An account of the making of the stereographic portrait of Queen Elizabeth II (Equanimity), 2004

Rob Munday

***Preamble**:*

The original version of this paper was presented by me at the 7th International Symposium on Display Holography, 10-14 July 2006, held at the OpTIC Technicum, St Asaph in North Wales, UK. Chris Levine and my employee and assistant, Jeffrey Robb, attended the symposium. The paper was written by me with assistance and advice from Jeffrey Robb and fact-checked by both Chris Levine and Jeffrey Robb before its submission to the symposium and subsequent publication.

The original paper, however, was written in an extremely diplomatic manner with respect to certain events that had already unfolded between the date that I had agreed to shoot and create the portrait and the publication of this paper.

Without going into detail here, as soon as the final commissioned work had been delivered, Chris Levine began to act fraudulently by misrepresenting himself as the sole creator and author of the portrait, labelling me as a technician from whom he had hired the camera. As can be seen from the following true and accurate account of the project, this couldn't be further from the truth. Before writing the original paper, both Chris Levine and the commissioners, The Jersey Heritage Trust, had breached a legally binding agreement that had been signed by all parties in May of 2005. Despite this, I wished to remain discreet and professional, as I was still hopeful that a resolution could be found, and so I chose not to spell out the obvious but hoped that the audience would read between the lines.

Unfortunately, however, at the time of this update, the situation has gone from bad to worse. Chris Levine has continued to act fraudulently by misleading the art world regarding all aspects of the project and, for over twenty years, has continually breached all legally binding agreements regarding the project with me, with the commissioners, the Jersey Heritage Trust, and with other third parties.

In March of 2024, the Jersey Heritage Trust finally initiated legal action against Chris Levine for fraud and breach of contract, something they had first promised to do in November of 2012. Chris Levine has therefore become the first ever 'royal artist' to have legal action instigated against him by the commissioning party. The initial Particulars of Claim were filed on 28 March 2024 in the High Court of Justice Business and Property Courts of England and Wales Intellectual Property List (ChD) Shorter Trail Scheme, LIVE\35173\2\23116849.v1-3/28/24. The case is currently ongoing.

I have decided, therefore, to update this paper to include a much more detailed account, particularly of the commissioning of the portrait, and to describe more fully how the project unfolded and which roles were conducted by the parties.

Even though I have documented the fraudulent actions taken by Chris Levine during the project, it would be impossible to include all the misleading and duplicitous actions taken by him over the last twenty years, both before this project commenced and afterward, and to a lesser extent by the Jersey Heritage Trust. I have therefore written a separate document that goes into greater detail about the history between Chris Levine and I, for future reference.

In short, working as both artist and holographer, I was almost entirely responsible for creating this portrait, whilst Chris Levine's role was largely that of a project manager.

Rob Munday – Updated 6th March 2025

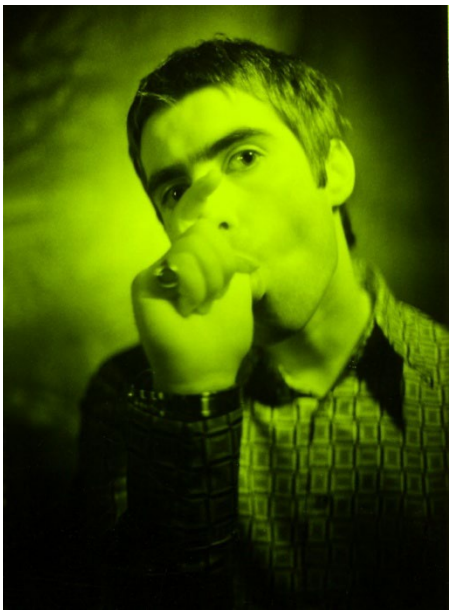
Queen Elizabeth II (Equanimity), 2004

By Rob Munday, Chris Levine

The commissioning of the portrait

The wheels were set in motion in 1998 when Gordon Young, an artist working with the Jersey Heritage Trust, visited an exhibition in London entitled HyperVisual 1.2. The exhibition had been put on by Chris Levine, who was, at that time, a designer, the co-founder and Managing Director of IC Holographic, a London-based promotions and advertising agency, and my former agent. The exhibition falsely purported to show only the holographic works of Chris Levine; however, it predominantly showed holograms and holographic portraits that had been created by me and were solely my work. These holograms had previously been supplied by me to IC Holographic, whilst acting as my agent, to show potential clients, under an agreement that all holographic portrait commissions and other work obtained by the agency would be passed to me as one of the few independent creative holographers in the UK and the UK's only holographic portrait artist. In particular, the exhibition featured my unique holographic portraits of the singer/songwriter Seal and the Oasis band members Noel and Liam Gallagher, which I had independently funded, shot, and created at my private holography studio in 1994 and 1997, respectively.

Holographic portrait of Seal.



Holographic portrait of Liam Gallagher.

At this same time, the Jersey Heritage Trust was looking to commission a portrait of Queen Elizabeth II on behalf of the Bailiwick of Jersey to commemorate the Island's 800-year allegiance to the English throne. In 2001, after a recommendation by Gordon Young, a meeting was held between Chris Levine, the Trust's Director Michael Day, and curator, now CEO, Jon Carter. During these meetings, Chris Levine continued to mislead the parties by claiming to be a portrait artist and by showing my portraits as his own. The Trust subsequently unwittingly commissioned Chris Levine for a unique and contemporary holographic portrait - the first-ever officially commissioned holographic/stereographic portrait of Her Majesty Queen Elizabeth II, or indeed, any member of the British Royal Family.

At this time, to the best of my knowledge, Chris Levine had never made a hologram, nor created a portrait work of any kind, and had never shown an artwork in a gallery or an art exhibition that he hadn't organised himself. In contrast, I first exhibited a holographic artwork in an exhibition entitled "Light Years Ahead - The Best of British Holography" in 1984, was a co-founding member of staff of the Royal College of Art's Holography Unit from 1985-1991, had designed and operated the UK's first dedicated holographic portrait studio at the Royal College of Art in 1986, had operated my own independent creative holographic portrait studio, working as the UK's only dedicated holographic portrait artist throughout the 1990s, and had, by 2003,

created and exhibited numerous holographic portraits and other holographic artworks in galleries and exhibitions around the world.

Despite the circumstances surrounding the commissioning of the portrait, Chris Levine contacted me in September 2003, just a few weeks before the planned sitting, to inform me that he had been commissioned by the Jersey Heritage Trust to create a holographic portrait of the Queen. As with previous holography commissions passed to me by his commercial agency IC Holographic, he asked if I would shoot and create the portrait; however, this time, it would be a creative collaboration between him and me. During this initial conversation, I made it clear that, regardless of the project's outcome, good or bad, the portrait would hold significant historical value and, as such, it would almost certainly be accepted by the National Portrait Gallery. Chris Levine agreed. I unequivocally stated that, should I choose to accept the commission, it would be contingent upon the resultant portrait being credited, at the very least, equally to both of us as creative co-authors. To illustrate my point to him, I said, 'So when it is shown in the National Portrait Gallery, you agree that it will be credited as by 'Chris Levine and Rob Munday' or by 'Rob Munday and Chris Levine'. Chris Levine responded with a firm 'yes' and agreed that he would accept my proposed terms.

Over the following days, my thought was to decline the project; however, after seeking advice from friends, colleagues, and family, I tentatively agreed. As I had made clear during our initial conversation, and despite the realisation that Chris Levine would offer very little by way of creative input, largely acting as the project manager, my agreement to shoot and create the portrait was conditional upon an equal creative credit being given whenever the portrait was shown or published. This was later ratified by a legally binding agreement, drawn up and signed by all three parties, Rob Munday/Spatial Imaging, Chris Levine/ARM, and The Jersey Heritage Trust in May of 2005. At this time, it was not anticipated that copies of the commissioned work would be sold.

Just a few days into the project, Chris Levine explicitly requested that I refrain from disclosing my primary involvement in the project, as well as our agreement to credit each other as equal creative co-authors, to either The Jersey Heritage Trust or Buckingham Palace, as he feared that the Jersey Heritage Trust might become suspicious and cancel the project. Instead, he promised to inform them at a later date, once the project had progressed further. Not wishing to risk such an outcome, I chose to rely on Chris Levine's word, which, suffice it to say, he broke.

As with all projects of this magnitude, several other participants played important roles. Notably, Jeffrey Robb, an employee of my company Spatial Imaging Ltd., acted as my assistant, liaising between Chris Levine and me, coordinating the project, and offering advice and assistance throughout. Photographer Nina Duncan was also contacted to assist with the lighting and to document the event for posterity, taking several of the photographs shown in this paper.

Please note: At the end of this paper, you will find a full response to this chapter from the commissioner of the work, Jon Carter, CEO of the Jersey Heritage Trust, when asked to comment on its accuracy. Jon Carter did not find any inaccuracies.

The Island of Jersey.

The initial planning

Initial discussions between Chris Levine and me in September 2003 revolved around the use of my personal, unique, and state-of-the-art ruby pulsed-laser holography portrait studio, based in Richmond-upon-Thames, London, to create a 'true' laser holographic portrait in the style of my many other portraits, including those of Seal and Oasis band members Noel and Liam Gallagher. I was and still am recognised worldwide for my pulsed laser holographic portraits, which I have been creating since designing and building the first dedicated pulsed laser holographic portrait studio in the UK at the Royal College of Art in 1985. Chris Levine suggested using this medium for the portrait, but I refused, preferring to save this for myself and a possible future portrait.

Instead, I proposed creating a large-format holographic stereogram, made using a stereographic sequence of photographic images that I would shoot at Buckingham Palace. Various options concerning the production of the final 'commissioned' holographic stereogram were considered; however, a decision was made to subcontract Dr. John Perry of Holographics North, USA, to print the final holographic copy. This decision was influenced by a highly successful collaboration between Dr. John Perry and Spatial Imaging in 2003, which involved the production of a large-format holographic installation in a restaurant in Tokyo, Japan. It was also influenced by the fact that Dr. Perry operated the only company in the world capable of making large-format holographic stereograms.

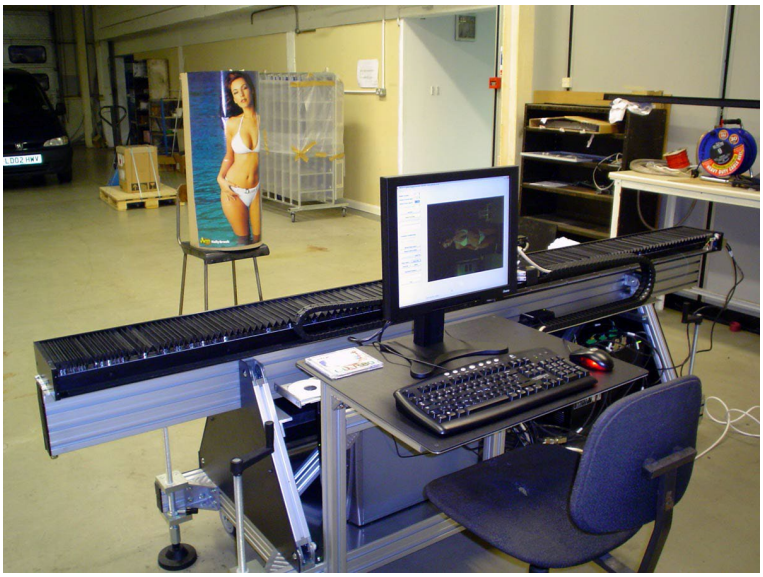
A holographic stereogram portrait is made from a sequence of photographic views taken of the sitter from different positions or angles using a specially designed moving camera. The technique is related to conventional 3D photography except that many more photographs are taken through a wider angle of view to give the illusion of parallax or 'look-around'. A benefit of holographic stereography is that the resultant stereographic image sequence can be archived and used later to produce many other types of 3D/stereographic images, such as lenticular images or 3D images for electronic displays.

To record the image sequences, I chose to design and build a new and unique digital camera recording system completely from scratch. My assistant Jeffrey Robb and I additionally proposed utilising the latest computerised three-dimensional head scanning technology from Wicks and Wilson, a UK company, to create a computer 'point cloud' model of the Queen's head from which other types of three-dimensional images could be made at a later stage.

Several meetings followed between Chris Levine and me in September and October 2003 to discuss both the aesthetic and technical requirements of the work. One proposal I made was to illuminate the final holographic stereogram work with a vertical array of single-frequency LEDs. I had developed this illumination method, which creates a sharp, single-colour image whilst extending the otherwise narrow vertical viewing aperture of a rainbow hologram, for a previous commission.

Chris Levine's only creative contributions to these early discussions, as is documented in a 2004 legal agreement between himself and the Jersey Heritage Trust, were to record a close-up of the Queen's face, rather than a standard bust, incorporate the Jersey Crest and an image of Jersey's Mont Orgueil Castle in the background of the portrait, and to light the hologram with blue light. As will be described later, I chose not to implement either of the first two suggestions, preferring a more traditional composition and a simple black background, in the style of my many other holographic portraits. Chris Levine's later insistence on lighting the resultant holographic stereogram portrait with blue light (not subsequently chosen as the commissioned work) resulted in the Queen describing herself as 'looking like an old lady lost in the woods'!

My VIP ‘Video Images with Parallax’ 3D camera system



Testing my VIP camera system at my engineering facility.

Only six weeks before the first sitting, I embarked upon designing and building the 3D digital camera system that I would use to shoot the sequence of images required for the portrait. I also embarked on writing custom software to control all aspects of the camera system and the imaging process. The V.I.P (Video Images with Parallax) system was, for its time, the most sophisticated 3D camera system in the world for the recording of parallax image sequences and 3D portraits, and in 2025, arguably remains so.

I chose to use the Pantera SA 2030 full-colour digital camera, which, at the time of the project, was the highest-resolution, full-colour, digital camera available and was made by Canadian company Dalsa Corporation. The camera was capable of outputting 10-bit greyscale images at a resolution of 1200 * 1600 pixels with RGB Bayer filtering at a blistering 30 frames per second. A high-speed PCI frame grabber card was used to save these images in real time directly to computer memory in a high-specification computer workstation.

The Pantera SA 2030 full-colour digital camera.

Concerning camera translation, and for the first sitting, I decided to employ a traditional shift lens/shift camera technique to avoid keystone distortion. At the first sitting, however, it became apparent that there were some disadvantages to this method of shooting parallax image sequences, and so, in between the first and second sittings, I redesigned, rebuilt, and reprogrammed the whole system at my own expense to rotate the camera instead.

Rotating the camera to point towards the subject generally introduces undesirable image distortions, which a shift lens or shift camera system avoids, however, I recognised that by developing and employing new custom-written post-processing software it was possible to reverse the distortions after the digital images had been recorded (N.B I was later told that I may have been the first person in the world to write and employ such software to undistort digital parallax image sequences). After a lot of consideration, I concluded that this method provided the ultimate compromise between photographic image quality, angle of view, and final holographic stereogram portrait quality. The three main advantages of rotating the camera to point toward the subject were:

1. A superior quality, faster lens could be used rather than a much lower quality wide-angle shift lens.

2. There was no reduction in the brightness of the images as the camera moved to the ends of the rail, which would normally be caused by light passing through the side of a wide-angle shift lens.

3. The angle through which images could be recorded and, hence, the final holographic stereogram viewing angle was not limited by the travel limit of the shift lens or shift camera. In other words, a much larger viewing angle could be created.

Those three technical and creative advantages, along with my choice of lens and camera, would finally enable me to create the portrait that I had artistically envisioned.

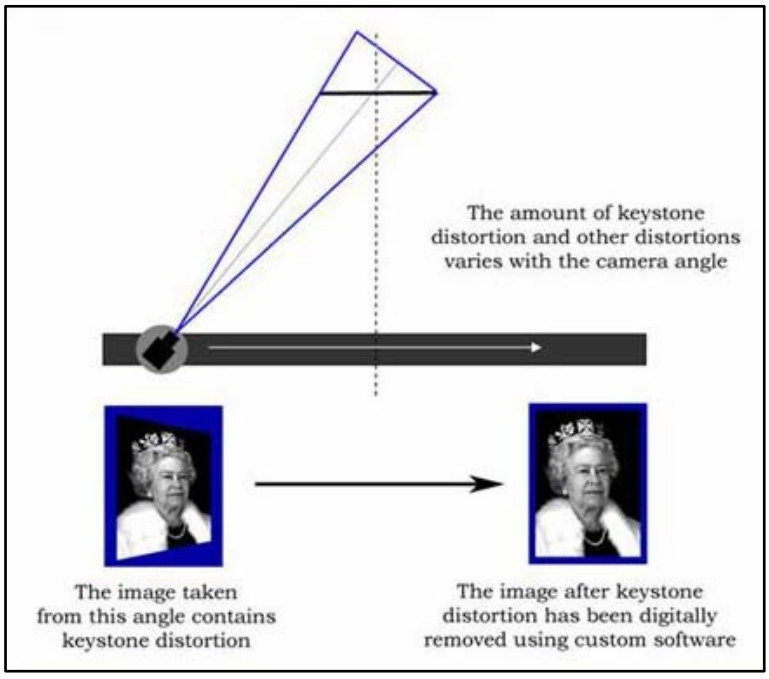


Diagram of my VIP camera system, showing the effect of digital keystone removal.

I utilised a state-of-the-art linear motor rotational stage, which rotated the camera smoothly, at high speed, and with extreme accuracy. The rotational stage/camera assembly was itself mounted on a 2.5-metre-long linear motor rail. This also enabled the camera to be translated smoothly and accurately at high speed. The

two stages were electronically ‘locked’ together in a non-linear manner such that the camera continuously pointed at a position in space as it moved along the rail. The linear motor rail, the longest commercially available of its kind in the world, was manufactured, together with the rotary stage, by Anorad Europe in Holland. The entire motion control assembly was then mounted onto a rigid but portable subframe that enabled me to transport the VIP camera system to Buckingham Palace.

The total investment made me/Spatial Imaging in developing the VIP camera system was approximately £50,000 ($95,000).

My 2024 VIP camera system with Spatial Imaging holographer and employee Olivier Pitavy.

My temporary studio at Buckingham Palace

The sitting was to be held in the Yellow Drawing Room at Buckingham Palace, and my assistant Jeffrey Robb and I were allowed three days before the sitting to build my temporary studio, test my camera equipment, and conduct test shoots. The Yellow Drawing Room was the Queen’s preferred environment for portrait sittings. It is a corner room with windows on two sides and has more natural light than most of the rooms in the Palace (although this natural light was not used). As such, it is the room most often used by artists for more traditional painted and photographic portraits.

The first task in assembling my temporary studio at the Palace was to manoeuvre my VIP camera system into the room. I did not anticipate any problems in achieving this; however, after arriving at the Palace, I realised that the rail was far too long to be taken up to the first floor using either the lift or the nearby spiral staircase. Fortunately, the Queen’s senior porter came to the rescue and suggested that it could be carried from the main entrance, through the Grand Hall, and up the curving marble stairs of the Grand Staircase. Six of the Palace porters then proceeded to manhandle the system up one of the most famous staircases in the world, past priceless antiques and grand master paintings. It was with relief that the VIP system arrived at the top unscathed. At no time in the past or since has such an assemblage of high-tech equipment been allowed inside Buckingham Palace.

The Buckingham Palace grand staircase.

I then spent my allotted three days building the studio within the Yellow Drawing Room, positioning and testing my camera equipment, checking all the usual photographic and stereographic variables of composition, exposure, focus, angle of view, translation speed, etc., and conducting test shots. Chris Levine played no part in this process. Nina Duncan arranged the lighting according to the specification that I had provided before the set-up, which was to surround the Queen with as much light as possible to compensate for the relative insensitivity of the video camera that I had chosen, while, of course, obeying the usual rules of portrait lighting.

As part of the design of my studio, I hung a green screen backdrop to accommodate an idea by Chris Levine to later add a picture of the Island of Jersey and/or the Jersey Crest to the background of the portrait. This was later removed by me as I favoured a much simpler, more elegant, and less 'commercial' portrait in the style of my other portraits.

Sitting in my temporary studio in the Yellow Drawing Room at Buckingham Palace the day before the first sitting.

The First Sitting, 14th November 2003

Before the first sitting in November 2003, a meeting had been held between Chris Levine and Miss Angela Kelly, the Queen's personal assistant, to select the clothing to be worn by the Queen. Chris Levine chose a dark blue velvet dress, a selection of black and red capes, a single string of white pearls, and, with a strong recommendation from Angela Kelly, the George IV State Diadem.

A British coin and stamp showing the Queen wearing the George IV State Diadem.

The George IV State Diadem is depicted on British postage stamps and coins and was made in 1820 for George IV's Coronation. It incorporates 1,333 large diamonds and 169 pearls and was also worn by both Queen Victoria and Queen Elizabeth at their respective coronations.

At the first sitting, Chris Levine and I were granted only one hour of the Queen's time. At precisely 3.00 p.m. on the 14th of November 2003, the Queen entered the room with her personal assistant and dresser, Miss Angela Kelly, and we introduced ourselves to her and shook her hand. The Queen then enquired as to which cape she should wear whilst Angela Kelly prepared the crown, sewing a velvet lining around the rim to make it more comfortable. This was the first time that the crown had been removed from the safety of the Royal Vault for many years. The Queen swiftly placed the crown on her head, arranging it herself in the mirror much as somebody would arrange their hat!

The Queen places the George IV State Diadem atop her head. Photograph by assistant photographer Nina Duncan.

Chris Levine had proposed a close-up of the Queen's face, taken from a low angle, however, I preferred a more traditional bust composition, with the Queen facing directly ahead. I had, therefore, set up and positioned my VIP camera system to achieve this result. I had also positioned the chair that the Queen would sit on so that it faced my camera and was at the correct height and distance. This ensured that the Queen would be in an optimal position to achieve the two-dimensional composition, the three-dimensional composition, the three-dimensional integrity, and the aesthetic visual result that I had chosen for the final portrait. Chris Levine then directed the Queen to sit in the chair and, whilst she settled herself, he illuminated the crown using an LED lighting unit often used to illuminate jewellery.

Chris Levine arranges the jewellery lights. Photograph by assistant photographer Nina Duncan.

After several dry runs, the shoot began in earnest. I operated my VIP camera system via the computer keyboard, having already decided upon and set up all the creative variables, such as camera aperture, exposure time, the distance that the camera moved, the angle through which the camera rotated, the recording speed, the number of frames taken for each pass, the focus, and the composition of the shot, all of which would ultimately define the visual and aesthetic appearance of the three-dimensional portrait.

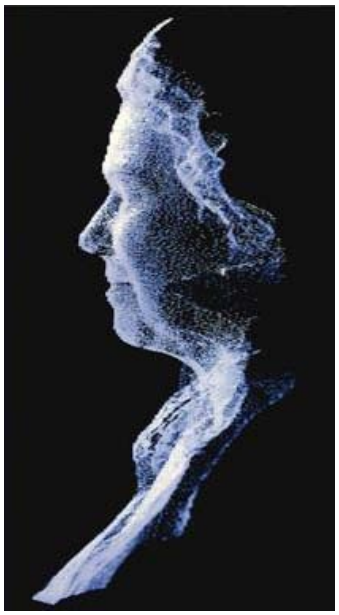
Kneeling in front of the VIP's monitor, my assistant Jeffrey Robb was tasked with checking that the camera remained in focus, and, also following my advice, Chris Levine directed the Queen to look straight ahead and into the distance, and to remain motionless for the duration of the pass. By pressing the space bar of the computer keyboard, both Chris Levine and I initiated the recording process for various sequences, analogous to pressing the shutter button on a conventional camera. The Queen, well used to posing for photographs and paintings, adopted her naturally regal pose without any need for intervention or artistic direction and remained motionless for the eight seconds it took to record each 205-frame sequence. Given this length of time, it was not possible to time the shot with the Queen's breathing, as has been claimed by Chris Levine in many interviews and articles in the media.

Nerves and the concentration required meant that the first fifteen-minute period of the shoot was a rather hushed affair. It was my assistant, Jeffey Robb, who finally broke the ice by asking the Queen if she remembered unveiling a commemorative hologram at the University of Surrey, which I had been commissioned to create some eight years earlier. She replied, saying that she did and remembered that she had been presented with a copy of my hologram. I then asked the Queen what had become of my hologram

and was pleasantly surprised to learn that it had been kept safely in the Palace Library. Our assistant, Nina Duncan, also light-heartedly mentioned that the process was a bit like having your passport photo taken, to which the Queen jovially replied that she didn't need one! The conversation broke the ice and created a more relaxed atmosphere, after which the Queen chatted freely.

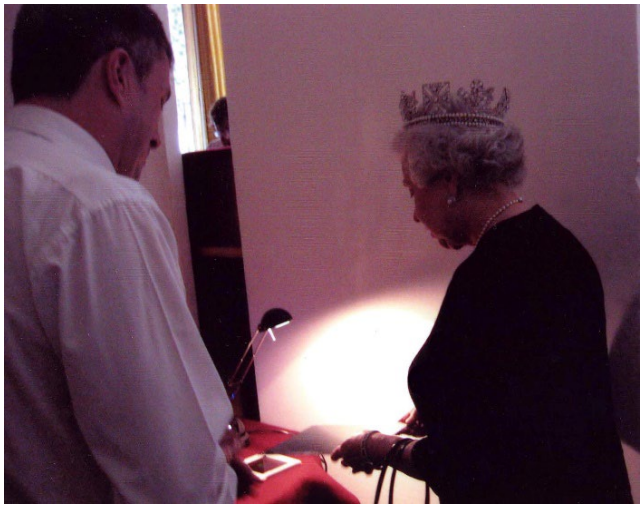
Left: Stuart Windsborough creates a point cloud computer model of the Queen using the Wicks and Wilson 3D scanner. Photograph by assistant photographer Nina Duncan. Right: The Wicks and Wilson 3D scanner.

#At the end of the photographic shoot, the Queen's head was also scanned into a computer as a three-dimensional model. This unique head scanning system, designed and built by British company Wicks and Wilson of Hampshire, was operated by Stuart Winsborough. The system had been designed by Wicks and Wilson to produce glass block 'crystal' three-dimensional portraits; however, the resultant 'point cloud' 3D data set can be converted to any 3D model format and hence can be used for all manner of other three-dimensional imaging techniques.

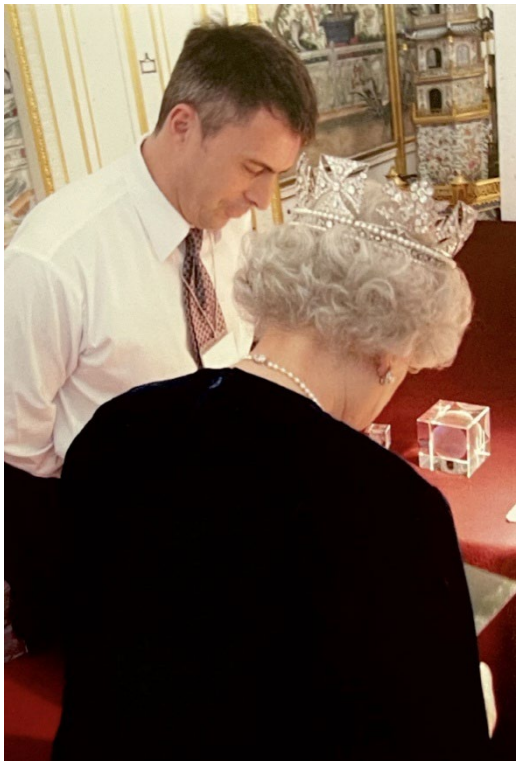


A portrait of Queen Elizabeth II recorded into a glass block by Wicks and Wilson using a YAG pulsed laser.

Although visibly tired, the Queen stayed fifteen minutes longer than was originally planned. During the 75-minute sitting, 18 portraits/parallax image sequences were shot, each comprising 205 digital images. Both black and white and colour sequences were recorded of the Queen wearing a selection of black and red capes, and at the end of the sitting, I demonstrated my VIP camera system to the Queen and showed her the images that had been taken. I also showed the Queen a true holographic portrait work that I had created some years before of my 18-month-old daughter Camille, which the Queen found fascinating (*in doing so, I had hoped to encourage the Queen to commission me to create a similar portrait of her then newborn granddaughter, Lady Louise Windsor*).



Left: Demonstrating my VIP camera system to the Queen. Right: Showing a reflection hologram portrait to the Queen - Photograph by assistant photographer Nina Duncan.



Left: I discuss the project and show the Queen pictures of herself unveiling one of my holographic works in 1992 at the University of Surrey in Guildford. Right: Showing a reflection hologram portrait to the Queen - Photograph by assistant photographer Nina Duncan.

After the Queen had left the room, both the shoot and the images were appraised.

Firstly, and despite the tens of hours of testing the new and world-leading Pantera camera before the shoot, it was found that, whilst the image sequences were good and have been subsequently used, for example by me to create the first-ever hologram of the Queen, and the first-ever hologram miniature, the black and white image sequences displayed a less than perfect noise level. This was, unfortunately, caused by an unexpected and very rare camera fault. It was also recognised that, due to several factors, about which we were asked not to comment, the Queen had seemed very tired during the sitting. Whilst Chris Levine seemed content with the results, I felt strongly that neither the camera fault nor the circumstances surrounding the Queen's tiredness had been conducive to obtaining the best possible portraits, both from a technical and an aesthetic point of view. At the end of the day, therefore, as we walked back to Victoria Underground Station to go home, I insisted that we request a second sitting. Chris Levine was not optimistic, claiming that a second sitting was rarely agreed upon. However, after contacting the Palace a week or so later, we were excited to learn that a second sitting had been granted for March 24th, 2004.

During the intervening weeks between the sittings, I decided to upgrade my camera and redesign and rebuild my entire VIP camera system. This would further improve the aesthetic and technical quality of the digital images for the second shoot and, hence, the commissioned portrait. Representing me, my assistant Jeffrey Robb, together with Chris Levine, visited Dr. John Perry at his company in Vermont, USA, to discuss the project and the printing of the final large-format holographic stereogram. Upon returning from the USA, it was confirmed and agreed that a large format holographic stereogram, approximately 1 x 1.5 meters in size, and similar to those famously produced by Dr. Perry for artist Harriet Casdin-Silver, would be subcontracted by Spatial Imaging. Chris Levine proposed the name 'Equanimity' for the portrait, which means 'the quality of being calm and even-tempered', and proposed again that the holographic stereogram be lit with blue light to enhance the sense of 'equanimity'. As previously mentioned, this latter input from Chris Levine resulted in the Queen describing her portrait as looking like 'an old lady lost in the woods', and so the portrait was subsequently illuminated with white light. Several emails followed between Dr. John Perry and me to discuss the implications of using this form of lighting and how it may affect the production of the holographic stereogram. I then designed a prototype lighting system for the portrait.

The first ever hologram of Queen Elizabeth II and the first ever hologram portrait miniature

A frame from an image sequence recorded at the first sitting, and my resulting digital holographic stereogram miniature portrait.

In February 2004, between the two sittings, I created the first-ever holographic portrait of any kind of Her Majesty the Queen and the world's first holographic portrait miniature at my creative holography studio in Richmond-Upon-Thames, London. I utilised one of the eighteen image sequences that I had shot during the first sitting. A photoresist master holographic stereogram was made using my unique 3D digital holographic stereogram technique and Lightgate digital holographic stereogram mastering system that I had invented in 1997 and for which I won a coveted International Hologram Manufacturers Association 'Excellence in Holography' award for Best New Technique in the year 2000. This, in turn, was used to produce a nickel metal master holographic stereogram and three nickel metal hologram copies. These were manufactured for me by my good friend and ex-employee Inaki Beguiristain, whilst working for Applied Optical Technologies PLC. One of the three copies of the portrait, the first ever holographic stereogram portrait miniature, was shown to the Queen by me before the second sitting in 2004.

The Second Sitting, 24th March 2004

The second sitting was conducted on the 24th of March 2004. The experience gained from the first sitting, together with a thorough examination of the initial images, meant that several improvements were made, both artistically and technically.

Mid-shoot at the second sitting. From left to right: Me shooting the portrait using my specially designed and built VIP 3D camera system with Chris Levine looking on, and my assistant Jeffrey Robb checking that the camera remains in focus. Photograph by assistant photographer Nina Duncan.

From the very beginning of the project, I had decided to record a simple and elegant but starkly realistic portrait of the Monarch, as never before seen, and in the style of my other holographic portraits and artworks. For the second sitting, I had only two days to set up my VIP camera system and studio, which I did with the help of assistants Jeffrey Robb and Nina Duncan. Chris Levine did not attend these setup days. Once again, I arranged my camera system to achieve my predetermined ideas of how I wished the portrait to look, again determining all of the visual and aesthetic parameters of the shoot.

Nina Duncan adjusted the lighting to give a more flattering illumination and to also provide a higher intensity illumination for the digital camera, and a black backdrop was hung.

On the morning of the shoot, the Queen's PA and dresser, Miss Angela Kelly, came up and quietly whispered in my ear, 'The Duke of Edinburgh is incredibly interested in what you are doing and wants to pop in to see your work'. A little later, the Duke of Edinburgh arrived alone and introduced himself. After we shook hands, I took him over to my camera and studio, at which point the duke began earnestly asking me questions about my camera system, the type of portrait I planned to create, and the three-dimensional imaging process in general. This was not a formal visit, and he did not need to come at all, but at 81, he showed an extraordinary level of curiosity and interest.

The Queen again arrived promptly at 3.00 pm. Chris Levine commenced the proceedings by showing the Queen some printouts of the images shot at the first sitting, and I presented the holographic stereogram portrait that I had created at my studio in Richmond from the first sitting images.

Angle Kelly arranges the Queen's ermine cloak.

Again, the shoot began in earnest, with the parties performing the same functions as at the first sitting. The ambiance and atmosphere of the second sitting were completely different from that of the first sitting and jovial from the very beginning. All parties were far more relaxed, and the Queen was visibly far less tired than she had been at the first sitting. We had effectively conducted a dry run in November 2003, a benefit few other artists have ever been allowed, and I had ensured that my camera system and studio were faultless and even better designed than before.

There remained just one last issue, however, that caused me concern. As with the first sitting, Chris Levine had chosen dark tops for the Queen to wear, which, when set against a black background, disappeared (N.B. a red top was worn but with a monochromatic camera became dark grey). Neither did it frame the Queen's face well or provide for any three-dimensional structure in the portrait. After some sequences had been taken, and unhappy with this choice, I strongly advised that a white, more 'hologenic' cape be worn. Upon hearing my request, Miss Angela Kelly, the Queen's PA and dresser, offered to go to the Queen's apartment and bring back some white capes. Upon returning, she showed a selection which included the now famous white ermine cloak. As soon as Chris Levine and I saw it, we both agreed in unison that it would be perfect for the shot, and it has ultimately proven to be a major feature of the work.

The Queen once again adopted her naturally regal pose without any intervention or artistic direction and, following my advice, fixed her gaze on a small light unit that had been provided by Chris Levine and placed at the back of the room. This common technique prevented the Queen from inadvertently looking at and following the camera with her eyes, a technique that had been employed by me for all my portraits and which prevents the sitter from looking cross-eyed in the final portrait. Once again, the Queen stayed 15 minutes longer than had been planned. The improvements made, together with the much more relaxed and jovial atmosphere, enabled me to record a further 20 enhanced 205-frame parallax image sequences.

After a total of two and a half hours of the Queen's time, during both sittings, approximately 8,200 images were recorded for posterity (including test parallax image sequences).

Nine images from a 205 frame, 45-degree angle of view, stereographic image sequence.

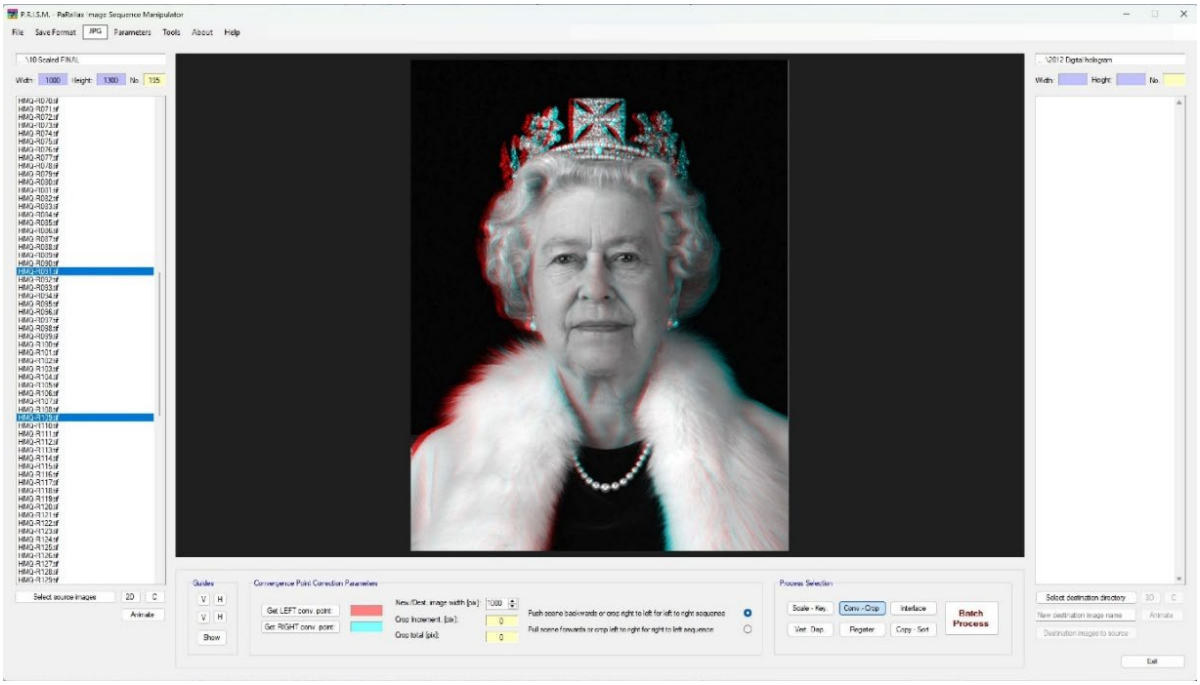
Creative post-processing

Three weeks after the second sitting, Chris Levine called me to ask which image sequence/portrait I had chosen from the second sitting for the final three-dimensional commissioned work. I told him that, in my opinion, image sequence number 5 was the best.

I then post-processed the image sequence using custom software that I had written to reverse the image distortions naturally inherent in parallax image sequences. This ensured the correct scale and dimensionality of the portrait and an improved final aesthetic result. David Burder FRPS, a world-renowned expert in stereoscopic and lenticular imaging, later conveyed to me that this may well have been the first time that such a digital process had ever been employed to both aesthetically and technically enhance an auto-stereographic image. I also adjusted the contrast and brightness of the images, applied a sharpening filter, re-sized and cropped the images to my chosen aspect ratio, and, using software I had written myself, conducted an incremental crop of the entire parallax image sequence to select the part of the Queen's face that would lie on the 'plane' of the holographic stereogram and thus be in the sharpest focus. For this, I chose the Queen's eyes.

Following Dr. Perry's recommendations, I also registered the images to each other such that Dr. John Perry could achieve the correct degree of projection in the final holographic stereogram.

Lastly, two undesirable reflections in the Queen's eyes were removed.



My custom-written Parallax Image Sequence Manipulator software, P.R.I.S.M., enables the creative post-processing of stereographic image sequences.

Holographic stereogram production

After post-processing the image sequence, I sent it to Dr. John Perry via an FTP website. Dr Perry further adjusted the image sequence to pre-compensate for the chromatic distortions caused by recording a holographic stereogram with a red Helium Neon laser, which would ultimately be illuminated with blue light. He then transferred the image sequence to 35 mm film, shooting from a 1200 * 1600 pixel LCD monitor. The film was processed and placed into his proprietary holographic stereogram printer to produce a master holographic stereogram. Finally, four 'rainbow' film holographic stereogram copies were created, two proofs, and two final works, each 3 x 4 ft in size.

Left: Dr. John Perry with Chris Levine installing a holographic stereogram at Buckingham Palace. Right: Rob Munday with a copy exhibited at the Tower of London.

Dr. John Perry then flew to London to assist with the installation of one of the two holographic stereograms in the Queen's Gallery at Buckingham Palace. The mounting and presentation of the holographic stereogram, which was designed by Chris Levine, was kept intentionally simple. The holographic stereogram was sandwiched between two thick sheets of glass, which were held upright using a solid block of granite onto which the three leopards of Jersey were engraved. Following my advice and design proposals, an illumination source comprising a linear array of blue LEDs was used to illuminate the holographic stereogram.

The Prince of Wales unveiled a second holographic stereogram in June of 2004 in Jersey, and a holographic stereogram subsequently toured the UK.

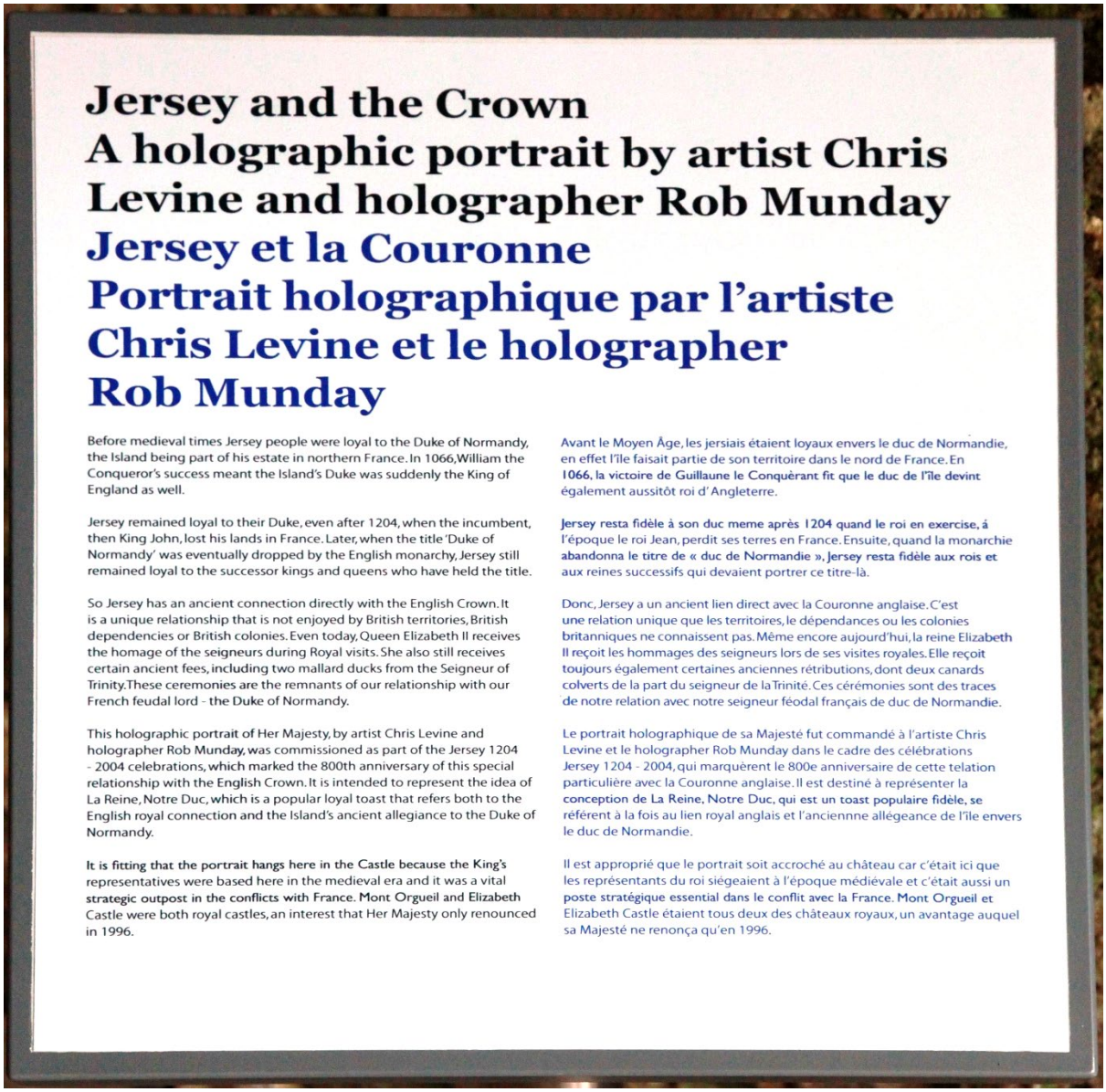
Soon after, however, this holographic version of the portrait was found to contain undesirable optical distortions. These were caused by the optical recording method employed by Dr. John Perry to print them. The result was that the Queen's face appeared bloated. Additionally, the fact that the portrait had been illuminated with blue light caused the Queen to comment that she 'looked like an old lady lost in the woods', indicating that she was not the biggest fan of this version of the portrait. This version, therefore, was deemed unacceptable and was subsequently not used as the final commissioned work.

The final commissioned work

In 2005, I granted permission for Jeffrey Robb, my employee and assistant who headed up the lenticular imaging division of my creative holography studio Spatial Imaging in Richmond-Upon-Thames, London, to use the official stereographic image sequence to print a large format lenticular stereogram version of the portrait instead. It was immediately apparent that this lenticular version provided a much better and more aesthetically pleasing three-dimensional portrait than the former holographic stereogram.

The Jersey Heritage Trust – The States of Jersey agreed and consequently accepted this lenticular print in preference to the holographic stereogram previously made as their final commissioned work and for permanent display at the Mont Orgueil Castle in St. Helier, Jersey.

The final commissioned portrait on permanent display in Mont Orguil Castle, St Helier, Jersey.



This plaque is next to the final commissioned portrait on permanent display in Mont Orgueil Castle, Jersey.

Jonathan Carter, Director of the Jersey Heritage Trust and one of the driving forces behind the commission, stated 'As Jersey has a long and fascinating relationship with The Crown, we wanted to commission a Royal Portrait that not only reflects this history but is also a contemporary iconic image of distinction. By presenting our heritage in this contemporary form, the portrait will symbolise and celebrate Jersey, its people and the future'.

From 2006 to the present day, both Chris Levine and I have created and shown various versions of the portrait as artworks, both in 3D and 2D form, and the portrait has been used for several commercial projects. Leading art collections now hold copies of the portrait, including the Royal Collections Trust, the National Portrait Gallery, the Victoria and Albert Museum, and the Government Art Collection. Of note are the world's first holographic stereogram portrait miniatures, created by me in 2004 and 2005. This period and various projects are documented in other articles.

The following response was sent to me on 22nd of February 2025 by *the commissioner of the work, Jon Carter, CEO, of the Jersey Heritage Trust, when asked to comment on the accuracy of the chapter entitled '*The commissioning of the portrait'.

In 1997, I curated a new Maritime Museum for Jersey, which won the UK Museum of the Year Award in recognition of its innovative approach to using a large proportion of commissioned art and craft works in the interpretation. Gordon Young was the lead artist on the project with a role to identify suitable artists for the exhibit ideas we developed. Subsequently, in 1999, I was asked to curate the interpretation of the Royal Castle of Mont Orgueil Castle as part of a larger refurbishment project timed to coincide with celebrations of the octocentenary of Jersey's special relationship with the Crown, joined to the Kingdom only in the person of the monarch.

The organising plan was based loosely around the medieval idea of the Great Chain of Being, beginning with the geology of the castle at the bottom, then its wildlife, and then rising through strata of human society culminating in the monarch as 'the most supreme thing upon earth' as King James I put it. Beyond that the heavenly realm in the chain is hinted at by the medieval religious sculptures, robbed from churches and incorporated in the Tudor re-building of the castle, now on display. All that was to work with the linear journey from bottom to top that is distinctive of this castle.

Many of the exhibits were based on contemporary reworkings of medieval art: a giant wooden carving of a medieval manuscript illustration of a Wound Man; an equestrian statue of a Warden of the Isles based on his funerary effigy, representing respectively the grim reality and the romantic image of medieval war. I wanted a royal image drawing on Tudor portraiture for a restored Tudor room at the heart of the Keep and was particularly interested in Tudor anamorphic images with reference to the Scots portrait of Edward VI and particularly the anonymous anamorphic painting showing a young woman (previously thought to be Mary, Queen of Scots) and a skull in the in the library of the National Portrait Gallery, Edinburgh.

Could we do something contemporary, drawing on that tradition of optical playfulness, reflecting the significance of HMQ as a symbol and a person - maybe a hologram? I asked Gordon to suggest an artist, and he immediately, in a flash, proposed Chris. I understand he was prompted by holographic images in HYPERVISUAL 1.2.

Freddie Cohen was Vice-Chair of JHT; however, Freddie had no involvement in the conception or early discussions of the commission, nor attended any of the relevant meetings. Freddie only became involved subsequently.

There was one meeting when Chris Levine came to Jersey and met me and then Director of JHT Michael Day at Mont Orgueil. It is correct that Chris certainly brought one of your holographic portraits of Seal to that meeting, and whilst it is difficult to remember, he may well have also shown your portraits of Noel and Liam Gallagher too.

Whilst they were not involved in meetings with Chris, the Chair of the Jersey Heritage Trust at the time was Jurat John de Veulle OBE. The approach to HMQ was made from JHT, via the Bailiff, Sir Philip Bailhache, by the Lieutenant-Governor, Sir John Cheshire, to Sir Robin Janvrin.

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