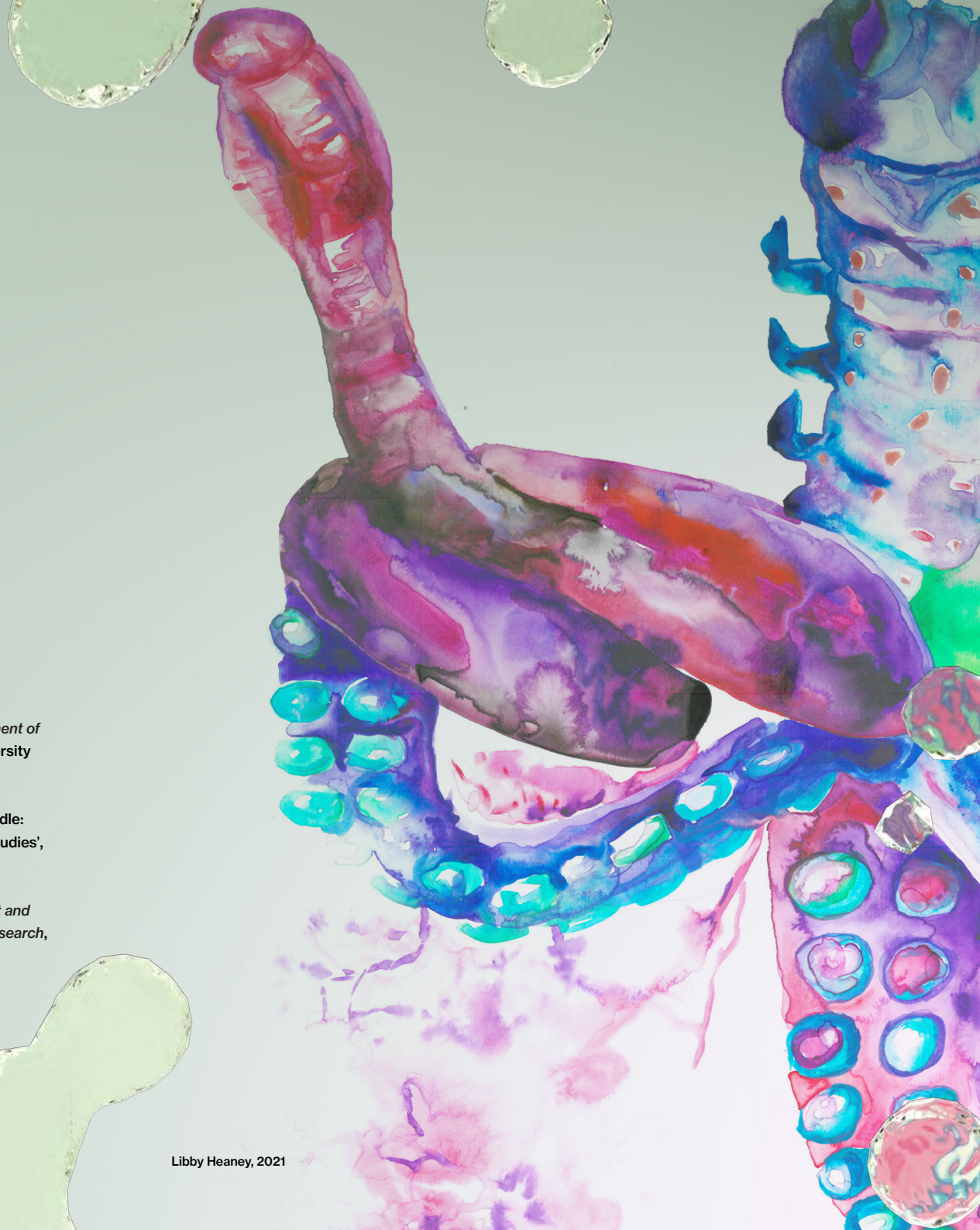
Libby Heaney, 2021

Libby Heaney, 2022
Photo by Andrea Rossetti

The Evolution of Ent-:

QX

Libby Heaney's *The Evolution of Ent-: QX* expands on the immersive work of *Ent-*[1] where Heaney experimented with self-written quantum code to manipulate and animate her own paintings referencing the central panel of Hieronymus Bosch's famous triptych The Garden of Earthly Delights (c.1490–1510) to create hybrid organisms, breathing landscapes and exploding structures. For arebyte Gallery, the perimeters of the rhetoric surrounding quantum computing are expanded through critical attention paid to the way technology, arts, and educational fields communicate the advancements in this area. This new presentation of *Ent-* pushes the rhetoric surrounding the use of quantum technologies and all it encompasses forward to a more critical space of enquiry and parody.

Adopting the hyperbolic language of Big Tech product launches, the viewer finds themselves within the apparent waiting room of the QX offices, the pseudo-company of applied quantum computing Heaney has fabricated to subvert the meanings supplanted onto quantum technologies by corporate powers with the ultimate gains of capitalist growth and monopolised power. The *Quantum eXperience* and the Instagrammable effect this work might produce illustrates the power of such spectacles within tech companies. Here Heaney parodies how Big Tech makes use of the immersive experience as a capitalist device to sell software, as well as the application of exaggerated metrics, embellished language and captivating visuals. Heaney is preying on the seductive nature of the immersive experience to encourage sharing, promoting the immersion and the viewer's sharing of it under the guise of advertisement. The work here is owned by and in service of Big Tech and profit: no longer a speculative avenue for experimental and hypothetical visions for a future. However, the quantum discussed in the exhibition seeks out a more double-edged potential; quantum computing as a radical avenue to valuing shapeshifting pluralities and strong entanglements away from profit, consumer and power. The rise of quantum computing is anticipated to accelerate surveillance capitalism and disrupt existing encryption methods relied upon for privacy and data protection[2]. In Heaney's work, we're asked to consider how the drive for solutionism and profit at the core of new technological developments is prohibiting other alternatives that go against current modes of surveillance capitalism and control.

The two films presented before entering *Ent-* show the methods in which corporate tech companies speak about how they can use quantum computing to problem solve. Slick visuals depicting rendered quantum computers are

mixed with repetitive and exaggerated slogans mostly lifted from tech companies themselves, idioms that place profit and statistics over anything else. Meanwhile, outside of the Black Box, non-human quantum slimeballs[3] are wreaking havoc on QX's plans by hijacking superconducting quantum dimensions to insert entropy - a plurality of possible alternatives - into QXs carefully crafted research. Visitors are engulfed in the tentacle arms of seating made in collaboration with Rosie Gibbens whilst they watch the final film, a sarcastic end to the criticisms of big tech and technological advancements.

In this surreal science-fiction story, we see the perils of what happens when future quantum computers are combined with distractive techniques already used on current AI-driven social media platforms and within Instagrammable corporate immersive experiences. Contrary to the way quantum is contextualised, the physics that underpins quantum computing is more fluid and slime-like in the way it behaves: quantum particles behave like slimy substances through their wave and particle properties: blurring, morphing, melting, congealing and shapeshifting, suggesting that quantum computers could instead be used to move away from the binary to a plural, shape-shifting landscape of deep interconnections, where the very notion of the individual even becomes irrelevant. In this alternative plural landscape, immersive art experiences could instead be used to lead audiences into these new territories and away from the superficial and immediate spectacle where form supersedes content.

The new visual language created via *Ent-* provides a starting point for future alternatives to how we think, talk, and enact upon political, social and environmental issues. The idea of something being in multiple states at the same time - the quantum superposition - could be another way to

rethink gender, for example, or as a metaphor to reimagine hierarchical relations within institutions or governments. The way that quantum entanglement - a phenomenon in which entities exhibit strong correlations that cannot be explained by classical physics - highlights the state that lies within all matter[4], leaving the areas of futurity, responsibility and kinship (amongst others) open to new interpretations.

In whatever way the quantum field is explored and extrapolated in *The Evolution of Ent-: QX,* for Heaney the importance lies within subverting "the endless categorizations and control of humans and non-humans alike"[5] to provide real-world, tangible new pursuits that resist the alienation caused by the pursuit of never-ending profits.

[1] Commissioned by LAS (Light Art Space) in 2022.

[2] As well as other ventures such as enabling ultra-energy efficient screens and "glass batteries"that latter of which offer more advanced technology than the lithium-ion batteries common today.

[3] Slime here acts as a metaphor for the slimy and insidious connotations surrounding Big Tech related to disgust and deviousness.

[4] A theory emanating from Karan Barad's Agential Realism in which the world is composed of phenomena inseparable from their intra-actions.'Intra-action is a Baradian term used to replace "interaction," which necessitates pre-established bodies that then participate in action with each other. Intra-action understands agency as not an inherent property of an individual or human to be exercised, but as a dynamism of forces (Barad 2007, p.141)

[5] Libby Heaney. (n.d.). *About*. [online] Available at: http://libbyheaney.co.uk/about/ [Accessed 21 Apr. 2022].

Libby Heaney, 2022
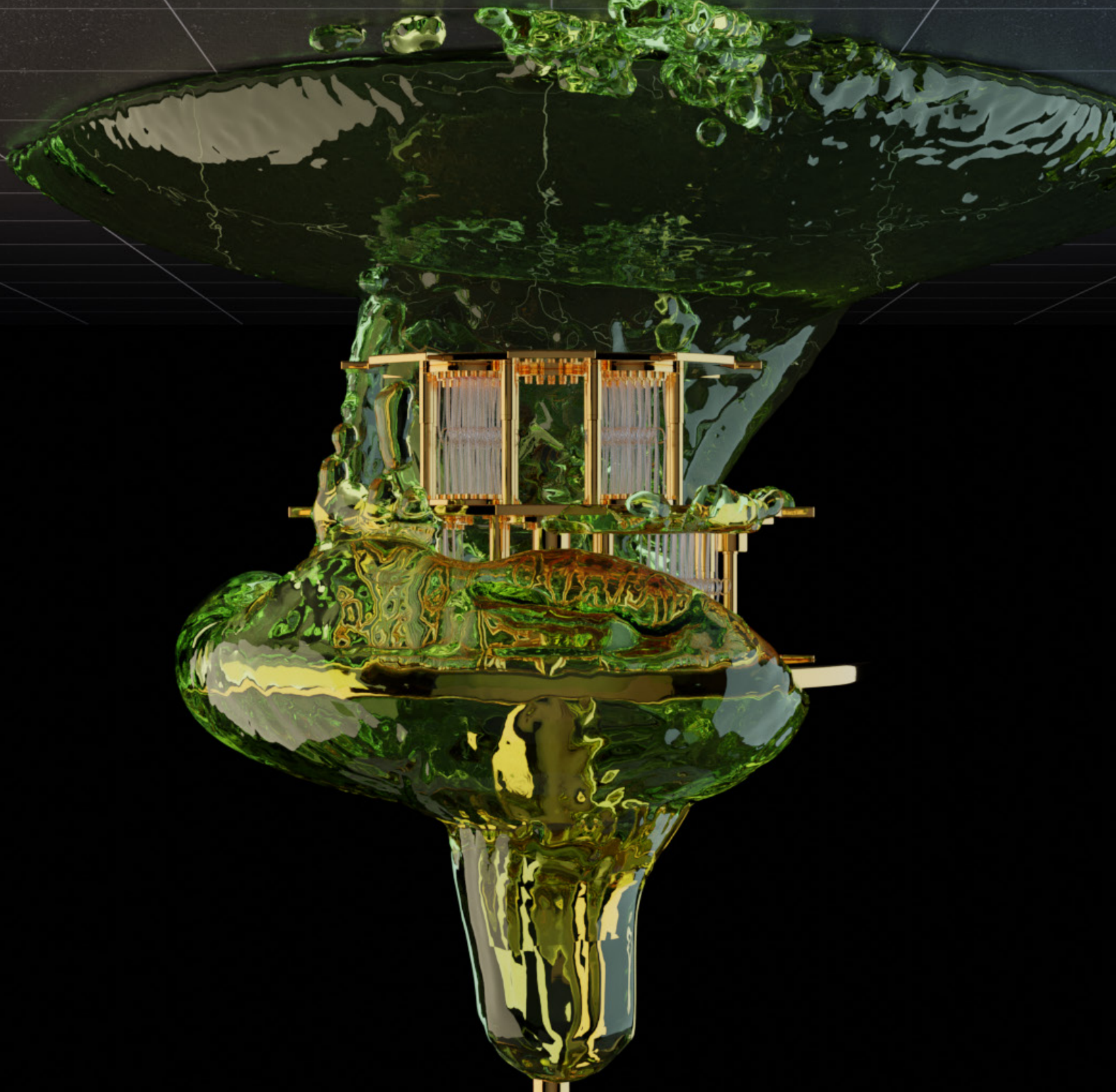
Quantum Glossary

DANIEL CAVALCANTI

ENTANGLEMENT

Two people, one in Tokyo and one in London, undergo the same questionnaire. They have no idea what questions they will be asked. They cannot talk to each other. In fact, they don't even know of each other's existence. Yet they give the same answers to all the questions. This strange situation occurs in quantum physics. Entangled particles give the same results when subjected to the same measurement, no matter how far apart they are from each other.

QUANTUM BITS

Bits are the basic unit of information. Every email you read, music you listen to or film you watch is a stream of 0s and 1s. Information can also be encoded in quantum systems, such as atoms or photons. And because they can be in quantum superposition, they can encode a 0 and a 1 simultaneously.

QUANTUM COMPUTING

Computers are devices that store and process information in the form of bit strings (sequences of 0s and 1s). Internally, these bits correspond to two distinguishable hardware configurations, like two different levels of current in an electrical circuit. A quantum computer also stores and processes information, but unlike standard computers, it uses quantum systems such as atoms or electrons to encode information. It can thus use quantum properties such as superposition or entanglement to solve problems that are infeasible even for the best supercomputers. For instance, quantum computers could provide great benefits in healthcare with new drugs, or agriculture with more sustainable fertilisers, or perhaps even help us in the quest for a more sustainable world thanks to new materials and better batteries.

SUPERPOSITION

Look through a glass window. What do you see? The outside world? A reflection of yourself? A superposition of both? Quantum systems can be in a superposition of different configurations: being here and there, moving left and right, or being one colour or the other simultaneously..

QUANTUM SPEED-UP/QUANTUM ADVANTAGE

A transporter must deliver parcels to N different houses. What is the shortest route they can take? This everyday problem turns out to be astonishingly hard to solve even for the best computers: they basically have to look at all possible combinations of routes. Similar problems involve finding the key to an encrypted message or the most stable configuration of a molecule. However, a quantum computer that explores the quantum superpositions of the different routes can arrive at the optimal solution much faster.

QUANTUM MEASUREMENT

What is your name? What is your name? What is your name? I hope you gave the same answer every time. Quantum systems are not so coherent and can give different answers for the same measurement. In quantum physics, although we cannot predict with certainty the results of a measurement, we can tell the probabilities of occurrence. But this does not mean that we have no control over quantum systems. In fact, scientists can design experiments so that the answers are not completely random, but the probability of the sought answer is increased.

allowing visitors to swipe left and right on the screen, leaning into our prior knowledge and existing relationships with technology. This way of creating work, layering thematically and exploring class, gender, nature and technology while taking advantage of the "spectacle" of technology is common through Heaney's work.

Heaney positions this new work in a not-so-distant speculative future. She uses the visual and literal language of advertising and big tech to present the techno-solutionist "promises" of quantum computing. This initial framing serves as a primer for the 360 immersive projection, taking a quantum interpretation of Bosch's central panel in his renaissance work "The Garden of Earthly Delights". The experience is housed in a black box, creating an additional layer of meaning. Using recognizable visual language (the literal black box) and familiar social contracts (our existing understanding and use of technology as in Lady Chatterley's Tinderbot) to emphasise points is typical of her work - creating juxtapositions between playful interactions, environment and critical ethical questions.

Throughout her work, both concept and medium are multifaceted, often holding multiple dichotomies by being both analog and digital, spectacle and interrogation or concerning both nature and technology. We can see this in how she often uses classical artworks as a sort of primary material before deconstructing the work and applying cutting-edge technologies to the process.

As an audience and society, it seems easy for us to hold two things in opposition, contrast or similarity, and our language facilitates this. From the etymology of "individual" - "in" (not) and dividuus (divisible) - to standard computing using binary code, there is arguably a fundamental human appetite for things to divide cleanly in two.

However, with the re-emergence and increasing prevalence of co-creation and transdisciplinarity, it appears that more trans / multi / inter language is entering the vernacular. Perhaps this is an indication of us moving much more towards pluralities and new ways of seeing and understanding the world - things like the multiverse and interconnectedness of humans, nature and technology. Heaney's work captures this for me; it feels like a quantum approach to critical questions, a new way of seeing all perspectives and challenges at once - beyond the binary way of thinking and viewing.

This quantum approach artistically not only allows work to be made in new ways which Heaney continually showcases but also creates new aesthetics and ways for the audience to experience it. It also allows the waveform of each artwork to collapse into a unique point, into the audience, into you - bringing our understanding of relational aesthetics to a new level.

The choice of medium is as important as the themes explored from virtual reality (Quantum Fake, 2018), to artificial intelligence bots (Lady Chatterley's Tinderbot, 2016/ Top of the Bots, 2019) and social media (touch is response-ability, tuuch os rispunsabiliteaeaseaea, 2020 / Agency is the Ability to Act, 2021); she develops tools from music (The Whole Earth Chanting, 2021) to language (CLASSES, 2021) and visuals (Cephalopod Aliens (studies of tentacular creatures with quantum algorithms, 2019). Heaney has and is creating a toolkit that enables her to not only create quantum artworks but do so in a way that reflects the pathways of physics. The combination of these tools can be seen clearly in this new work.

Heaney's work utilises many of the technological tools she critiques and creates narratives that provide entry into the big ethical questions surrounding the use of these technologies in our society. By doing this, Heaney equips the audience with the tools to engage in quantum thinking themselves - that is, to view an idea (or problem) from all sides.

What does quantum computing mean for us? Who is creating these new technologies and how is it governed? What are the geopolitical implications? How will this impact our environment? The second quantum revolution, in particular quantum computing, promises to revolutionise cybersecurity, healthcare, artificial intelligence (specifically machine learning) and financial services to name a few areas - however, as with any of these new technologies there are pros and cons. Much like Bosch's work with its mythical creatures, heaven and hellscapes, Heaney presents the good, bad and ugly with a critical lens so that we the audience can take a look at potential futures and consider the interconnectedness of our world now in the multiverse.

AISLING MURRAY

Dualities and Pluralities: Libby Heaney's Work and our World

"Meditate often on the interconnectedness and mutual interdependence of all things in the universe. For in a sense, all things are mutually woven together and therefore have an affinity for each other - for one thing follows after another according to their tension of movement, their sympathetic stirrings, and the unity of all substance." - Marcus Aurelius
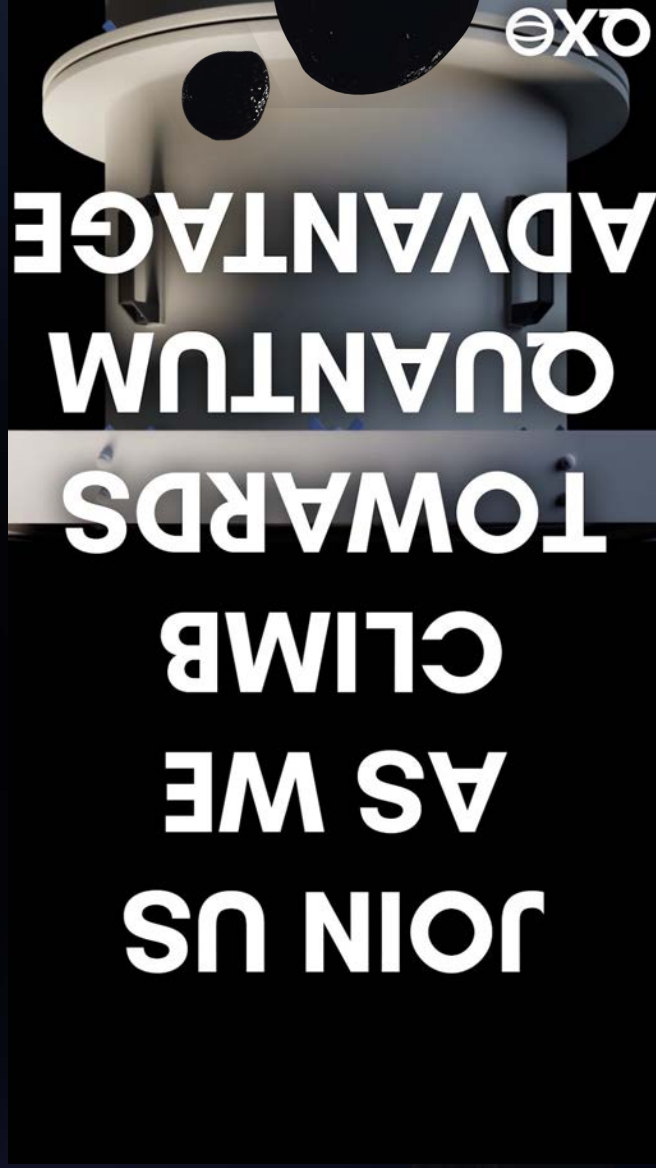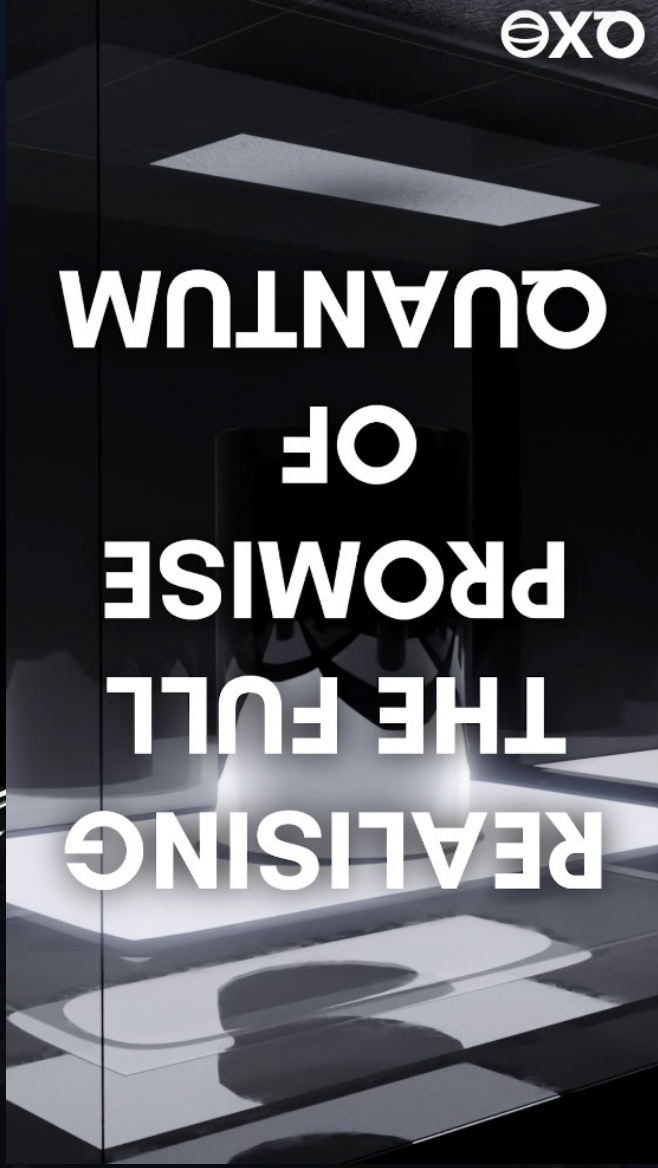
Imagination and interpretation are key when it comes to science and art, and while we can often dwell on the difference in these two disciplines, it is the similarities that push forward progress in society - including the development of new technologies. Both seek to understand more about ourselves and the world around us - science unearths what we do not yet know, and art pushes our imagination. Both seek to divine the unearthly truth of our universe: it is their resonances that give us a sensation of forward momentum.

If one mechanism (function) of dreaming is to mentally prepare us for potential futures, then the combination of science and art allow us to dream while we are awake: to imagine and inhabit speculative futures in the relatively safe environment of the galleries and cultural spaces. While the collaboration of science and art can sometimes run the risk of one discipline utilising the other, it is when they combine equally in the pursuit of one line of inquiry that magic happens. Libby Heaney, with a background in physics, captures this duality perfectly. With her understanding of the science, the technical techniques and her poetic ability to serve audiences with accessible, critical and playful modes of storytelling, she may be one of the most competent at this complex task.

Heaney's work is always layered with multiple access points for the audience. For example, in Lady Chatterley's Tinderbot she creates an AI matchmaker "Bernie" who uses extracts from DH Lawrence's novel to engage with and assess potential suitors on Tinder. The piece explores and critiques dating apps and the growing use of "bots" online, using the "source material" of a novel that at the time was criticised and banned for being too explicit. The physical installation itself is interactive,

Libby Heaney, 2022

QXO

REALISING THE FULL PROMISE OF QUANTUM

QXO

JOIN US AS WE CLIMB TOWARDS QUANTUM ADVANTAGE

QXO

REACH YOUR FULL POTENTIAL

MOVING GAS ACROSS THE GLOBE IS A COMPLEX PUZZLE QUANTUM COMPUTING WILL SOLVE

VIDEO WORKS, BANNER WORKS, BUILT ENVIRONMENT

Libby Heaney, Artist
Commissioned by arebyte, 2022
Silke Briel, LAS exhibition videographer
(extracts used in Qx product launch video)
Jamie Maule, Sound distortion

SCULPTURAL SEATING

Rosie Gibbens, Soft sculpture artist
Commissioned by arebyte, 2022

IMMERSIVE QUANTUM PROJECTION (ENT–)

Libby Heaney, Quantum computing developer, artist
James B. Stringer, Producer and experience design
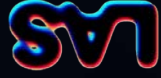Jira Duguid, Lead developer
Gabriel Stones, Developer
Nabihah Iqbal, Composition (music and sound)
Chris MacInnes, Charles Stanton-Jones, Technicians
Tomáš Cingl, Lead build

Commissioned by
Light Art Space (LAS), 2022

Projection engineered by

arebyte

arebyte leads a pioneering digital art programme at the intersection of new technologies and social sciences. Following the long tradition of artists working across emerging artforms, multiple voices in digital cultures are invited to create immersive installations at arebyte Gallery (London) and online experiences on arebyte on Screen.

Alongside the art programme, arebyte Skills features short courses on digital theory and introductions to creative software. Through workshops led by digital artists, arebyte Skills provides digital practitioners and newcomers with practical techniques for digital making.

arebyte also supports a vibrant community of artists, designers and creative technologists through arebyte Studios, an initiative that provides affordable workspaces to 150 creative professionals across London.

Libby Heaney is a British artist and lecturer who holds a PhD in Quantum Information Science from the University of Leeds and an MA in Art and Science from Central Saint Martins in London. She has exhibited widely in galleries and institutions in the UK and internationally, including solo exhibitions at LAS, Berlin (2022) Holden Gallery, Manchester (2021); Goethe Institut, London (2019); Emmanuel Church, Loughborough (2021) as part of Radar, Loughborough University's contemporary art programme; and at Non-Space Gallery, Aarhus (2017) as part of their EU Capital of Culture programming.

SCI-FI

For its 2022 artistic programme, continuing on from last year's Realities, arebyte presents artists and artworks surrounding science fiction, science-speculation, and science fact.

The programme unpicks our current reality and presents an exploration through various forms of speculative fiction(s), proposing imaginative and innovative concepts for a new kind of futurism, and mapping a new realm that we can unfold - a domain that incorporates ways to promote new ways of inhabiting, carving out, and finding spaces to exist within. These areas include quantum ideology, cyborgian prosthetics, performativity within identity, and digital terraforming through world-building techniques, as well as others that will unfold throughout the year.

In conjunction with the "real-world-space", the liminal space is also put forward as an arena to consider ambiguity or disorientation as positive disrupters of the status quo. Within this, the programme adapts to the inherent hybridity of artistic forms and practices within the digital and confronts the limitations of working online and offline in ways that promote multifaceted offshoots. Although partitioned into pathways of exhibition, event, and discussion, the programme offers non-orientable surfaces, a Möbius strip of knotted and intertwined science-fiction inspirations to examine the ways in which the past and the present continually converge, collapse and co-invent each other.

eXo

The Evolution of Ent-?