**Sculpture and Photography**

CAMILLA: Right, shall we start? Thank you for joining us for this session and looking at how both historical and contemporary sculpture can affect and inform our interpretation of culture. I'm Camilla Stewart, Head of Commercial Programmes and Collection Partnerships at Art UK. There's a couple of things to be aware of during the talks. If you would like to submit questions please use the Q&A section at the bottom and we will have a session for questions at the end. Please don't put questions in the chat if possible because it's harder to keep track of them. You should also be aware that the event is being live captioned by MyClearText through Stagetext and you can enable the captions by clicking on the 'CC, closed caption' button at the bottom of the screens. Finally, this session is being recorded and the video will be available on Art UK's YouTube channel in due course. We will be hearing some papers from Michael Pritchard and Derek Trillo and Alex Patterson. First to speak is Michael Pritchard on photographing sculpture in the 19th century. He is head of the Royal Photographic Society and lectures and publishes regularly, his most recent book building society Photography and 50 Cameras, published by Bloomsbury. Thank you, Michael.

MICHAEL: Right, good afternoon. The Royal Photographic Society is one of our UK's partners for the public sculpture project and its members have undertaken a significant amount of photography for that project following pilot we hosted in advance of it launching. The RPS was founded as the Photographic Society in 1853 and its own history is intimately bound up with the history of photography. Art UK's project has parallels in the 19th century and I thought it might be useful to give a historical perspective to this conference and to discuss how and why sculpture was photographed in the 19th and very early 20th centuries, mainly using examples from the UK. The 19th century was one of rapid change and evolution and the arts was no exception to this. Photography and sculpture were, as Carol Theen has said, "Constantly renewing for their own nature". In photography this was done in several ways. Firstly it was chemicals through process, the daguerreotype of the early 40s gave way to collodion in the '50s and paints by the 1870s, it led to plate rolls and sheet films coated in emulsions increasingly sensitive to light and with a wider sensitivity across the visible light spectrum. From around 1906, panchromatic emulsions sensitive to all colours of the visible spectrum were available, supplementing earlier emulsions that had been more sensitive to the blue end. Secondly, it was also optical. Through improvements in lens designs with mathematics and calculation replacing trial and error in optical design. From the 1890s, new optical glasses improved how light was transmitted, were introduced, and these improvements minimised optical defects that affected the photographic image. Thirdly, it was also technical. Mechanisation and the introduction of new materials and changes in manufacturing cameras and associated apparatus allowed for smaller, lighter and more portable cameras. The introduction of artificial light allowed photography to be undertaken more readily all year around, in or away from the studio. Add into this mix the demand for photography from amateurs with increased leisure time and more disposable income, and a general wider demand for education, and one can understand why photography was continually evolving and renewing itself in response to different factors, and how it could be used to satisfy a need to learn about the arts and the world around. For sculpture, this was, as Theen has said, even more so, as it departed from how it had been conceived and created in antiquity, reaching for a maturity and reaching for new ways of being, "Essentially connected with its surroundings". Although sculpture had been documented in watercolour and oil for centuries in its own right, or as part of other subjects, it was photography that, as it did with so many other areas, gave it the ability to be seen and experienced more widely in detail, and also within its wider setting and context. This opened up questions about how it should be represented which were never quite resolved. Although sculpture was photographed from 1839, even as late as 1896, the question was still being posed - how should one photograph sculpture and providing answers in a series of papers he published in a German journal of art education. He espoused the viewpoint of the sculpture against a plain background removing context and with the light highlighting the sculpture's form through the interplay of light and shadows. From the Photographic Society's perspective photography was suited to documenting fine arts. A journal in 1854 highlighted its role for documenting art and sculpture as an artist's aid for education and as an art form in itself. From its introduction in 1839 and even before, when Talbot was experimenting with processes, sculpture was an obvious thing to turn to. At a time when exposures were measured in minutes, sculpture was immovable. It also reflected more light which helped reduce exposure times. Writing in December 89, Talbot noted, "I enclose a little sketch of the interior of one of the rooms in this house with the Patroclus bust on a table". He repeatedly returns to the bust of Patroclus not simply for experimental purposes but as an artistic exercise, playing with different positions, rotating the statue, changing viewpoints and changing how it was illuminated. The first public sculpture photographed was a bust of Catherine Mary Water, the daughter of the Times newspaper proprietor, which appeared as a frontispiece to a memorial to her in 1844. The sculpture was taken by Nicolaas Henneman who had been employed by Talbot but was now running a photographic printing establishment in Reading. The bust was set against a dark background. This practice of setting that sculpture against a neutral background was often the norm, isolating it from the background and allowing the viewer to concentrate on it without distraction. Talbot included Patroclus in his Pencil of Nature, the first publicly illustrated book with photographs issued between 1844 and 1846. On the printed matter accompanying the photographs, he noted, "Statues, busts and other specimens of the sculpture are generally well-represented by the photographic art and also very rapidly in consequence of their whiteness". He observed that changing the position of the sculpture in the sun to produce new variations and changing the positions of the camera, "It becomes evident how very great a number of different effects may be obtained from a single specimen of sculpture". He returned to Patroclus more than 30 times and it became more than simply an immobile model but a subject he could interpret through position and lighting as a tool of artistic expression. Photography, though, was deficient in one respect - it blurred the boundaries of what was being photographed. Talbot's Patroclus was a plaster cast and not marble - a difference that was not apparent from his photographs. Different debates among art historians about how to photograph sculpture were not followed by those institutions and publishers who saw sculptures as a legitimate subject to direct their lens at, with education usually the rationale for making such images and, of course, the opportunity to make a profit. It was the introduction of the collodion process in 1851 that allowed for the mass reproduction of photographs in a way that had not been possible before and was not particularly so with Talbot's calotype. It made a unique well-defined image on a metal plate. The calotype made a negative in the emulsion of fibres of paper, resulting in a slightly soft image. The collodion process overcame these drawbacks producing a well-defined negative on glass which, when printed on albumen paper, which had been introduced in 1849, could produce a sharp image with good tonality which could be printed hundreds of times for sale. It could also be made as a direct positive on glass, too. Furthermore, the process was unencumbered by patent so it was freely available for anyone to use as an amateur or commercially. The number of commercial studios grew dramatically from around 1854 and for museums and institutions it was quickly adopted as a means of sharing and disseminating their collections. 1851 was also significant for the Great Exhibition which saw some 6 million visitors during its run. Sculpture was exhibited, photographed and disseminated through the daguerreotype and calotype and the engravings made from them and they were sold commercially to visitors from the photographers of the exhibits. They were also tipped into the monumental reports of the juries and sculpture, in part by nature of its presence in the galleries and spaces was prominent. The 1862 International Exhibition also made use of photography to document and make available photographs and stereographs in glass or on cards of the exhibits, as did other exhibitions, such as the Manchester Art Treasures Exhibition of 1857 and many others throughout the century. Roger Fenton, one of the founders of the Photographic Society was employed from 1852 to photograph antiquities and sculpture held at the British Museum and in the autumn of 1853 he was employed directly by the Museum trustees to photograph its collections. A studio was built on the museum's roof with Fenton paying for his assistants. His photographs and stereographs made in the museums placed culture in the museum's galleries, and rarely are backdrops used to hide what was going on behind. The commercial arrangements between the photographer and trustees could be the subject of an essay in their own right in but 1859 they decided the cost of the photographic materials was too high and proposed that the processing and printing be carried out at the South Kensington Museum to save money as it was subsidised by the government. Fenton, of course, objected and his association with the museum came to an end. Charles Thurston Thompson, another member of the Photographic Society, who worked on the 1851 Great Exhibition, worked with the museum and became its official photographer working on works of art and sculpture. His photographs were sold commercially for the education of artists and the public. Thompson died in 1866, and in 1868 his sister Isabel Agnes Cowper took over his role as museum photographer - a position she retained until she retired in 1891. Her photography within the V&A is the subject of a PhD currently being undertaken by Erica Lederman and it is to Erica that credit should be given for bringing Cowper back to public recognition. Away from institutional photography, commercial publishers such as PH Delamotte were photographing and selling prints of sculpture and adding sculpture from across Europe to their list of photographs and stereographs for sale. The photographs were made by a variety of photographers contracted to work for the company and it would commission photographers to produce work for particular series or sets of issues, for example by country. Other photographers did much the same and in no particular order, Francis Bedford published an extensive series of views from the UK and from his overseas tours. They were sold directly and also appeared in print. George Washington Wilson of Aberdeen and one of the largest photographic publishers, also published pictures of sculpture. Overseas publishers photographed in Britain and British publishers sold views of statuary from overseas. The London Stereoscopic Company was an extensive publisher. Francis Frith also a major publisher of photographic views from the UK and abroad. Here are some pictures from an 1869 catalogue. And Mitchell was a London photographer selling his own photography and that of others in an 1866 catalogue. Mansell was based in Gloucester and this is his photographs list from 1869 showing the statuary. One company is a particular relationship with photography. Formed around 1850, it was a scientific instrument maker but it had taken an interest in photography selling photographic equipment and running a photographic studio. In 1853, when the buildings of the Great Exhibition were re-erected in Sydenham, the company became the official photographers to the Crystal Palace Company. It published views of the Crystal Palace's photographs as stereographs and postcards and stereo-positives on glass. As the craze for stereoscopy waned during the 1870s a new market developed for slides for the magic lantern which was by now a serious tool within educational institutions and for educating audiences in churches, temperance societies and in working men's clubs and mechanics institutes. Negretti & Zambra repurposed its 1862 collection photographs and other negatives for the lantern. Its catalogue of 1873 campaigned a specific section on statuary and statues and were repeated mentioned as a distinct group alongside views. It also promoted the fact the lantern slides were printed for projection on albumen, "As definition and clearness fit for exhibition are only to be obtained from albumen prints". The list of statuary included the firm's Crystal Palace series with over 400 subjects each priced at 2 shillings and sixpence which is around £7.80 today and a typical lantern show would have some 80-100 slides in it. Its stereoscopic glass slides and cards were priced at 3 shillings sixpence or 1 shilling respectively. With the revival of the interest in stereoscopy, publishers such as Underwood & Underwood issued series of travelling cards in which statuary featured prominently in particular galleries such as the Vatican and great national museums. Single photographs of individual statuary also continued to be sold for tourists and visitors locally for arts students and for study. In the later 1890s the growth of the photographic record and survey movement began to record objects and monuments such as statuary, local customs and landscape at a time of great change and it was catalysed by the growth in amateur photography and groups of people wanting to work towards a common goal, which probably sounds familiar to most of you listening today. First proposed by William Jerome Harrison in 1889 the National Photographic Record Association was established in 1897 by Sir Benjamin Stone and when it closed, almost 6,000 prints were amassed. At a local level, there were county groups, camera clubs, field and naturalist societies, and survey groups formed specifically to document local areas. Elizabeth Edwards as described this and their work in her book The Camera as Historian. So in conclusion we saw how photography started using statuary as a means to test itself and to show others what it could do and how differing views over isolating statuary or leaving it in its surroundings and contextualised was still being debated at the end of the century. We saw how museums and institutions used photography of their sculpture and statuary to show off their collections for educational purposes and how publishers photographed statues and sculpture as important points of interest as subject matter for tourists and, again, for education, along, of course, for their own commercial gain. With photographs, stereographs and lantern slides were the means of dissemination at different times. And we saw how amateur photography in part through the record and survey movement, photographed sculpture and statuary as part of its own remit. Photography is, "Renewing" as noted at the start of this talk did not stop in 1900 or 1914. Amateur photographers were serious about their art or the application of photography, but there was a new amateur in the form of the snapshotter using the Kodak and Brownie and other simple cameras who were interested in the process rather than the technicalities of photography. Their numbers grew dramatically from the 1890s, they wanted to record family and friends, their social activities and the places they visited, they brought a new aesthetic to photography, out of the confines of the studio, mainly outdoors, usually informal and unconstrained by a professional approach or the strictures of amateur photography. It approached the photography of sculpture in a new way. Thank you very much for your attention.

CAMILLA: Thank you, Michael, some fascinating insights there into 19th century sculpture and photography of sculpture, indeed. We will take questions for both papers at the end of the next session, so we will move straight into the next session with Derek Trillo and Alex Patterson. Derek is a freelance photographer based near Manchester and teaches photography on BA modules for the Open College of the Arts, and Alex is assistant curator of fine arts at National Museums Liverpool with responsibility for documentation, care, management and display of the fine art collections across National Museums Liverpool's galleries. Thank you, Derek and Alex, over to you.

DEREK: Thanks, Kamilla, and thanks to Katey from and the Art UK for inviting us to speak. I will just share my screen and we will start. Our investigation began while completing the Art UK photography sessions. We discussed various issues relating to sculpture, including engagement, lighting, perspective, materials and techniques. We also observed and analysed how visitors experienced and interacted with the sculpture within the gallery environment.

ALEX: National Museums Liverpool has one of the most important sculpture collections in the UK holding over 1,000 works it has the largest collections sculpture in the north-west region. It is particularly well-known for its outstanding work made between the 18th century and the First World War, including iconic examples of British knee row classicism and sculpture. The sculptures in the Walker Art Gallery is unique, displaying over 150 works in a single room, it is one of the most popular exhibits, the space allows viewers to experience many sculptures in the round from a range of different perspectives and viewed with both natural and artificial lighting.

DEREK: Over several days photographing the work for Art UK we were able to observe visitor movement and interaction giving great insight into how these works were being interpreted. Unfortunately when we proposed to research and record these interactions, we were under the restrictions of COVID, which greatly affected how we were able to document our findings. We have done our best to compile and analyse what we could. Originally, I wanted to record visitors' movement around the works and analyse the levels of engagement visitors had with sculpture. Previous shots and accumulations of movements through spaces such as this one, which is every person passing through in 20 minutes. It shows movement and direction. Or every plane in 20 minutes, shows repeated travel along a single route. This is something I would like to try within galleries as time lapse sequences. I shot a trial outdoors, a statue in Manchester, very few passers-by looked at the statue, one that is positioned well above their field of view. That is the first person I found who was actually looking at the statue. An outdoor sculpture at ground level and encourage viewers’ interaction is this memorial in Manchester. It is currently within the cordon of a Nightingale hospital. Limited tourists and travel have limited the view of the sculpture. We will produce films later in the year, and Art UK has said they will be willing to share the results. We have managed to shoot in the gallery images that help us articulate various aspects of visitors’ engagement from a curatorial perspective.

ALEX: We noticed visitors encounter difficulty in engaging with three-dimensional works. The wide ranges of perspectives and close proximity to one another offer too many options. The viewer encounters the sculptures in the immediate and distant areas. This seemed to compromise and interrupt the visitors' focus, drawing their attention to different works or details in the room. In this scenario, the options to separate a sculpture from its surrounding has substantial viewing benefits. Photography can offer this alternative, isolating a sculpture from its environment, giving a viewer a more focussed experience. Concentrating on a sculpture in isolation as a self contained and autonomous work draws attention to its composition and materials. The viewing of a sculpture is always associated with the making of it. Close inspection allows the viewer to appreciate the contrasts and textures of the sculpture in a more focussed way. Photography taken by Art UK for this project can isolate each work while also offering a range of perspectives where possible producing an experience similar to viewing the sculpture in the round. Art UK also photographed key details on materials associated with each sculpture drawing the viewers’ attention to more important aspects and enhancing their understanding of a particular work. From a curatorial perspective this could act as a visual aid to an interpretation on gallery or online and give a further interpretation of the work.

DEREK: Visitors seem to engage more easily why w two dimensional objects than with sculpture. It is as it is there is a familiar it is clear the inclusion of a flaming device as photography does both directs our gaze and helps us to interpret what we see. For example, we are used to reading from left to right and top to bottom in the western world. Sculptures three-dimensional quality and combined with visitor movement changes and even challenges the view that is in front of us. There is an application for photography as an interpretive framing device. Two weeks ago Grayson Perry showed on his art club channel TV show as reflects on his sculptures at various stages by photographing it which provides an extra use of photography in terms of production.

ALEX: As a case study we selected John Gibson's Venus which was used for the Art UK VocalEyes project too. It is displayed prominently on top of a plinth at the centre of the sculpture gallery. Venus is in a large circular case with long columns supporting its domed top. There are windows on each side of the case to enable the view sculpture to be viewed from all sides.

DEREK: In this instance its case offers pros and cons to visitor engagement and interpretation. Firstly its plastic curved windows are highly reflective making it difficult to see what's inside and when the natural light flows. Columns obstruct the viewers gaze and they are unable to see the object as a whole therefore unable to properly interpret what they said. It obstructs the natural fall of light and the sculpture is mostly cast in shadow. However, in contrast, the case acts as a framing device isolating it from the rest of the gallery, directing the viewer to focus on what is in front of them. The separation from the rest of the works also adds an air of importance like a cabinet of curiosities. Encouraging the viewer to look closer. Visitors peer through the windows commenting on the parts not visible before. It allows the sculpture to be lit from above emphasising the works form and composition.

ALEX: Photography can enhance the positive and negative aspects of viewing in this example. It can offer access to a full image of the work where the viewing of it in real life is obscured. The photographic framing device removes its context from the gallery environment greatly affecting our interpretation of it. The understanding of sculpture is shaped by art history in particular the skull tors biography and display of their work. The physical sculpture gallery setting offers a range of arts historical interpretations. As the sculpture is viewed alongside other works by John Gibson, also with works from earlier periods and later periods, and amongst works of contrasting materials and techniques, showing the development of style and influence. The curation option on the Art UK website is certainly an important and interesting addition to this project in relation to aspects of context. A photograph of a sculpture used within the curation resource is a way of looking at a full scale single sculpture in the context of art history. It can draw attention to a particular sculpture and place it alongside works from other collections by different sculptors from a raping of different periods. This curation device recontextualises sculpture in the same way as an exhibition can. But perhaps more importantly, it can do so without the cost and difficulties associated with sculpture movement in the display.

DEREK: In this experiment the sculpture is in a gallery with south facing windows. The light rotates around the cull secure as if showing a whole day of the sun's movement. You see changes in the colour of the lighting, relative intensities of natural and artificial light and crucially significant changes to the modelling of light across the subject, lighting which subjects its three-dimensional qualities.

ALEX: Lighting greatly affects and influences how a visitor responds to a work of art and this is particularly true with sculpture, it is transformative and enlightening to see sculpture with bespoke lighting. It can emphasise and accentuate form composition and also draw attention to specific details. Here there are transient moments of light to reveal translucency in the marble. The lack of polychrome gives marble and stone a visual purity allowing the viewer to concentrate on the carved forms. The shadows created by light playing across the surface are extremely important in the way we experience sculpture. For photography we can try and recreate these changes of light and often new visual experiences that are not available within a permanent gallery environment.

DEREK: Model sculptures like the one we are using as case studies, tend to be made of life size or larger, mainly because as a material it is cut into large blocks if carved too thinly it is prone to cracking. Sculptures could be intended to be seen from a distance. The sculpture would alter the form and composition to compensate for those viewing perspectives. Because it could be larger and they would sometimes have longer necks. Shown here is a copy of the so called Athena, an example of the full-sized statue stands in the Louvre. You must look up wards to see the figure's face.

ALEX: The bust is displayed at waist height. This is a fantastic benefit as you can see the details of the helmet, for example the Medusa snakes on the top. However it is important to acknowledge visitors are not experiencing the viewpoint that was originally intended. Through photography we are able to offer this perspective as an additional interpretive tool online and on gallery. Enhancing the viewer's understanding of its production and purpose. In addition, if a sculpture is intended to be viewed as a sculpture with heightened features of the hair or beard so features could be seen more clearly. As seen in the head of Jupiter, it would be used extensively to deepen the carved detail. This sculpture is a copy of the original in the Vatican and he is said to have preferred the carving of the beard in this work rather than the original. Photography can highlight techniques used here by enlarging these details for visitors to examine and consider more carefully. Benjamin Spence’s Highland Mary is an example. Here we can prominently see the sculptor's use of the chisel and drill. It is a contrast from the highly polished figure. If an image such as this, could enhance the visitor's appreciation and understanding of the skill and draw attention to why detail may be significant. This visual prompt could engage visitors who may not orderly pause to read label text.

DEREK: The death of Virginia is displayed in the Walker Gallery’s busy cafe. This magnificent work was created for sculptors to study at the academy of fine art in Bologna. A sculptor said, "work was one of great difficulty due to multiple viewpoints, the interweaving of the lines and the fact the problems of execution turned out to be more difficult than any other operation in sculpture".

This group of figures has multiple viewpoints and was designed to be an object lesson to sculptural composition. Its current placement in the cafe though it is given space to be viewed in the round and considered more carefully,.

If we look at this example of how photography can enhance a visitor's engagement and experience of sculpture, we can draw some conclusions regarding the problematic viewing of sculpture in the gallery setting. And perhaps highlight potential possibilities of using photography in a more useful and engaging way. A visitor is immediately confronted with the welcome desk on securing the full view of the sculpture. The visitor reaches a point where the sculpture can be viewed as a whole their position in relation to the work is not ideal and the low perspective distorts the form of the group. This is also true for visitors sitting in the gallery café tables. Who are positioned at an even lower viewpoint with their views obscured by other visitors. Acknowledgement must be made to the many viewpoints that are available in this vast unique death that the death of Virginia occupies. Here photography can provide the ideal perspective of the work to enhance our June standing of the complex composition.

ALEX: When we have observed the cafe environment we found this statue exemplifies the lack of engagement visitors can have with certain sculptures. It almost becomes invisible within the space because viewers are concerned with the hospitality and social aspects of the cafe rather than viewing of art. Sculptures’ placements greatly affect its context and our experiences when view it. Informal location does not provide the fame work to present the statue's prestige. The build-up of dirt on the plinth area indicates a lack of appreciation of the sculpture as a fine art object as visitors touch and repurpose it due to the informal setting. The lighting is also a mixture of ambient daylight and spotlighting. Designed to illuminate the surrounding areas not the sculpture. Lastly, the sheer size and scale of the sculpture creates its physical distance and a barrier between the viewer and details of the figures, materials and techniques.

ALEX: All these aspects can be explored and shared in different ways through photography to enhance our understanding of sculpture. Photography is by no means a substitute for seeing a work in real life but it is when it is used as an interpretive tool its benefits can be far reaching. Although this is only a small part of the research we would have liked to have done due to COVID restrictions, we hope to continue this work and fully observe public engagement with these sculptures.

CAMILLA: Thank you very much both of you. Thank you, some really interest insights there. Just really interesting to see between the two papers actually ho there are parallels in 19th century sculpture and photography of sculpture and strong parallels in how we engage with sculpture, just the example you gave at the end there, where the sculpture is at the back of the cafe, people are not particularly reverential to and Michael similar to you, where you concluded people having family photographs in front of sculptures, it's a lovely parallel there. I will have a look to see, I think you have mostly answered the questions online. There are a few questions addressed to Michael looking for references etc. I had a question there are a couple of questions. Has the Walker art gallery interviewed visitors on what they see?

ALEX: That is one of the things we would like to have done as part of the project, but with COVID restrictions we were hoping that we would be able to get full access to everyone in the gallery and we just weren't able to do that. But I think you are right, that would be a really interesting way of moving this kind of research forward and seeing how they engage with sculpture and how they think they engage with sculpture.

CAMILLA: There's another question from Melanie. Curious to hear how you are envisaging utilising photography as described to highlight the viewers' focus in the gallery perhaps through digital displays. I don't know if you want to say anything more about that Alex.

ALEX: So actually, I have to be quite honest, this paper was originally proposed by Derek who is going to do a lot of the I'm passing the buck a bit here. He's going to do a lot of the digital side of the photography, and I was going to take his lead on that if that makes sense. But moving forward, our sculpture gallery at the Walker art gallery was installed in the 1980s, it's very outdated, it needs new interpretation, needs new display and I would like this research to be part of a project to work towards that in the future.

DEREK: I think you touched on various aspects in the text you wrote, but I did all the images and Alex did the majority of the text. So you were mentioning things you could see through photography, or we could highlight or specifically show, partly from being in a particular position or a particular height or angle or whatever or by isolating backgrounds that kind of thing and these sort of things would be perhaps easier to digest in a gallery setting, if they were shown possibly digitally as you suggest. Maybe by adding to the text panels or whatever. Certainly they would be something you would enhance with your website and your outputs and Twitter feeds and whatever else you put out there. You could then talk about sculpture and any other three-dimensional object in a much more illustrative way by showing particular details or particular aspects, but they would have to be shot on purpose I guess.

ALEX: I wonder if it would be interesting to I was just thinking about this while we got that question, but if you could somehow, there's technology that shows what you are looking at, so it would be interesting if our visitors as participants perhaps in research, to show, to walk round with something that would show what they were looking at and maybe looking at and analysing that data would be interesting too.

CAMILLA: Michael, have you something to say?

MICHAEL: Just something that happened over Christmas, it's a new way we might want to think about interaction with sculpture. Over Christmas a dealer and photograph collector sent me this, which hopefully most of you can see, but it is a 3D printed rendering it is the statue Talbot was photographing in the 1830s and 1840s and as I rotate it round, the light is not great here, we are about to have a heavy rainstorm but you get a sense of what Talbot was saying about how light falls in different ways and how he can reinterpret that statue, but this is 12 centimetres high, three inches or so, but it's just a new way we can interact and engage with statues, with new technologies to open it up for us. CAMILLA: The Carson of the way light is used and the importance of natural light in photographing sculpture came through very strongly in both your papers, so equally important in the 20th century when we are all sorts of electronic means to us as in the 19th century, very interesting there.

DEREK: Michael has neatly at least in part answered the next question, which is how do you see 3D captures enhancing the presentation of sculpture. It's like a premonition, that's amazing. Michael. The virtual environment is a way to engage and being able to do things on a screen. There's something nice about the tactility of this, it's my mascot as I was talking.

DEREK: The only downside is the time and effort involved in getting all the sculptures out and scanning them all. As we know from having photographed many hundreds. At a cost. CAMILLA: There's another question here, we have time for a couple more questions. Have you asked working sculptors in Liverpool on their views when the person comes to Liverpool they often advice Terry McDonald who gives an amazing view of the collection. I guess asking for insight into what sculptors think about presentation etc of their art works, correct me or add something to the question if I haven't interpreted your question correctly.

ALEX: I think obviously it's quite different to what we were talking about in the paper, because we were talking about the historic display of sculpture and then how we interpret it now in gallery setting and the different contexts within which it's being viewed. We haven't done as they have said, but it would be something really interesting I think to look at.

CAMILLA: Last question, which I think you have partly discussed as well. But we will finish after this question. Have you made specific recommendations to institutions around how to place sculpture and the research you are undertaking at the moment will you share guidance and findings when that research is complete and perhaps how will you share that guidance and those findings?

ALEX: Yes, Derek, I think you can answer that.

DEREK: Yes, because of the restrictions, even when the gallery was open in the summer, it was one way only, people separated etc, etc and it wasn't a natural progression of people moving around in the way that you would expect them to. So trying to make observations on those conditions wasn't really what we were looking for, we are trying to find out what actually happens. Things like how long people spend somewhere, the dwell time it's called here, when we have managed to do this and we have some real data to share and analyse, yes, we may well make specific recommendations, curatorial perspective, that's Alex more than me, I am just a photographer, teacher, I don't work in the gallery environment apart from shooting things.

ALEX: What's interesting about the Art UK project is it gave us the opportunity to be in the gallery for a specific time, quite a long period of time, it was out of those discussions that we started going, oh, this is interesting, why is that larger than that and why is this, and I think when it comes to displaying things, we're going to continue to learn and with the sculpture gallery as it is at the moment, we know there's problems with it and we know that it is perhaps very outdated but it offers so many wonderful examples and if we can do this research, we can then use that going forward to redisplay. Derek has had conversations with Art UK who would be happy to share the research that we can hopefully compile together, when we can get back in the gallery space and share and it would be lovely to do something like this and talk to other people in their galleries and compare and contrast different ideas about displaying sculpture. So hopefully moving forward, if anyone would like to do that, that would be a really interesting project. Camilla: I'm something that is something we could feature on Art UK as a series of articles in relation to the legacy of the sculpture project going forwards. So I think we are there. We've run very well to time. Thank you very much everybody. Thank you to the audience for some really interesting questions. Thank you to Derek, Alex and Michael for some fascinating papers. I believe there's a networking event which you have to have preregistered for happening next and then the afternoon sessions start again at 2.00. Thank you very much everybody.