

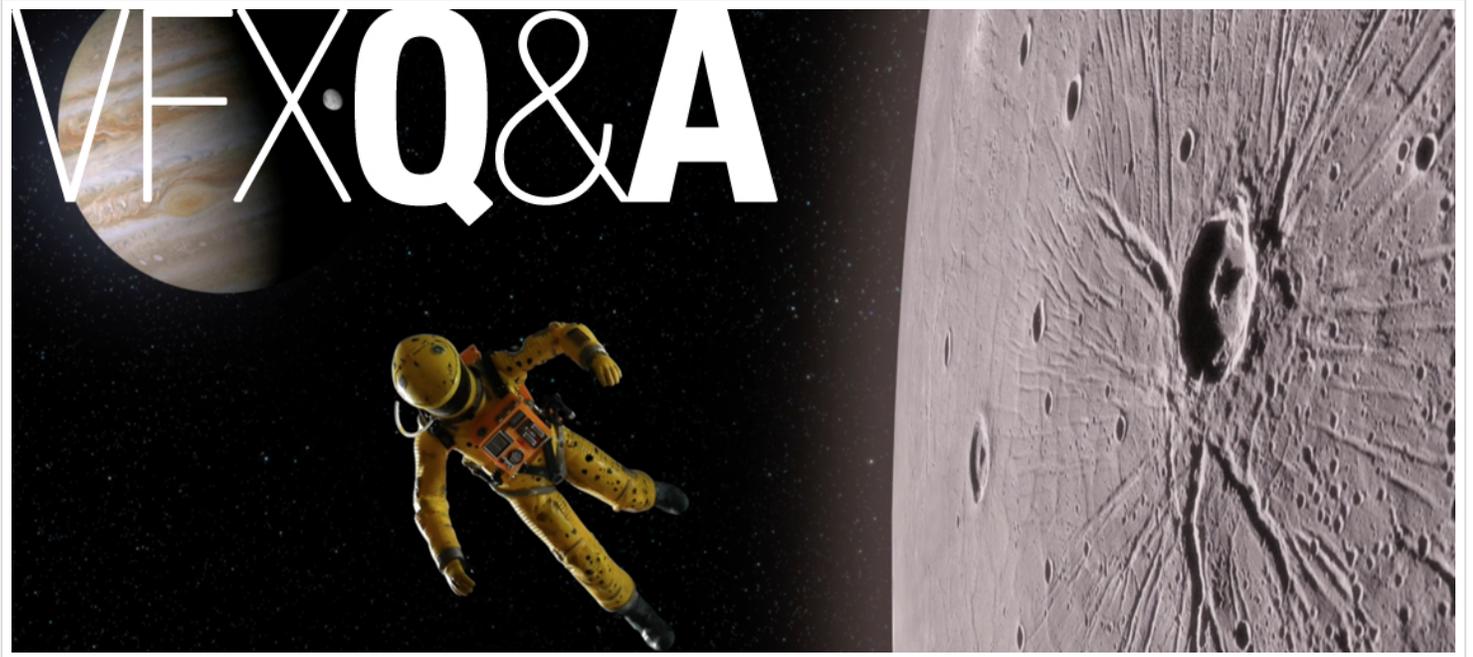


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“2001: An Epilogue” – Q&A with Steve Begg

by [Joe Fordham](#)

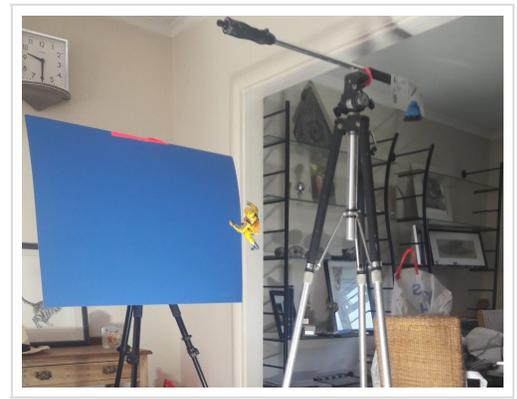
Posted on [October 17, 2019](#) by [Joe Fordham](#)



In Stanley Kubrick's *2001: A Space Odyssey*, it is the beginning of the end for astronauts on the spaceship *Discovery* when co-pilot Frank Poole (Gary Lockwood) ventures out into space on a maintenance mission and he is suddenly cast adrift, his oxygen line severed. *Discovery* commander Dave Bowman (Keir Dullea) mounts a frantic rescue attempt, using an EVA pod to retrieve Poole, until Bowman is forced to abandon his crew-mate, releasing the lifeless body in its bright yellow spacesuit into the vastness of space.

For visual effects supervisor Steve Begg, and many of his generation weaned on Kubrick's classic, the images still resonated more than 50 years after *2001* appeared, and the ripple effects unexpectedly resurfaced during a visual effects test. "I was shooting a test with a model spaceman for a potential job that I had coming up. I hung a little figure on a green thread against a greenscreen, and gently rotated him in front of my Canon 5D. Then, in After Effects, I composited that over a star field with a drift. I animated a 3D camera move on that image, so I could scale up and past the camera. I was so taken by it, I thought I could do something more elaborate."

Begg applied the techniques to a short film, revisiting the fate of astronaut Frank Poole. The resulting 3:30 Vimeo upload went viral, clocking up more than 24,000 views in its first week. *Cinefex* caught up with its creator – three-times Bond alumnus, veteran of *Aliens* and Derek Meddings productions – to probe the mysteries of his enigmatic short.



— Visual effects supervisor Steve Begg sets up a

2001 A Space Odyssey, Epilogue. Featuring Frank Poole

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CINEFEX: What inspired you to turn your experiment into a short film?

STEVE BEGG: While I was shooting my test, I spotted a little model of Frank Poole, from *2001*, made by a Japanese toy company, Mafex, and I started to wonder if I got my hands on one of those, and repeated the trick, how would that look? In many ways, my test had digitally replicated the original technique that they had used in *2001*. In Kubrick's film, whenever you see astronauts moving in z-depth, they are actually projections where a 65mm animation camera is moving towards a projected image, and because it's scaling up in three dimensions, it has a real feeling of depth. I was mirroring that technique in digital form. And I was stunned by how close I got to the look of the original movie.

CINEFEX: What you are describing sounds similar in theory to how visual effects supervisor Wally Veevers created composite shots for *2001* using what he called the Sausage Machine.

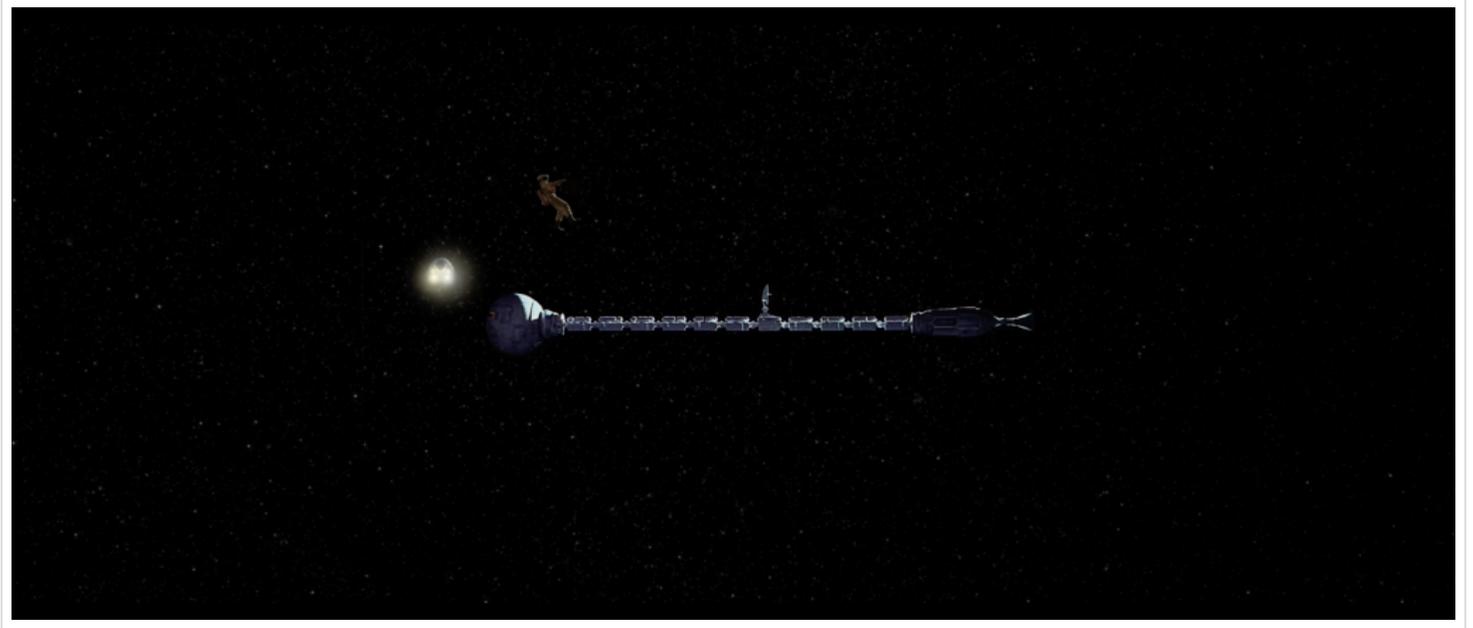
STEVE BEGG: Correct.

CINEFEX: How did you detail your astronaut?

STEVE BEGG: It was a small, jointed model, about six and a half inches tall. There is another that is 1/6-scale, which has a fabric costume. This one was solid plastic. I took that and filled in the joints as much as I could and bashed him up a little bit. I was very careful to match continuity with the movie and I disconnected his oxygen supply tube from the backpack. I've tried to make it as authentic-feeling as possible.

CINEFEX: Did you build miniatures for the EVA pod and *Discovery*?

STEVE BEGG: No, they are retouched stills from *2001*, flopped. In the movie, the *Discovery* is always traveling left to right. I flopped that because my camera was on the port side of the *Discovery* when Frank Poole is released, and so I made sure that his position was correct for continuity. I animated stills, again, very similar to the original film's technique.



— A new perspective of the 'Discovery' spacecraft and Dave Bowman's EVA pod, seen from the ship's port side as Poole spins away from the ship, derived from "2001: A Space Odyssey" imagery.

CINEFEX: How did you replicate the feel of the *2001* star fields?

STEVE BEGG: Well, what's interesting about the stars in *2001* is, although there are plenty of them, they're very low key. There's no color whatsoever in the stars. So, I made sure there was no blues or other colors in my star field and, on a shot-by-shot basis, I varied their look slightly. They are not completely accurate. I started with an original star field and I Photoshopped a big HD master so I could pan across it. I also consciously avoided having Poole pass in front of, or behind large objects during his space journey, mimicking Kubrick's concerns about the limits of the hand rotoscoping and matting techniques on the original film's space shots.

CINEFEX: What went into that stark feeling of lighting on the astronaut?

STEVE BEGG: I lit that with three LED light packs, including one for the bluescreen that I had behind the yellow Frank Poole. I found that I got a better key by using a blue. There's more separation between that and the yellow. It was all done in my living room and the 'screen' behind him was an A3-size piece of blue art card. I hung him on a blue thread, in front of that, slowly rotating. I used my Canon 5D Mark 2 and I shot him at 24 frames a second. I finished the whole thing at 1920x1080 resolution. Much to my surprise, when I've seen it on a big screen, I'm stunned how well it holds up.

CINEFEX: The micro-meteor impacts on the astronaut are a nice touch – what was your reference for that, or were you just making it look cool?

STEVE BEGG: It was a little bit both. I felt that he'd been drifting in space for a couple of centuries in my story, and I felt that he'd encounter some sort of wear and tear on his long voyage to Jupiter's moon. At one point, I tried dusting him up as if he was covered by some space dust, but all that did was to flatten his detail. So, I went for the micro-meteorite damage, including one almost head-on on his visor to

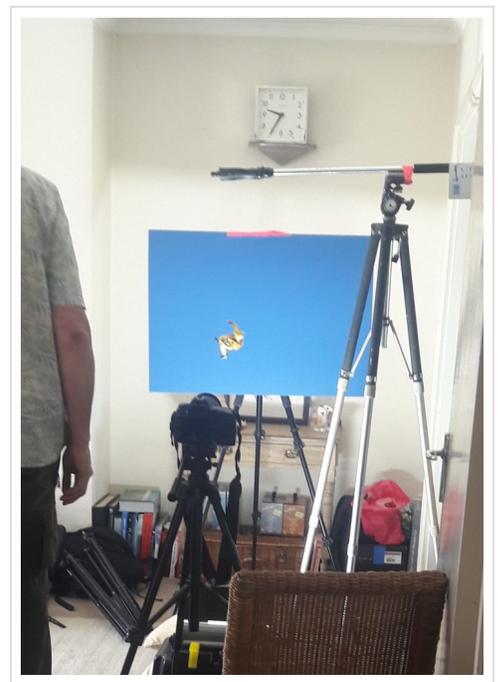
make sure everyone knew he was dead.

CINEFEX: Frank's face is eerily visible in the space helmet. Is that a young Gary Lockwood in there?

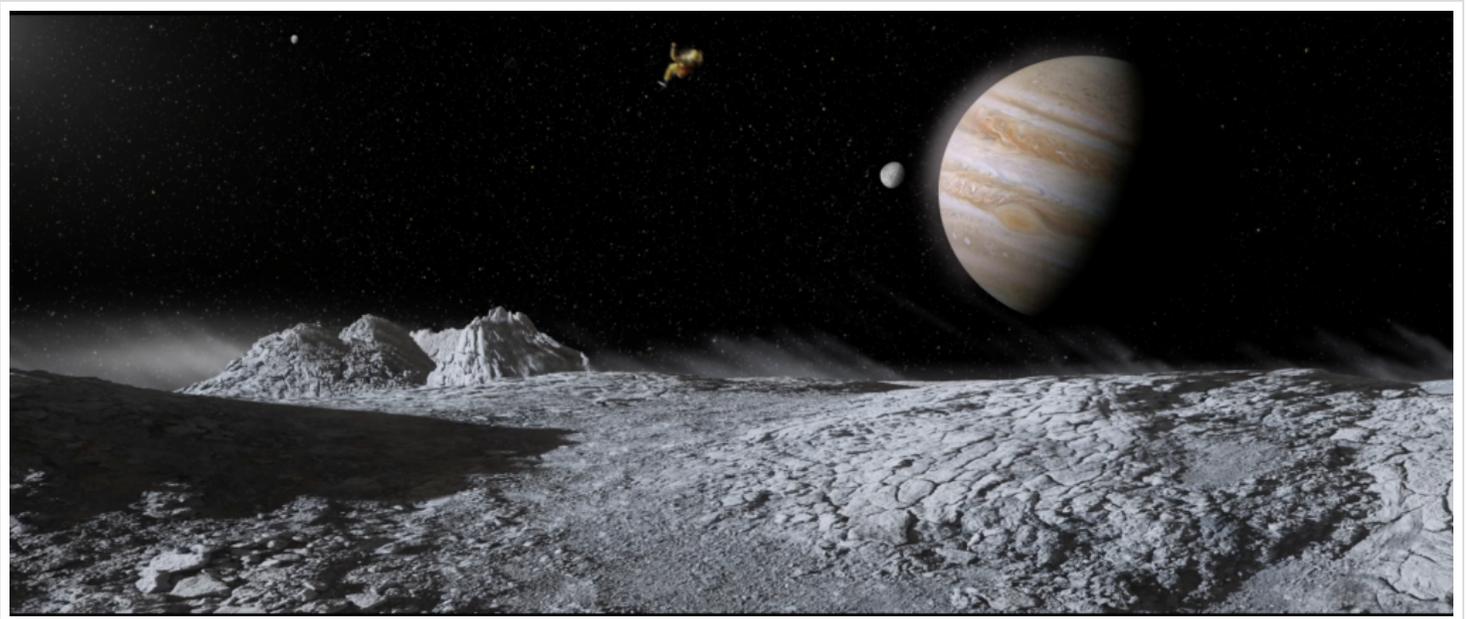
STEVE BEGG: It is indeed Gary Lockwood. I trawled the Internet looking for a still of Gary with the appropriate angle and weirdness that would fit in the helmet. I was lucky to find a still from *Where No Man Has Gone Before*, the 1966 *Star Trek* episode where Gary played a Starfleet officer who is given super powers. I found a still of his face with the correct posture and expression, and after bit of Photoshop I percentaged that into the helmet. You only see it briefly, but it's just enough to give you the creeps.

CINEFEX: On which of Jupiter's moons does he land?

STEVE BEGG: I left that open. A lot of that came down to the material and textures that I had lying around. I tried to imply that it had a very thin atmosphere and low gravity. The biggest of Jupiter's moons has 1/6 the gravity of Earth, which is the same as our Moon. I had a few comments online that his impact would create a massive crater and flatten him, but I'm not sure about that if he landed on a massive mound of dust.



- Canon 5D lighting set-up on a customized Mafex action figure, suspended against A3-size blue card.



- Poole's lifeless body makes planetfall on the surface of one of the gas giant Jupiter's 79 known satellites. Miniature and photographic elements composited in After Effects.

CINEFEX: How did you create the dust explosion?

STEVE BEGG: I got a mound of Fuller's Earth, and had a friend of mine whack it with a stick. I shot it at 240 frames a second on an iPhone 6, which gave me a lovely little slow-motion element that I scaled-down and I put it in the distance in one shot. I've done quite a bit of high-speed experimenting with the iPhone 6. If the elements aren't massive, it does the job.

CINEFEX: Your moon dust had a very convincing texture. How did you create that?

STEVE BEGG: I did a basic sculpt of the landscape, again in Fuller's Earth, about four feet square. I then dropped some additional Fuller's Earth from three or

four feet above the little set piece, and that created this super textured, almost micro-cratered landscape. I came across that technique by accident and I was stunned at the feel that we managed to get.



- The impact site was a tabletop miniature created using Fuller's Earth modeled into contours and then sprinkled to create cratering effects. Beggs layered miniature elements with photographic textures to create a deep focus look, with a subtle glimpse of the astronaut's face.

CINEFEX: Where on Earth did you find an authentic Harry Lange 2001 spacesuit for your resurrection scene?

STEVE BEGG: A friend of mine, Chrissie Overs, is an extremely knowledgeable and experienced prop and costume maker. We first met on *Aliens* creating a foreground miniature at Acton Power Station for the Skotak brothers. I asked Chrissie if she would fabricate an arm and part of the side of the space suit, the chest to waist area. She found some yellow ski gloves and then added a black patch to mimic the look of the 2001 gloves. I think if you scrutinize the glove, it's not that accurate, but it certainly had the feel.



- Poole's fingers twitch, signaling the astronaut's revival. Prop and costume maker Chrissie Overs built full-scale portions of the astronaut's suit, emulating costume designer Harry Lange's distinctive streamlined "2001" space suit.

CINEFEX: How did you create the helmet?

STEVE BEGG: The helmet was all miniature from that tiny little, six and a half inch man. I photographed that as stills with him with on the terrain with fairly long

exposures and a good f-stop. I cut that up and put it onto 3D planes to give it a bit of a dimensional move, when the camera is drifting over it. The great thing about that approach is this infinite depth of field. I even had to blur the depth in some shots because it looked too sharp.

CINEFEX: When you mentioned that you shot that end scene in your home, I imagined you had a full-scale astronaut in a huge pile of dust your living room!

STEVE BEGG: No, I was lucky that another friend of mine, Andy Rolfe, has a little workshop in an old paint store not far from where I live. He set up an 8x4-foot workbench. Chrissie laid on top of the little set piece and she was the actor for the hand within the glove.



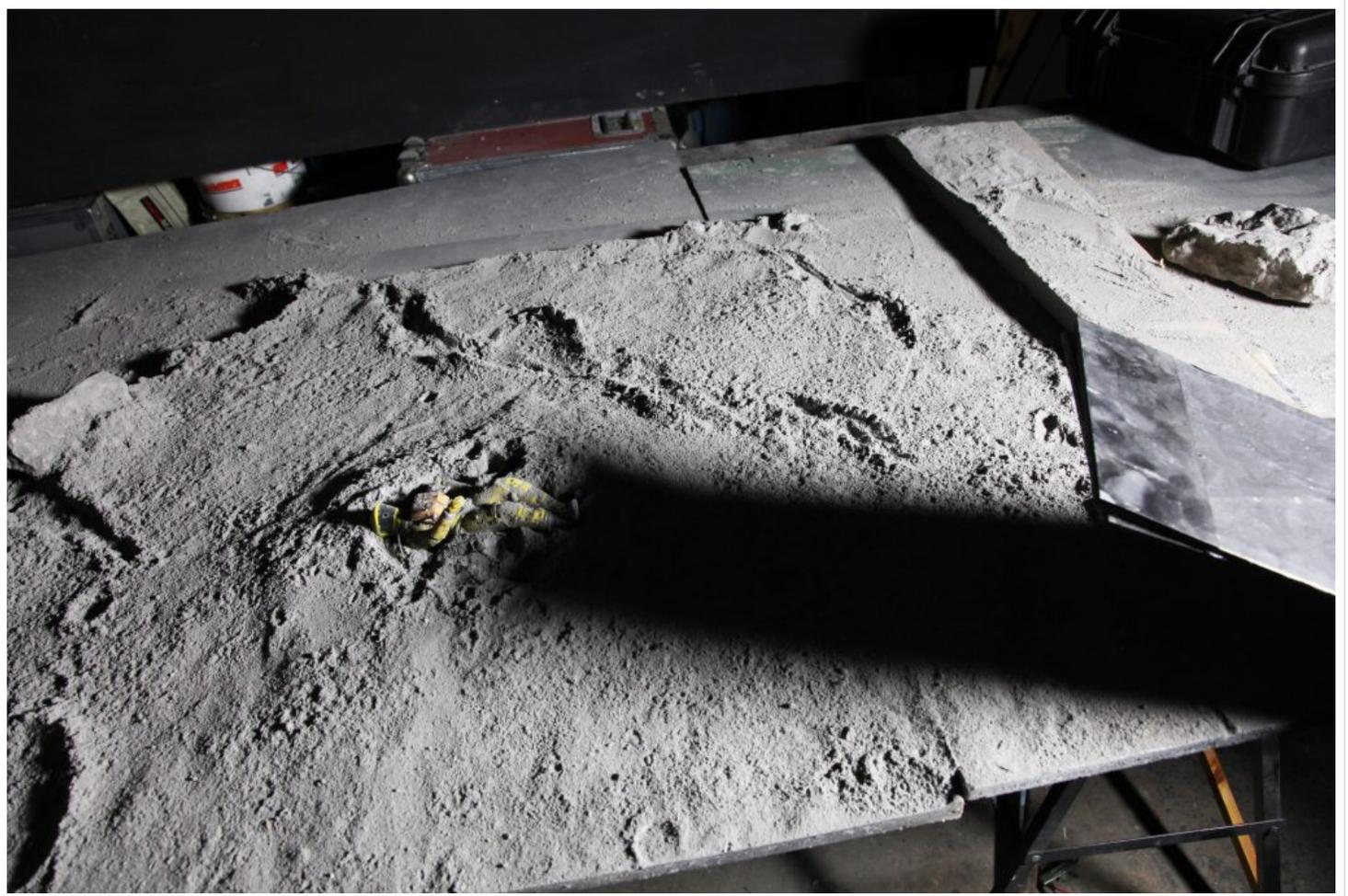
— Wide shots of Poole's resurrection were achieved using the Mafex figure in the tabletop miniature terrain, filmed against a black card backing, staged in a former paint store in south London.

CINEFEX: Kubrick famously went to extraordinary lengths to build a full-scale, pristine solid monolith to represent the alien presence in his film – did you?

STEVE BEGG: No! It's basically a matte painting with a little bit of camera shift to imply that it's three dimensional. I think, courtesy of the fact we have tools like Photoshop and what have you, it's possible to mimic that look easily. I did consider building a prop for that, but if you study the Kubrick monolith, even that has textures and a little bit of a profile, which I'm sure Stanley didn't really want. I wanted to stay as close to that pristine look as possible.

CINEFEX: On the original film, was it Stanley's lighting cameraman Geoffrey Unsworth who photographed the astronaut-in-space scenes?

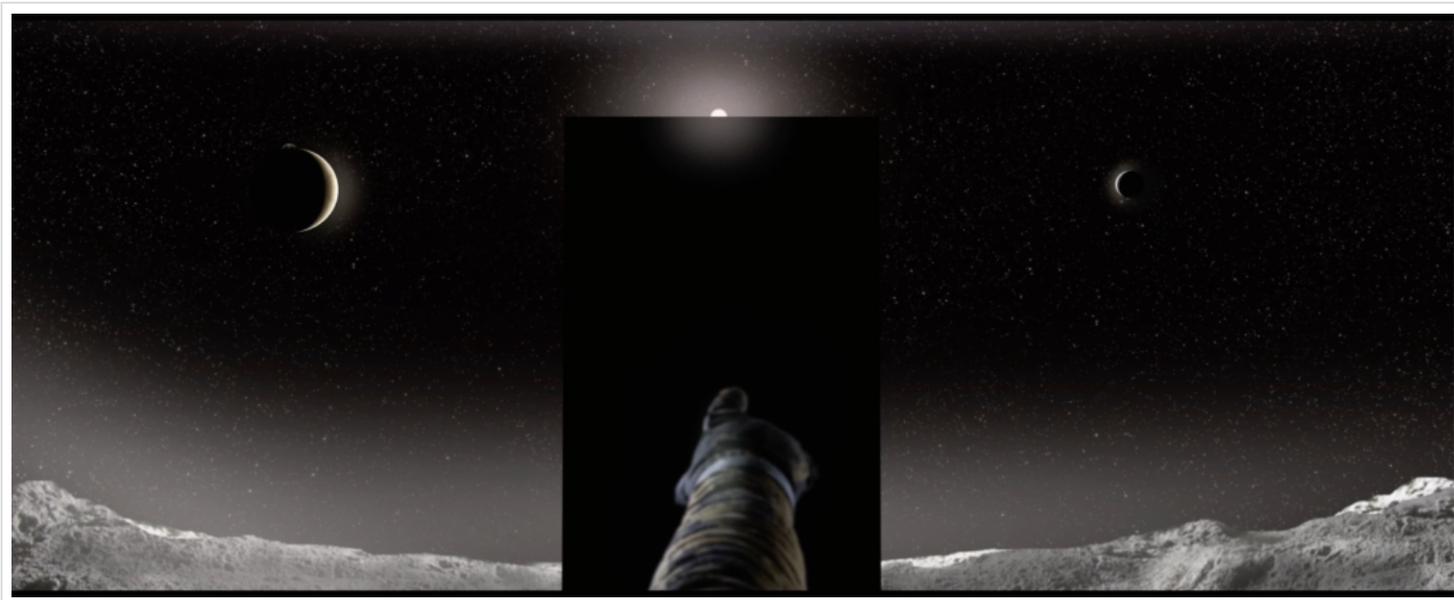
STEVE BEGG: I got this from Brian Johnson, who worked on the film. He said that, certainly with the miniatures, it was Stanley Kubrick really lighting everything, working with Wally Veevers and Brian. Brian was taking stills and Wally did the 65mm motion picture footage. On the main production set, it was Geoffrey Unsworth – and for a few sequences John Alcott – but very heavily under the control of Stanley Kubrick because Stanley was an accomplished photographer.



— A shadow-casting black card mask, positioned above the tabletop terrain, simulates the effect of the rising sun casting an oblong shadow over Poole.

CINEFEX: Based on your experience of having stepped into that world, what is it that makes the *2001* space scenes so eerie and elegant, and still so evocative today?

STEVE BEGG: I think what gives all the *2001* space shots immense scale and scope and majesty, is that all the moves are linear. There are very few shots where objects change trajectory or speed. To me, that creates the feeling of a massive object moving in space. It is also quite often people's memory that the photography of the *2001* space scenes is very high contrast, with no fill light at all. However, if you really study the shots, the space scenes always have a minimum of two light sources: a key light, and usually a blue fill. Otherwise, the spacecraft would be jet black on their shadow sides – that's how they looked in the sequel *2010*, which I thought had an interesting look, but for me, it wasn't *2001*.



- Poole views an occultation of the sun behind a towering black monolith, recalling similar encounters with the enigmatic object, and symmetrical image compositions, in Kubrick's 1968 film.

CINEFEX: Your short takes a deliberate departure from Arthur Clarke's vision of Frank Poole, because, in his book *3001: The Final Odyssey*, Frank came back from the dead, didn't he?

STEVE BEGG: Yes, in Arthur Clarke's sequel, Poole was discovered floating in the asteroid belt. To be absolutely honest, I remembered that when I was halfway through my short. A lightbulb went off in my head – wait a minute, doesn't he come back? I Googled it and, sure enough, in *3001* Frank is discovered floating, frozen in Kuiper Belt. I decided to ignore that. I have been very pleasantly surprised by the number of people who prefer my ending!

For more reading:

- [Steve Begg at IMDb](#).
- [Cinefex 85 – 2001: A Space Odyssey](#).
- [Cinefex Blog – Aries 1B](#).
- [Cinefex Blog – Benson's Space Odyssey](#).

Images courtesy Steve Begg.

