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## 20,000 Leagues with Fleischer and Ellenshaw

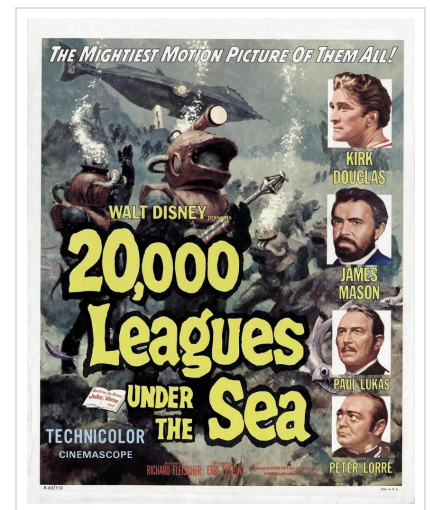
by **Joe Fordham**

Posted on **December 25, 2014** by **Joe Fordham**

*In August 1999, the American Cinematheque in Los Angeles announced a screening of Walt Disney's classic film, 20,000 Leagues Under the Sea, for which visual effects artist Peter Ellenshaw had famously produced some of his most striking visual effects. At the time, I was working for an online publication and I had recently completed an interview with Peter's son, visual effects supervisor Harrison Ellenshaw, about a mind-bogglingly extravagant episode of Xena: Warrior Princess produced at Flat Earth Productions. In my quest for material to feed the hungry maw of the Internet, Harrison agreed to put me on the phone with his father, who was then retired and living out in Santa Barbara, painting landscapes of golf courses and seascapes. Peter regaled me with wonderful stories about his friendship with Walt Disney and his fondness for 20,000 Leagues, and much to my delight he also arranged an introduction with the film's director, Richard Fleischer. Suddenly my little story was snowballing into more than I had expected.*

*I visited Richard Fleischer at his family home, a Spanish-style mansion in Pacific Palisades that Richard had inherited from his father, animator Max Fleischer, long considered Disney's rival. Driving up the winding pathway to the house made me feel like Joe Gillis visiting Norma Desmond in her mansion in Sunset Boulevard. I was nervous, but Richard invited me into his study and was very generous in sharing his memories.*

*Sadly, the story that I wrote based on my conversations with these two gentlemen has long since vanished online, and Peter and Richard are no longer with us, but I dug out my original text and offer it here to celebrate the film's 60th anniversary.*



Of the 50 tough, uncompromising and often brilliant films he directed, Richard Fleischer – *Mr. Majestyk*, *The Boston Strangler*, *Fantastic Voyage* and *Soylent Green* – is arguably best known for Walt Disney Pictures' 1954 adaptation of Jules Verne's classic science-fiction novel, *20,000 Leagues Under the Sea*, which sent a generation of moviegoers to bed with nightmare images of a tentacled behemoth with a rolling, staring eye and a snapping, pulsing beak.

For Fleischer, *20,000 Leagues* came on the heels of directing over a dozen RKO B-pictures. He initially greeted the project with uncertain feelings. Not only was the big-budget, effects-laden film a change of pace and style, but Fleischer had grown up in another animation camp as the son of Max Fleischer – animation pioneer and inventor of the rotoscope process, *Out of the Inkwell* and the *Betty Boop* cartoons.

For matte artist Peter Ellenshaw, Verne's adventure was equally an odyssey into uncharted waters. Ellenshaw was the new 'boy wonder' on the Disney campus, having arrived from his native Britain with new optical technology gleaned from seven years assisting Alexander Korda's master matte painter, W. Percy Day. Add to the mix Disney's latest technical masterstroke – the idea of mounting the epic in the new CinemaScope aspect ratio – and Ellenshaw and Fleischer had their work cut out for them. 45 years later, the two master filmmakers looked back on their experience fashioning what has now become a timeless slice cinematic fantasy.

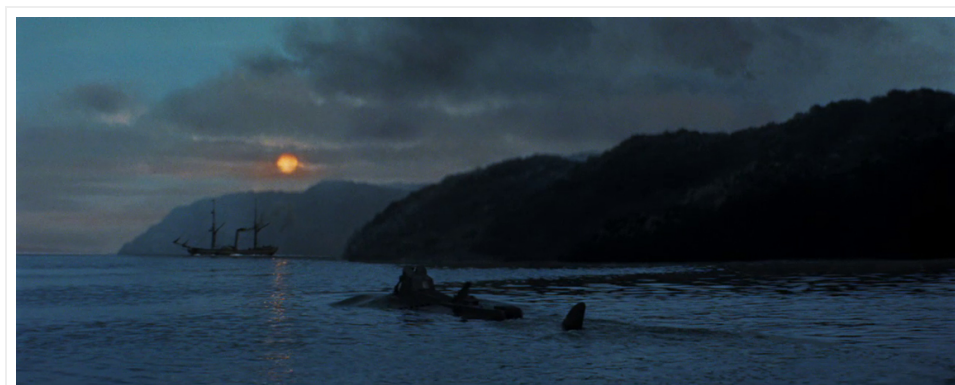


— Original concept art for the “Nautilus” from Richard Fleischer’s “20,000 Leagues Under the Sea.”

## Richard Fleischer, director

“There were two big challenges for me, besides developing the screenplay with Earl Felton. CinemaScope was brand new at the time. I had seen a demonstration of the process six months prior to filming and I thought it was the future of film. The first challenge was to use the screen artistically and creatively, as a storytelling device, not as a gimmick. I also wanted to treat the project in an adult fashion, not as a picture for kids. Secondly, I wanted the film to have philosophical depth and artistic integrity, which was not at that time one of Disney’s strong points, but it was there in Verne’s novel.

“Helping me was Harper Goff, the production designer, who was a true genius and a tremendous artist. He had been working on the design of Nemo’s submarine, the *Nautilus*, for quite a while before I came on the picture, though he and Walt had their differences on what the sub should look like. Harper prevailed and came up with a design that is so familiar today, that very rough-looking, odd craft with all the rivets sticking out. Walt wanted it to look really sleek and modern, but he relented when he saw that Harper’s gothic look really paid off, both exterior and interior. It really looked like a sea monster, as it was in the story.



— The classic design of the “Nautilus” was the brainchild of production designer Harper Goff.

“We built a full-scale exterior of the sub, which was all shot at Fox Lake, and of course we built the interior full-scale. The sub was designed to take advantage of CinemaScope, but it was difficult to work with. We only had one 40mm lens for the whole shoot, so Harper designed the sets so that you could see the whole sub interior at one time – ceiling, walls and floor – to give you that claustrophobic feeling but it was almost impossible for Franz Planer, the cinematographer, to light. There was no place to hide the lights!

“We had various sizes of miniature subs; the largest was five or six feet long. These were shot at Disney in this huge tank they built for the picture, the biggest in Hollywood at the time. We were shooting and lighting into the tank through windows and using underwater lights but we ran into problems in the sequence when they’re going through the underwater tunnel that leads into the inside of the volcano, Vulcania.

“The CinemaScope lens needed a lot of light and we were shooting high speed, which also needed a lot of light, so it got to a point where we couldn’t get an exposure. Harper came up with a great solution. He figured if we could get rid of the anamorphic lens, we could use a much faster lens, however when we projected our image in CinemaScope the sub would be stretched out four times longer than it should be.

“What he did was he designed and built a squeezed-up model of the *Nautilus*, a chubby sub. It was very odd-looking, two or three feet long, even the rivets were oval, but he figured it precisely so when we shot it with a standard lens and then projected it through CinemaScope, it stretched it out to the perfect proportions. We were able to maneuver it much more easily through our set, and it worked perfectly.

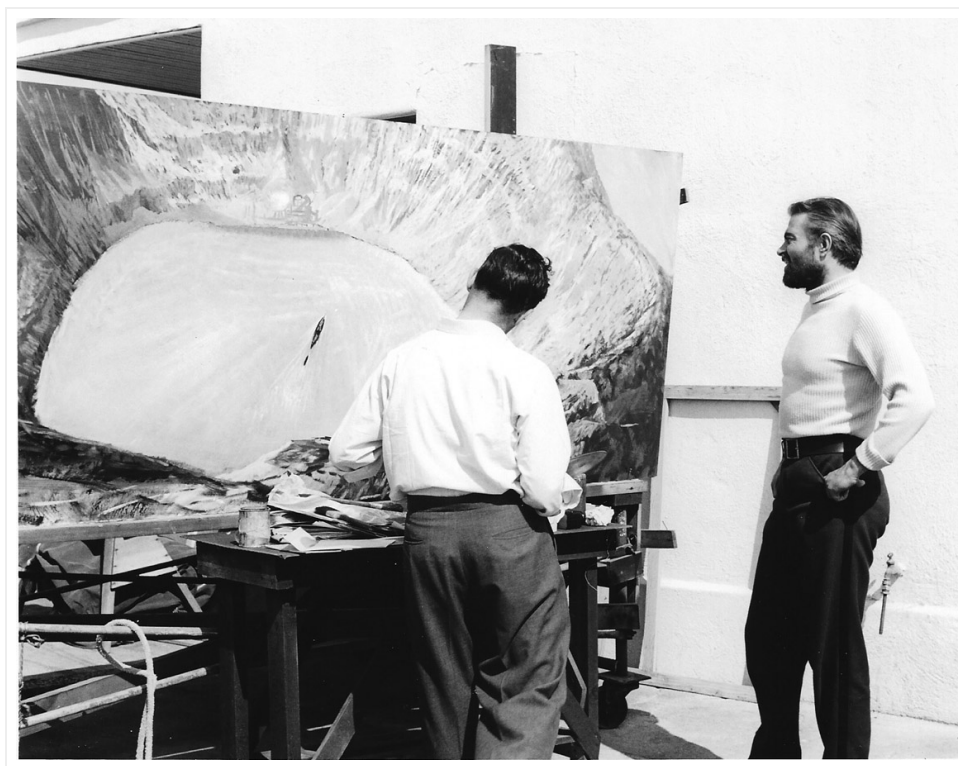


- Various sizes of the “Nautilus” miniature were photographed in a large tank at Disney, with shots being further enhanced by Peter Ellenshaw’s extensive matte paintings.

“The squid was the first thing that I photographed, although none of that is in the picture. Everybody that was involved made a terrible mistake because it was written to be shot on a calm sea at sunset, which meant we had no way to hide the cables. The first squid that we shot had almost no motion to it at all, and it was not really waterproof. The stunt men were wrestling the squid arms, pretending the squid was attacking them, although they were attacking the squid, and it was disintegrating. Chunks were falling off because it was filled with kapok and that was absorbing water, getting heavier and heavier, then the cables would snap. Walt Disney saw the dailies and said it looked like a Keystone Cops comedy. He got some of the animatronic geniuses at Disneyland to help out, and that is where special effects supervisor Robert A. Matthey came into the picture.

“I was still worried until the writer, Earl Felton, suggested we rewrite the scene so it takes place in a big storm at night. We have rough seas, wind, waves crashing and lightning flashing and we only see the squid clearly in the lightning. I ran out and told Walt and he got construction going. It cost over a million dollars to make the change and we almost didn’t have enough money to finish the picture because of that, but it was tremendous.

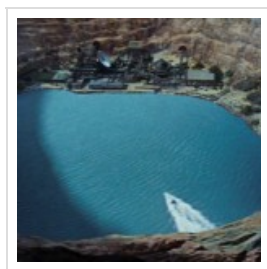
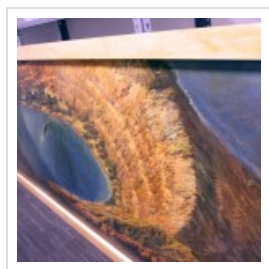
“We still needed cables to move the arms, but we had 35 people controlling the mechanics. It was filled with machinery and pneumatics tubes and hydraulics. It had eyes that opened and closed, a beak that opened and closed. Each arm had three puppeteers to give the motion as it curled and uncurled. A lot of that was helped with the internal machinery, but you still need a human hand to give it emotion, a realistic, life-like motion, not a mechanical movement. It was wonderful stuff.”



— Peter Ellenshaw (left) and the film's star, James Mason, appraise one of the many matte paintings produced by Ellenshaw for Richard Fleischer's "20,000 Leagues Under the Sea."

## Peter Ellenshaw, matte artist

"I first worked for Disney in England on *Treasure Island*. I came to America hoping to work for Walt. Nothing had been set up when I first came out. They were still matte painting onto the original negative – exposing mattes onto undeveloped, exposed production footage – whereas back in England I had learned, on films like *Black Narcissus*, the technique of making dupe negatives. We were always having terrible weather, so Doug Hague at Technicolor in London had pioneered this process where we could grab matte elements no matter what the weather was like and correct the contrast later. I brought this to America, although I found myself doing all the matte paintings for *20,000 Leagues* onto original negative.



"Walt had an artist storyboard the whole film, then we had meetings to decide which ones would be used as mattes. When Dick Fleischer started working, I was doing sketches for the film, then after two weeks Walt called us all together to see the early miniature footage. It had all been lit from the front and looked like a tin toy sub, but I couldn't say anything because I was the new boy. When the lights came up, Walt turned to poor Ralph Hammeras, the second-unit miniature effects photographer who had been working in special effects since 1917, and told him to work with me on these paintings I had been doing to show the way I felt it should be lit.





- Ellenshaw's matte paintings were done "the old-fashioned way" by hanging them on eight-foot pieces of masonite in front of the camera.

"I always did conceptual paintings for visual effects, quick sketches in oils, but this led to me working with Ralph until they finished with the miniatures instead of getting on with the actual matte paintings. I was getting behind and I didn't have time to set up my camera back at the studio, so I decided I would have to paint the mattes the old-fashioned way, hanging them on big eight-foot pieces of masonite in front of the camera.

"I remember hearing they were using CinemaScope at Fox and they were curving matte, paintings to cope with the new perspective. It was imaginary; you just didn't need it. We painted on a flat surface and we didn't have any problems. I ended up doing about eight paintings on location out of a total 30 or 40.



- Eight of the 30-40 matte paintings produced by Ellenshaw for "20,000 Leagues Under the Sea" were painted on location.

"They finally found a place for me to set up my camera in a corridor. I used Ub Iwerks' process lab camera assistant to work the camera for me, under my instruction. We were really out on a limb. One very complex scene was for a shot where they look through a spyglass into Vulcania and see all the explosives being loaded onto ships.

"We went out to Cucamonga on location and set up the scene and photographed 40 extras three times, making them look like 120. I set up a little tent, put up a black mask, cut away one portion, photographed a portion of the scene, marked the glass, filled that area back up then re-ran the film to exposed the second piece, and did that three times.

"For each exposure, we would run a test, take the film back to the studio and keep it in the refrigerator until we were ready to make our tests on our painting. During that time, the film continued to expose even though it was sealed in a light-tight box. It was a chemical reaction that slowed down after two or three hours, but when you re-exposed it to the painting you had to rush to get it developed to try to stop it building up again, to equalize the different densities of black. I'm astounded now that I ever tried to get three images on one piece of film for that scene with the painting of the ship, but it worked."



- For a key scene showing explosives being loaded on to a ship, 40 extras were shot multiple times to increase their apparent numbers. The resulting plates were then comped together along with an Ellenshaw matte painting of the ship.

- [20,000 Leagues Under the Sea – IMDb](#)
- [Peter and Harrison Ellenshaw – official website](#)
- [Richard Fleischer – Amazon.com](#)
- [Harper Goff](#)
- [American Cinematheque](#)
- [Jules Verne](#)
- [Flat Earth Productions](#)

Thanks to Walt Disney Pictures, Harrison Ellenshaw, Allen and Philip DeBevoise.

### 3 THOUGHTS ON “20,000 LEAGUES WITH FLEISCHER AND ELLENSHAW”

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Toolbox Studio

on [January 9, 2015 at 1:02 am](#) said:

Great read! I was hooked on to it till the very end. Definitely owe it to the masters of VFX.



Neil Bachers

on [February 7, 2015 at 8:30 pm](#) said:

Fantastic! I wish this account went on for pages and pages more.

One slight quibble: “they look through a spyglass into Vulcania”

Shouldn’t that say, “they look through a spyglass into Rura Penthe?”

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