

## Lights In the Darkness

How do you convey the meanings of your people 'through cultural artifacts'. How do you carry the memories of your people 'through stories'.

(Clare Lees, Art that made us, BBC)

### Space as a Place

It is through art that we often find new perspectives and interpretations of our surroundings, space is no exception. By combining these seemingly opposing realms, I argue that we can cultivate a greater appreciation for space as a place, a place that is becoming increasingly accessible and evermore entangled in our everyday lives, so requiring and encouraging creative thinking in conceptualising what future space might mean for you and me.

The project 'Space as a Place' is a product of a unique Lancaster University (UK) Management School event '[Perfect Pitch](#)'.

Firstly, to define 'place' in the context of space. Space arguably begins at 100km above sea level at a point called the 'kármán line' ([NOAA, thermosphere](#)), with the international space station orbiting earth at 400km. In recent years NASA's commercial low earth orbit development program has been supporting the development of commercially-owned and operated Low Earth Orbit destinations '[Commercial Destinations in Low Earth Orbit](#)'. Likewise in the UK, the UK Space Agency and Launch UK (the UK's commercial spaceflight programme) supports the vision for the UK to be the leading European provider of small satellite launch by 2030; making available significant grant funding "to kick-start commercial activity to grow new markets and ignite a fast-paced UK spaceflight sector and creating social and economic benefits for communities right across the UK" ([LaunchUK: Leading the commercial space age](#)). The UK has several regional commercial 'space clusters' and space-cluster managers, supporting the growth of the commercial UK space industry, which is one of the UK's fastest growing industrial sectors, trebling in size since 2010, with an annual income in the region of £16.5 billion ([ukspace.org](#)).

### Space Imaginaries

Space exploration has always captured the imagination of humanity, imaginaries portraying space as seen through the lens of the Hollywood blockbuster, or perhaps the writing of Douglas Adams with his beloved Hitch Hikers Guide to the Galaxy. Sci-Fi being the popular mode to mean making in a subject area beyond the reach and understanding of all but a few elite people. Perhaps it is now time to tell a different story, a story of individual entanglement and connection beyond our fragile earth.

Where will a contemporary popular space imaginary begin, and what boundaries might this have. What new perspectives and interpretations can 'ART' contribute to a new contemporary popular space imaginary?

We could argue that the roots of artistic imagination in the production of cultural artifacts began in the early Paleolithic period. For example, comparative studies of Cave paintings from the Paleolithic period "showed that depictions of animals in the paintings were not merely decoration or representational depictions of life, but instead reflected a religious iconography and conception of the world" (R. Z. Cortazer, The Havard Gazette, 2007).

If we accept this understanding of cave painting, as our beginnings in this instance. Paleolithic artistic endeavors and the creative expressions of 21st-century humanity exhibit both physical and metaphorical parallels, highlighting profound connections and intricate entanglements. These similarities can contribute to shaping a speculative yet contemporary popular imagination centered on space. Art serves as a vital intermediary and interlocuter, drawing back the curtain on existent and future space related technologies, industrial enactments, and the formation of displaced identities that are launching multi-modal humanity beyond earth.

All images in this document have been created using visual artificial intelligence (AI).



Figure 1

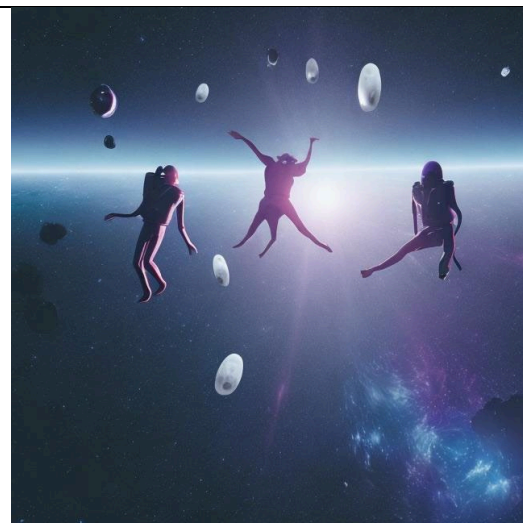


Figure 2

### Multi-Modal Humanity: The orbital human

What aspects of humanity might already be in orbit other than the hardware we see trailing across our night sky? If we accept the term 'mode' as the manner in which something occurs or is experienced, expressed, or done and 'multi-modal' as multiples of that definition, we can perhaps, reconsider, accepted perspectives and interpretations of space as a place. Star link, a subsidiary of SpaceX, provides the majority of its users with internet speeds of over 100 Mbps, along with other providers such as Amazon set to launch 3,236 satellites into Lower Earth Orbit (LEO), Inmarsat, Iridium communications, and more. All hosting vast amounts of communications data facilitated by orbital entities and artifacts.

Increasingly, particularly in the recent pandemic, we have witnessed a digital migration. A migration in humanity that is enacted through the transfer and the processing of data, sharing moments of kindness and compassion, creation and ideation, to interconnected commercial activity and currencies; in part, in orbit. Working away from the office, from home, or working fully online, is now the accepted norm. For some, the concept of the digital nomad is a reality. The 'digital nomad' perhaps a category of digital human migration that is blending global on earth and orbital experiences. Is the orbital human already with us.

## Space as Place: Re-imagining Our Collective Relationship with Space - Identity, People, and Technology

It is my intent within this project to create art. Cultural artifacts that explore and give meaning to what it is to be an orbital human; a re-imagining of our collective relationship with space.

Imagine. Cross-cultural mashup, and surveillance societies. The exploration, mining and Invention of information facilitated by artificial intelligence. High-Speed internet available [almost anywhere on earth](#).

Imagine. [Building in zero gravity and the race to create factories in space](#). Making objects, defining new processes, and perhaps new beginnings.

Imagine. Not to be weighed down by gravity. What properties does space have that need to be conjured on Erath; vacuum, refrigeration, ovens (convection current), for example.

Imagine. [NASA is awarding contracts to four companies](#) to extract small amounts of lunar regolith by 2024. NASA's [OSIRIS-REx](#) lands samples of asteroid Bennu to Earth after historic 4-billion-mile journey. Space mining is becoming a reality.

Space manufacturing, mining, communications, aligned with the immanent properties of space, zero gravity, temperature, etc. What emerges from that immanence, will have earthly consequences. Economics, Work and Technology, Strategy, Marketing, Entrepreneurship, Education, the Environment (and consequences for Sustainably therein), all eventually may need to turn their gaze fully towards space, requiring innovation and imagination.

Innovation 'the implementation of a new idea that creates value' requires the transformation of imagination a 'thought or suggestion as to a possible course of action', that in turn requires the capability to think in an informed speculative manner. Artistic artifacts and art thinking amplify and accelerate a process that drives new perspectives and interpretations of our surroundings, our place, past, present and future.

The creation of art and artifacts require trust, risk, and perhaps a leap of faith. Particularly, if what is to be made manifest appears, perhaps, to be out of reach. Speculative fiction, for example Science fiction, would be the 'go to' genre that deals with topics such as space exploration; as an accessible form that speculates about alternative ways of life. The examples that I have mentioned above have begun to change the narrative that defines space as a place, from science fiction to a general science reality. This project will use art as a vehicle to explore this change, helping to make sense of space beyond science fiction. It is intended that the creation of artworks will 'embolden us with a new sense of understanding and empathy whilst raising questions' about our changing collective relationship with Space.

The intent of this collaborative project is to create art and artifacts that stimulate awareness of space as a place, a place not just in our imagination, but as an actual place.

To make this idea a reality in collaboration with [Ambasat](#). This project will send nano satellites into lower Earth orbit (LEO) to collect data over a 30-day period. This data will then be transformed into a series of 30 unique artworks, with each artwork representing a day in space. The culmination of this endeavor will be an exhibition, inviting viewers to explore the theme of 'Space as Place'.

The data to be transformed into art and artifacts will consist of data representing four (TBC) distinct information types (1) ultraviolet light, (2) ambient light, (3) voltaic organic comp, and (4) gas, pressure, temperature & humidity, along with geolocation, speed and altitude. This data will be considered a representation of an actual place in LEO, gained from an actual object in LEO, affording the ability to create art that speaks to and reflects on an actual place in LEO.

Guest speakers and small-scale event(s) will project and inspire collaborative involvement. It is hoped that these events will talk to both the actual possibilities of space activity, manufacturing, mining, entrepreneurship, etc., and art and speculative thinking. Broadly, the convening of several possibly disparate ontological domains, in art and science, will generate and stimulate a high level of creative output and impact. This results in the increased understanding of the actual possibilities of space activity and the potential of art and speculative thinking broadly in all subject areas.

### Production of Artwork

Considering the recent explosion of, and popularity of, artificial intelligence (AI). The power of visual AI will be leveraged alongside traditional medium in the creation of artworks. The utilisation of AI in the creative process will serve two main purposes. The first, to explore the possibilities and potential of AI in the use of data to create visual artifacts and artwork, and the second, to expose colleagues that wish to be involved in this project to methods of working with AI. The collaborative nature of this project will act as a platform to investigate innovative groupwork methodologies in collaboration with visual AI. Understanding how we might communicate and work with AI is, and will be vital, going forward both in the workplace and in education.

The premise for generating artwork using AI is (1) an investigation into the possibilities of AI in generating Landscape paintings, paintings that engender place. Particularly, painting in the English Lake District Watercolour landscape tradition, (2) utilising existing knowledge with regards to the history of art in the production of images generated using AI, (3) engaging with elements of designerly thinking, looking to AI as collaborative partner in the creative process, and (4) prompt engineering.

As an example, and to set the stage. Below you can see images created in collaboration with AI, along with a long form explanation of how those images were produced with regards to existing knowledge and prompts to AI.



Figure 3



Figure 4

Prompt and Detail: The images above have been created using AI and are original for all intent and purpose, created using knowledge of the artist John Singer Sargent (1856 – 1925). Sargent, a portrait painter, is known to have painted landscapes in, the Alps, Greece, Italy and Palestine, among other locations in Europe, but is not known to have painted in the English lake district. Sargent, in brief, is known for his superb draughtsmanship and fluency in handling paint medium. The AI Prompt, for figure 3 “landscape painting of a small yacht with a white sail on Rydal Water in the English lake district in the style of John Singer Sargent”. The AI Prompt for Figure 4 “John Singer Sargent”.



Figure 5



Figure 6

Prompts and detail: The two images above have also been created by using AI, created using knowledge of the artist Nicolas Poussin (1594 – 1665). Poussin was a classical French Baroque artist, spending most of his working life in Rome with a brief period in Paris as court painter. Poussin being broadly classical in manner influencing the later romantic moment. Poussin having worked, at times, alongside Claude (1600 – 1682), both influencing the later Romantic artistic movement. Poussin having spent most of his working life in Italy did not visit England to paint. The AI Prompt, for figure 5 “landscape painting of Ullswater in the English lake district in the style of Nicolas Poussin”. The AI Prompt, for figure 6 “Nicolas Poussin landscape”.

## New Imaginaries

Above I have cognitively mapped out an interaction between existent art knowledge and generative AI.

Imagine! We have two artists, Nicolas Poussin and John Singer Sargent, both artists being significant figures in the history of art. Two artists that are apart both chronologically and stylistically, separated by two centuries, neither having traveled to work in the English lake district.

What if! What if Poussin came to the English Lake District to work? What if, Sargent also came to work in the English Lake District.

Finally, what if! Imagine that both Poussin and Sargent worked together in the English Lake District, sharing knowledge of classical composition combined with the freedom of expression of early 20 Century art. The image below, figure 7, is an AI Imaginary. This Imaginary depicts a fictional art narrative, that entangles the work of Sargent with the work Poussin with the help of visual AI. Possibly resulting in a unique digital artifact in composition and style.



Figure 7

### Space, Art and Project Data

Using the same AI methodology as discussed above. This 'space as place' project will incorporate the environmental data gained from our four nano satellites, in combination with existent and collaborative group knowledge and understanding. Our AI prompt engineering in the creation of original artwork will include questions and observations directed at a new imagining of space as a place. 30 artworks will be created and exhibited, one artwork for each day that our nano satellites are in space. Below, figures 8 to 13, demonstrate several examples of what might be expected to be included in the exhibition 'Space as Place'.

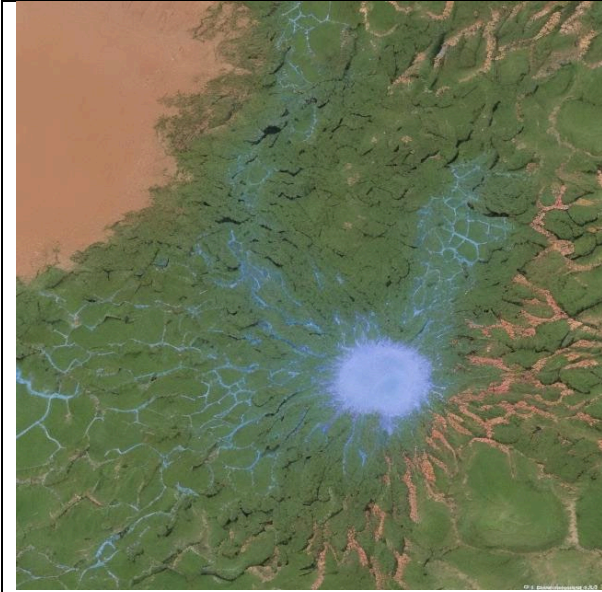


Figure 8

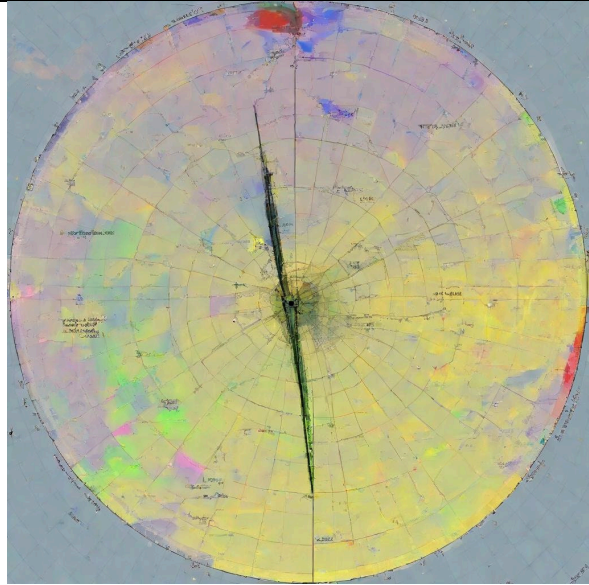


Figure 9



Figure 10



Figure 11





Figure 12

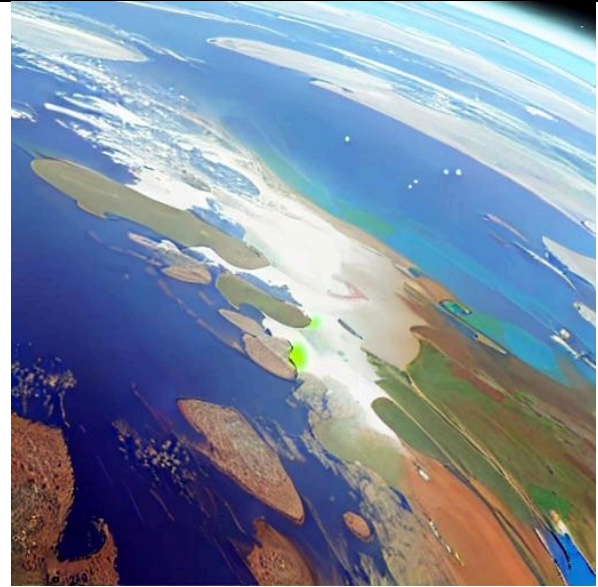


Figure 13

The images, figures 8 to 13, have been created using AI. The prompts used to create these images have been engineered using satellite data freely available online from [NASA](#). It is expected that our four-nano project satellites will create and transmit similar data.

### In Conclusion

The creation of art artifacts inherent in this project and the resulting exhibition will echo and continue the cross-domain science / art, discussion, and conversation. To extend the remit of this project it is intended that the resulting exhibition will travel, continuing this discussion more broadly. It is also intended to research the possibility of gaining further funding, to publish an art book containing our 30 artworks.