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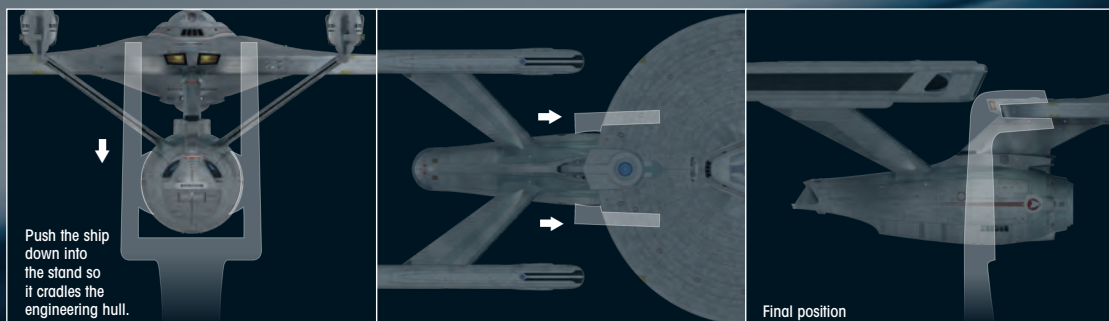
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U.S.S. ENTERPRISE NCC-1701-A

SPECIFICATION



FIRST APPEARS:

THE MOTION PICTURE (MODEL);

STAR TREK IV (AS ENTERPRISE-A)

DESIGNED BY:

ANDREW PROBERT, RICHARD TAYLOR

CAPTAIN:

KIRK





The RETURN OF

STAR TREK

STAR TREK was completely redesigned for the big screen, but it still featured James T. Kirk and his crew aboard the *U.S.S. Enterprise*.

▲ Paramount Pictures decided to invest heavily in bringing *STAR TREK* to the big screen and made sure that the entire cast was reunited.

In 1978, nearly a decade after the original TV show had been cancelled, *STAR TREK* was heading to the big screen. The plan was to make it bigger and better than ever before. Everything would get an upgrade: the hand props, the costumes, the Klingons, and even the *Enterprise* itself.

It had been a long journey. By 1975, Gene

Roddenberry had begun working on a movie script called *The God Thing*. The basic premise was that God was actually a broken-down spaceship. The script was rejected by the studio who engaged the services of writers Chris Bryant and Alan Scott, whose previous work had included the script for the movie *Don't Look Now*. They came up with a story called *STAR TREK: Planet of Titans*,



which involved the *Enterprise* travelling thousands of years into the past where the crew were responsible for bringing fire to primitive humans. Pre-production work began and Ken Adam and Ralph McQuarrie designed a new version of the *Enterprise* for the project, but again, the script failed to find favor with Paramount executives. At this point it was decided that *STAR TREK* worked best as a TV show and it should remain as a show. This project would lay the groundwork for what eventually became *STAR TREK: THE MOTION PICTURE*.

Coincidentally, the Paramount Network was about to come into being and it was decided that the new *STAR TREK* series would be the flagship show. On June 17, 1977, it was announced that the new *STAR TREK* series was in production. The show would follow the *Enterprise* through its second five-year mission out in deep space and feature the original crew, including Yeoman Janice Rand, played by Grace Lee Whitney who had been let go early in Season One. However, the producers hadn't been able to agree terms with Leonard Nimoy, so Roddenberry developed

▲ The *Enterprise* was redesigned and upgraded for the 1979 movie. The same model was later used as the *Enterprise-A*, which made its debut in *STAR TREK IV*.



◀ The script for *STAR TREK: THE MOTION PICTURE* was based on the pilot of the abandoned TV series, and involved a probe come back to Earth in search of its creator.



▲ Every version of *STAR TREK* that was developed in the 1970s featured Kirk and McCoy.

▼ *STAR TREK: THE MOTION PICTURE* was written by Harold Livingston (far left) and Gene Roddenberry (center). It would be directed by the Oscar-winning Robert Wise (RIGHT).

another Vulcan officer, Xon, as a replacement for Spock. The character of Ilia, described as a Deltan, was also added to the crew. Ludicrous as it seems today, there were fears that in his early 40s William Shatner was too old to head up a primetime TV show, and that over time would prove to be too expensive. It was decided to create the character of First Officer Will Decker who could take over many of the captain's duties.

As an added incentive, the cast was signed up to 'pay or play' contracts, meaning they would be paid whether the series happened or not. Harold Livingston was hired to act as story/creative producer alongside line producer Robert

Goodwin. Roddenberry had been less than enthusiastic about returning to the show, having professed a desire to move past *STAR TREK* and concentrate on other work, but he found it impossible to walk away from a project that had been so close to his heart and agreed to take the reins as executive producer. Jon Povill, who had been hired as Roddenberry's general assistant was promoted to story editor. Casting sessions were held for the roles of Xon and Ilia, with actor David Gautreaux and model Persis Khambatta eventually being hired. Make-up, hair and costume tests followed, while science fiction novelist Alan Dean Foster was hired to write a pilot script. Work even began building the sets.

BIG SCREEN ADVENTURE

It seemed as if the new series was surefire thing. But then *Star Wars* hit the theaters and everything changed. *Star Wars* rapidly became the most successful film ever made, prompting the other major studios to look for their own science-fiction properties. It was obvious to Paramount that they had the biggest sci-fi property in the world.

Alan Dean Foster's pilot for the new TV series *In Thy Image* focused on a missing satellite which had ended up on a robot planet where it been enhanced before it was sent back to Earth. In search of its creator, it now posed a deadly threat to Earth. After reading the script, studio executives





◀ Producer Jeffrey Katzenberg and director Robert Wise were both convinced that their movie needed Spock. The studio had been unable to convince Nimoy to return to do *STAR TREK* on TV but after much negotiation, convinced him to come back for the movie.

were unanimous that instead of being used to launch a TV series it should be turned into a major motion picture.

However, contractual obligations meant the work on the TV series continued for almost five months until it was formally announced that it had been dropped. Jeffrey Katzenberg, who was then working for Paramount Television Service was drafted in to deal with the day-to-day issues of

pre-production and to supervise post-production, while studio executive Tom Parry was left to deal with all creative decisions including developing the script.

LEGENDARY DIRECTOR

Robert Wise, known for his work on the box office hits *The Sound Of Music* and *West Side Story*, was hired to direct what the studio now regarded as a



◀ The massively increased budget and the desire to create as much merchandise as possible, meant that *THE MOTION PICTURE* would feature more aliens than had ever been featured in *STAR TREK* before.

► In the original concept for the new Starfleet uniforms, everyone had a white stripe down the middle with divisional colors down the sides. In the end this approach was only kept for Kirk's admiral's dress uniform.



► This rare photograph from a costume test shows an alternative version of the dress that was worn by the Ilia probe.

major motion picture. Persis Khambatta had been retained to play the role of Ilia but the role of Will Decker had yet to be cast. Scores of well-known young actors were considered, including Stephen Collins, who had previously appeared in *All The President's Men* alongside Dustin Hoffman and Robert Redford. Within hours of auditioning for Wise he was offered the part.

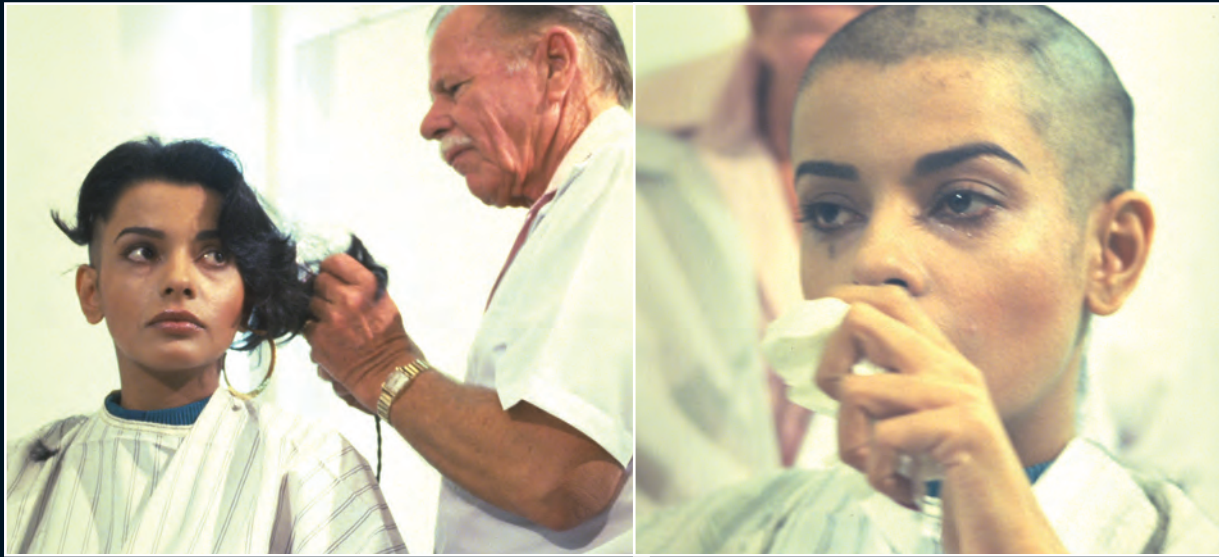
Both Katzenberg and Wise thought that a *STAR TREK* without Spock would be a mistake so they agreed that one of their first tasks was to persuade Leonard Nimoy to return. According to Katzenberg and Wise, this involved countless dinners and a lot of pleading before Nimoy finally agreed to sign on the dotted line.

TOO MANY VULCANS

But while producers were relieved, Nimoy's return now presented them with a logistical problem in that the *Enterprise* now had two Vulcan science officers. Roddenberry assured Gautreaux that Paramount were still keen to go ahead with the TV series after the movie was released and that Nimoy had no interest in being involved. Gautreaux was concerned that staying under contract for an indeterminate amount of time would prevent him from accepting any other TV work. He opted to be released but with expectation that he would return for the TV series.

By now William Norton had replaced Alan Dean Foster as scriptwriter. However, five weeks before the first draft of the new movie script was due to be delivered, he abruptly left the production. With no time to find a replacement, it fell to Livingston and Roddenberry to turn the existing TV script into a movie.

With Nimoy back on board and Xon off the table, one of the first tasks was to find a way to incorporate Spock into the story. Wise had made it clear that his vision was to make a film that would be vast and epic, but which still retained the elements that had made *STAR TREK* popular. In order to achieve this, major script changes were needed to keep Kirk, Spock and McCoy at the center of the action but to also tell the story of Will Decker and Ilia. Xon's lines and scenes were reassigned to Spock, resulting in him rejoining the *Enterprise* after spending a period of time meditating in the desert, exactly as Xon would



◀ Camera crews were present when Fred Phillips shaved Persis Khambatta's head, and the film and pictures were widely circulated as part of the publicity campaign. In 1979, a woman with a shaved head seemed both radical and shocking.

have done.

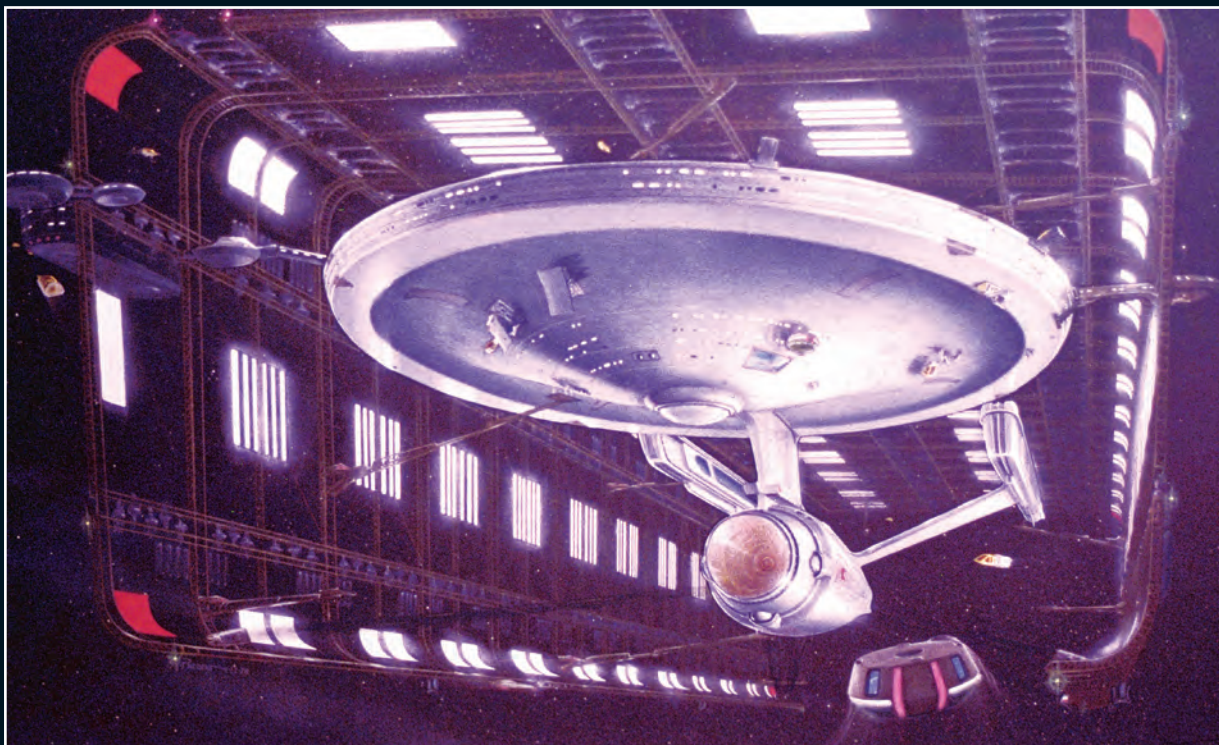
Work on the production continued apace. Work that had been started for the TV show was used as the basis for the movie version, but major upgrades were needed. Visual effects designer Richard Taylor and concept artist Andrew Probert took Matt Jefferies' designs for a new *Enterprise* and gave them a major upgrade. Meanwhile, production designer Harold Michelson, upgraded the design work on the *Enterprise* sets that had been started by Joe Jennings, Mike Minor and Lee Cole, all of whom stayed with the production.

Costume designer Robert Fletcher had come up

with a whole new look for the Starfleet uniforms. A team led by Dick Rubin redesigned all the hand props including phasers, tricorders and communicators, which became bracelets. Jerry Goldsmith was hired to compose the film score, writing a theme that would become a defining element of *STAR TREK* in the decades that followed and would earn him an Academy Award nomination.

MORE THAN HUMANS

Aliens would be a major part of *STAR TREK*'s return. For the first time, we would see that the crew was



◀ In the movie, the changes to the *Enterprise* were explained away as the result of an 18-month long refit. The majority of the work on the redesign was done by Andrew Probert, who built on Matt Jefferies' and Joe Jennings' work for the TV series. This Probert concept art shows the *Enterprise* in drydock.

► The scenes on Vulcan were actually filmed in the parking lot at Paramount studios. Years later the same spot was filled with water and used to film the sequence at the end of *STAR TREK IV*.

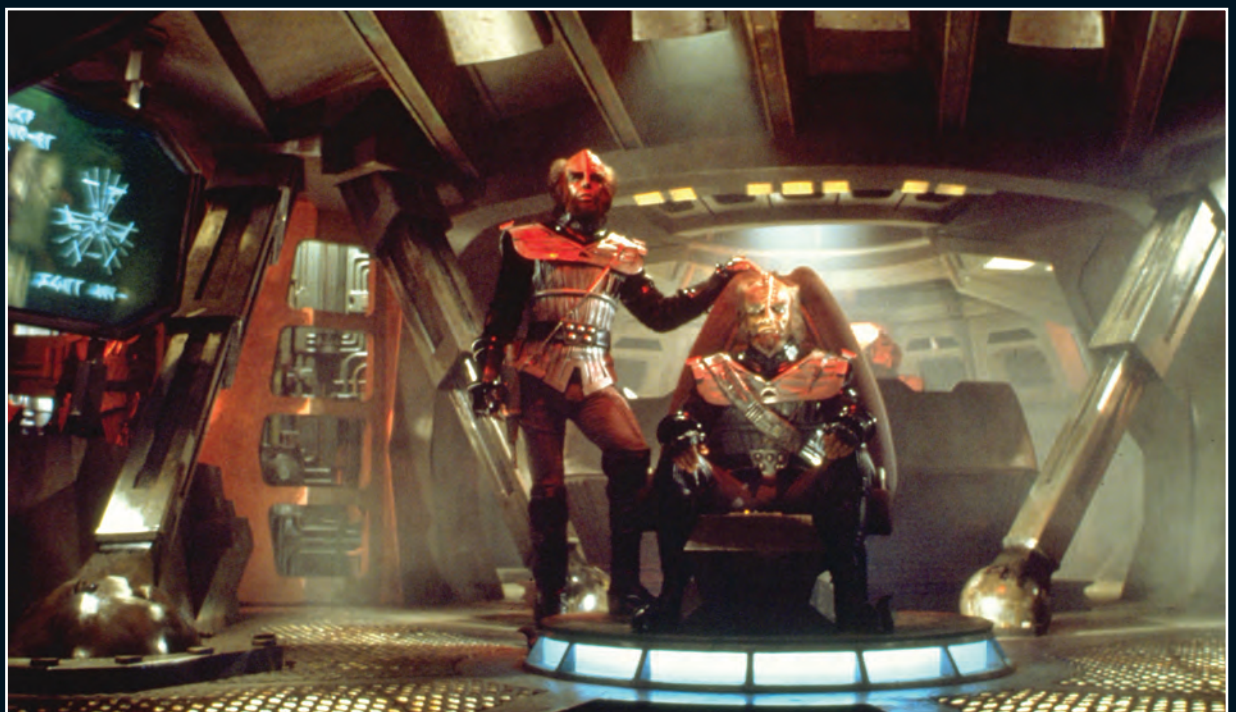


made up of several different species. The success of *Star Wars* merchandising was not lost on the studio, and most of these aliens became action figures, even though they didn't feature heavily in the finished movie. The most prominent of the new aliens was the *Enterprise*'s new navigation officer, the Deltan Ilia. One of Roddenberry's ideas for Ilia was that she would be completely bald. This decision generated a considerable amount of

publicity, and a photoshoot showing Khambatta having her head shaved was widely publicized.

From the beginning the script had opened with a sequence in which the Klingons confronted a mysterious force, which wiped out three battle cruisers. The Klingons themselves were given a major redesign, with prosthetic makeup giving them forehead ridges. Their ships retained the same basic design but were completely rebuilt

► The new-look Klingons were also given a new-look ship, and for the first time, we got a look inside. Under the makeup the Klingon commander would have been a familiar face since he was played by Mark Lenard, who is best known for his role as Spock's father, Sarek.





◀ For the scene on the rec deck when Kirk briefs the crew, Roddenberry invited many of the show's most dedicated fans to come to the studio where they played extras.

so they would stand up to the scrutiny of the big screen.

But while the pre-production period progressed reasonably smoothly, the actual filming proved problematic. Wise and the studio wanted the effects featured in their movie to surpass anything that had been seen on screen before. But the complexity of some of the sequences impacted heavily on the shooting sequence. A two-page scene would take as much as ten days to film, while the sequence involving the wormhole required thirty-five separate set ups. At the same time, constant changes to the script meant that new pages were submitted just hours before scenes were due to be shot causing further delays. And these weren't the only problems.

GROUNDBREAKING EFFECTS

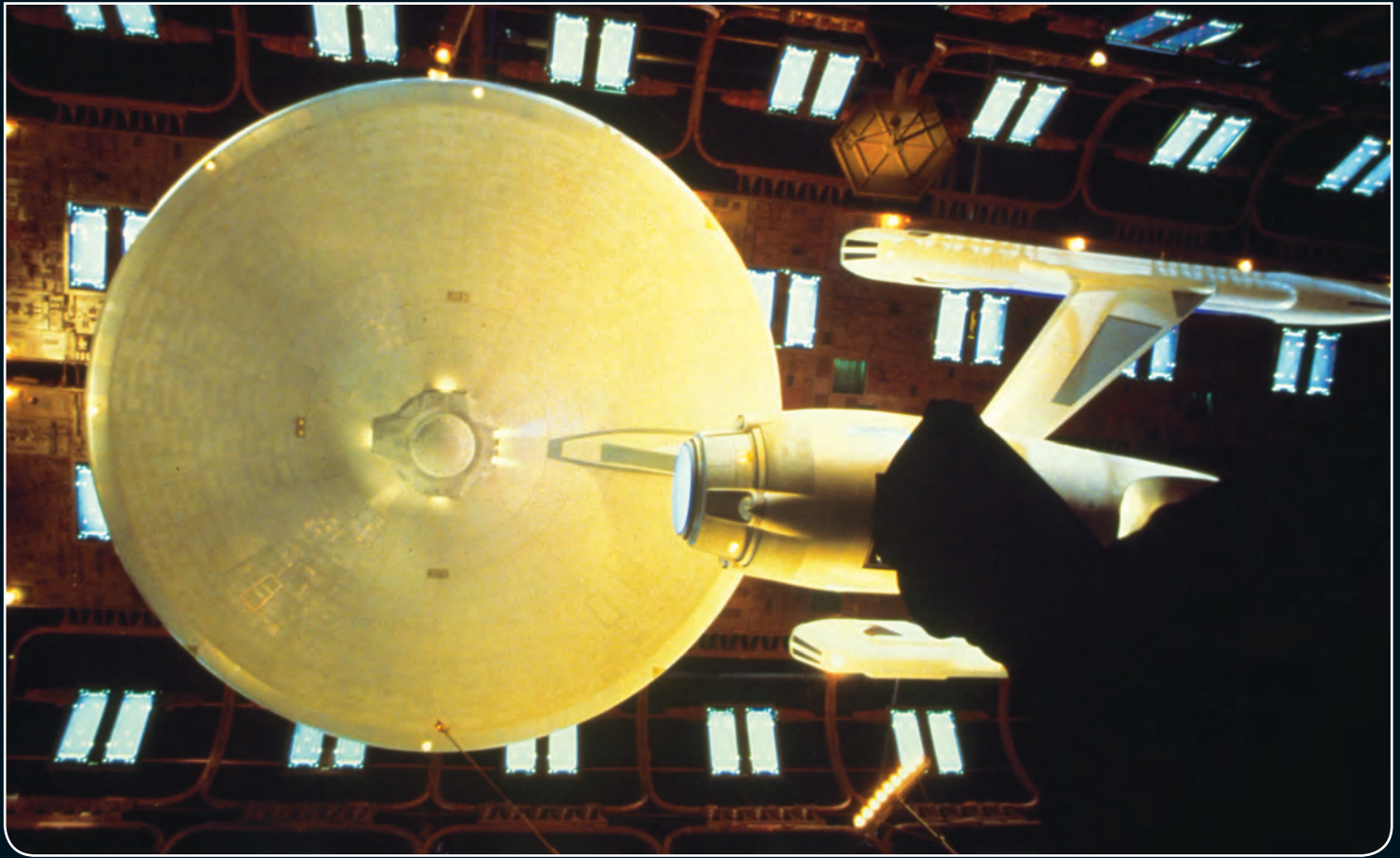
Robert Abel & Associates had been hired to provide cutting-edge effects for the movie but when they showed their first footage to the producers less than a year before the movie was due to be released, Paramount lost confidence in their ability to deliver.

Because of the way the movie had been sold to the theaters, the film's December 1979 release date could not be moved. Somehow Wise and his team had to produce an epic, visual effects movie in almost no time. Veteran VFX producer

Doug Trumbull was brought. Trumbull had previously wowed the cinema-going public with his special effects for movies such as *2001* and *Close Encounters of the Third Kind*. He was given carte blanche by the studio to pull out all the stops to produce cutting-edge special effects on schedule. In order to do this he recruited a stellar team that included many of the world's greatest VFX artists, including John Dykstra and Richard Yuricich. Together they produced an extraordinary array of effects in less than half the time that would normally have been allowed.

However, the tight schedule meant that some of the visual effects shots were only added days before the movie was released and some were abandoned altogether. Years later, Wise took the chance to revisit the movie to create a director's cut which was released on DVD, finally completing it as he had intended.

The movie was released on December 7, 1979. At the time it was believed to be the most expensive film ever made, with a final budget in the region of \$44 million. Despite mixed reviews, it was nominated for three Academy Awards: art direction, visual effects and original score. It went on to gross \$137 million dollars worldwide, spawned five direct sequels and firmly established *STAR TREK* as a movie franchise.



MIRACULOUS

VISUAL EFFECTS

STAR TREK: THE MOTION PICTURE is one of the most ambitious VFX films ever made, and forced the team making it to perform miracles.

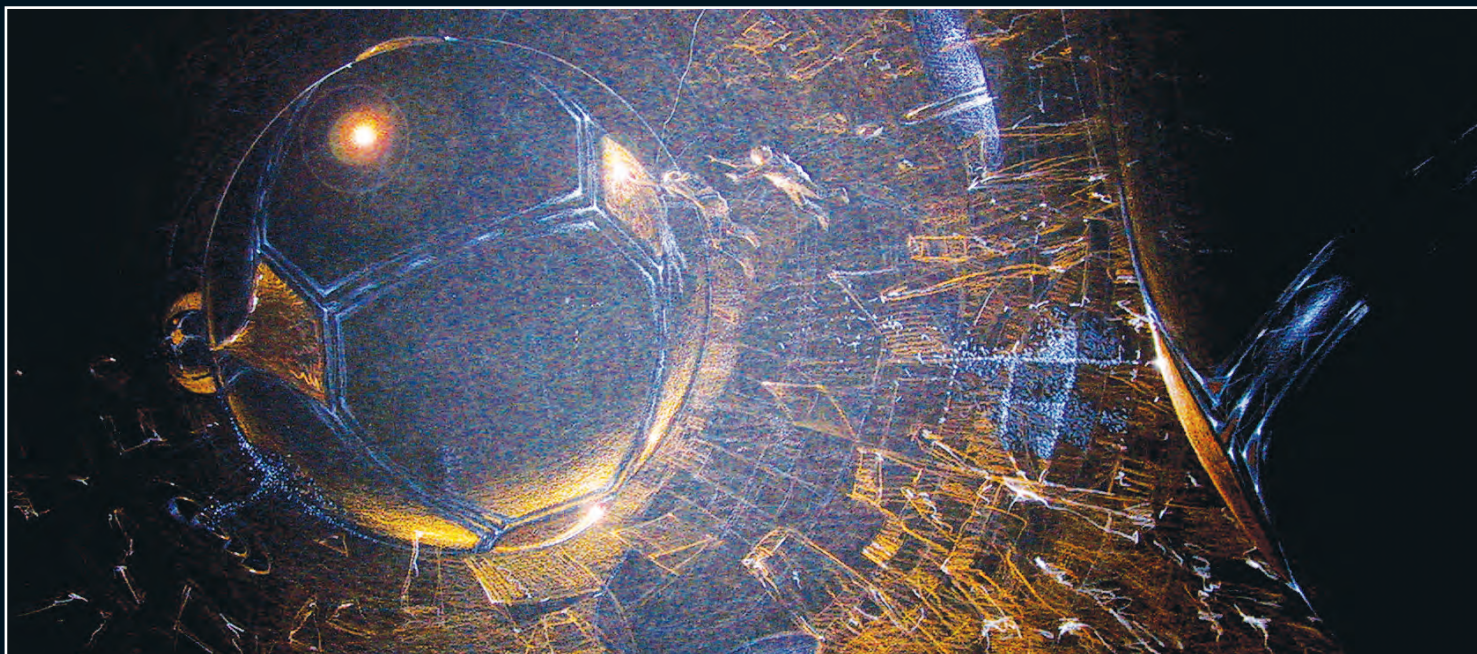
▲ Filming the visual effects for *STAR TREK: THE MOTION PICTURE* was a massive undertaking that was undertaken in record time. One of the longest and most famous sequences involved a fly-past of the new *Enterprise* in spacedock.

When the decision was made to turn *STAR TREK* into a major motion picture, one of the prerequisites was that it should feature nearly 500 VFX shots, twice as many as *Star Wars*. This meant that it was one of the most ambitious science fiction movies of all time. Visual effects house Robert Abel & Associates were hired and given 18 months to do just that.

At the time the VFX industry was still very much in its infancy and Abel was one very few companies that had any experience in the area. Abel was able to convince the studio that not only could

they produce a huge number of cutting-edge effects but they could do so on the proposed budget and within the allotted time frame.

Abel & Associates plans included a sequence near the end of the movie where the Iliia probe broke into pieces of energy. Abel had planned for the probe to sprout tendrils, made from armatures, giving it the ability to reach out and to touch things and people. There was also a radically different version of *V'Ger*, which included an altar made from space debris, encapsulated in crystal, which it had collected on its travels.



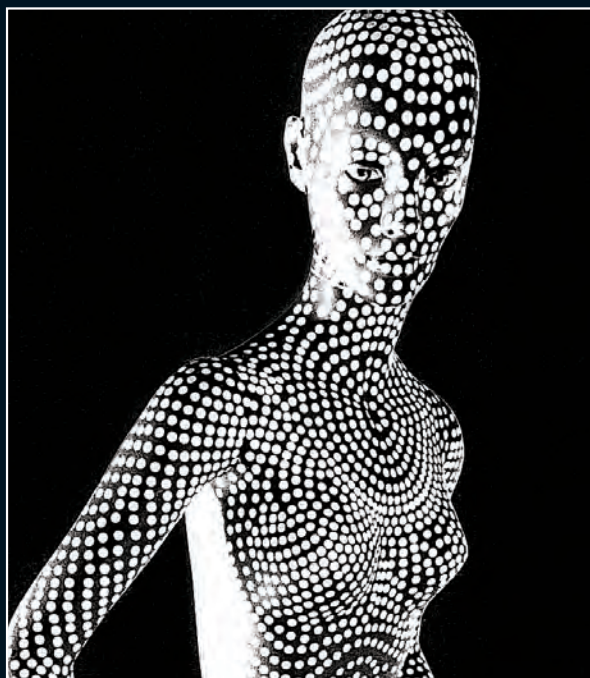
The team also had ambitious plans for the weaponry system, with *V'Ger* firing 3D missiles with internal animation that once they hit a target would unfold and then wrap themselves around it.

This all sounded exciting, but nine months into the schedule it became clear the company had bitten off more than it could chew. During a meeting, executives were shown some early footage; they were horrified to discover how little had been achieved. Executives left the meeting convinced that, despite their assurances, Abel would not be able to deliver the required effects on time. As the studio was committed to releasing the movie on a certain date, it was clear that something radical had to be done.

Abel & Associates were fired and the producers contacted visual effects veteran Doug Trumbull – the man responsible for *2001: A Space Odyssey* and *Silent Running*. When he saw the schedule and the number of shots required, Trumbull made it clear he would not be able to meet the deadline on his own. With the studio's backing, he contacted John Dykstra, who had recently worked on *Star Wars* and who agreed to come on board along with his Apogee colleagues. But even that wasn't enough. Dykstra and Trumbull decided to call in as many specialists as they could find, with the result that for most of 1979, a huge percentage of the Hollywood visual effects industry was at hard at work on *STAR TREK: THE MOTION PICTURE*.

DIVIDE AND CONQUER

The Abel team had built a number of models and storyboarded all the planned sequences, but many of their plans were abandoned or completely redesigned. Trumbull, Dykstra and their group of specialists worked as two separate teams with Trumbull responsible for handling 70% of the shots, which included the *U.S.S. Enterprise*, the *V'Ger* cloud and the interiors, while Dykstra and his team handled the remaining 30% – the Klingon attack on *V'Ger*, the *V'Ger* flyover sequence, the transporters and the photon torpedoes.



▲ The Abel team had planned very different versions of the shots that were set inside *V'Ger*, including a radically different version of Spock's journey.

◀ Work was started for shots that were never completed, including one that would have shown the *Ilia* probe breaking up into pure energy as *V'Ger* evolved.

► Filming the *V'Ger* cloud involved filming the same piece of artwork from several different angles and then combining the results to create a definite shape, without making the cloud look solid.



Both Trumbull and Dykstra knew that the various shots needed to be put together as quickly as possible and there would be little time left over to refine any of the details. But they were adamant this wouldn't force them to scale back on their ambitions.

In order to do the best work they could, the two teams embarked on an extensive R&D process. A large part of their experimentation centered on the look of the *V'Ger* cloud, the brief for which had simply stated that it was not a solid object.

Trumbull decided that while it shouldn't look anything like an actual cloud, it should possess a very definite shape. To accomplish this, he constructed a special rig on which a camera could be mounted. This could then be moved along a curved track in order to photograph a

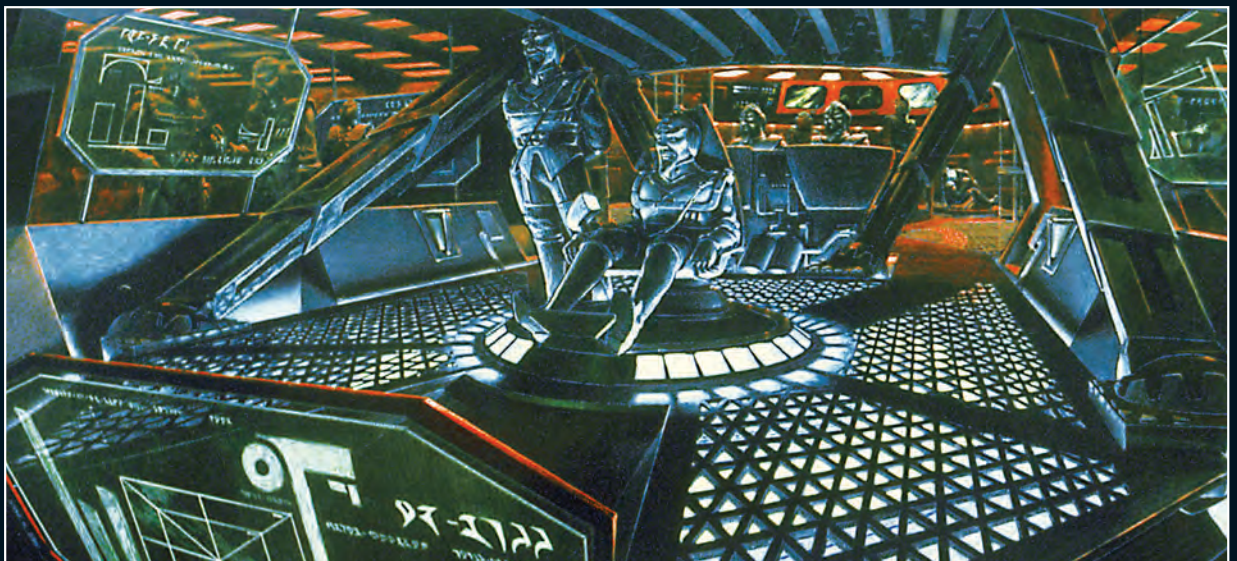
single piece of artwork. The rig allowed the camera to be positioned at different distances and angles on each pass. The resulting shots were then combined to create a layered effect, which in turn gave the cloud a sense of depth.

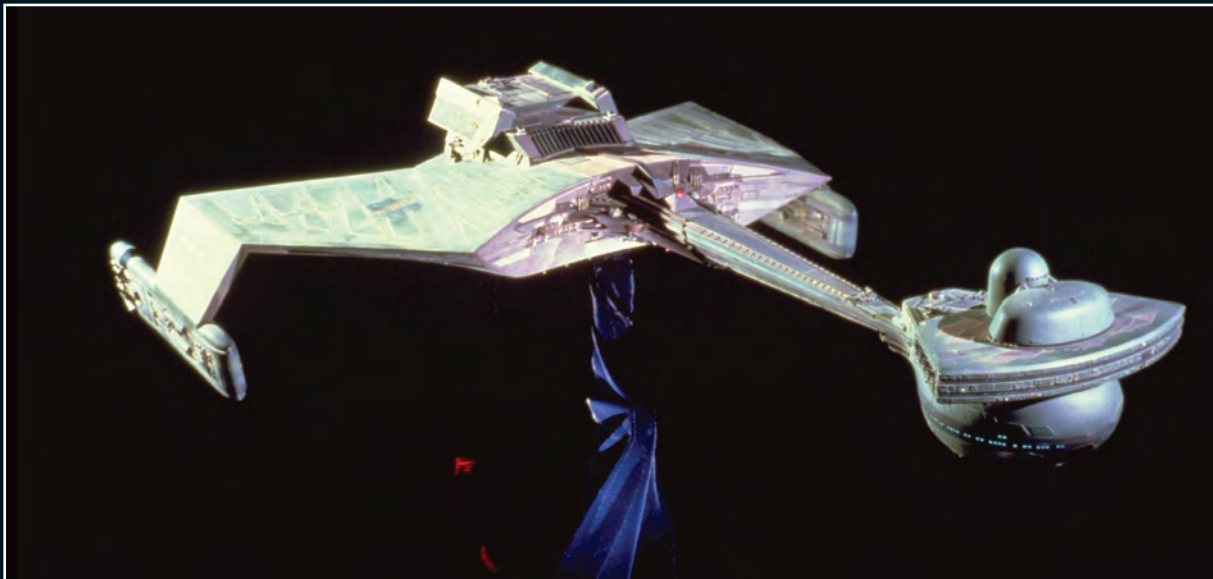
RETURN OF THE KLINGONS

Meanwhile Dykstra's Apogee team got to work filming the Klingon encounter with the *V'Ger* cloud. Their job was made somewhat easier as they had access to the models constructed by the Abel team. Using their own extremely flexible and maneuverable cameras together with the Abel models, Dykstra and Apogee were able to film one of the movie's most stunning sequences.

It was the same story with the bridge of the Klingon ship, none of which had previously been

► The sequence featuring the Klingons hadn't been filmed when the Abel team left the production, so Trumbull worked with Andrew Probert to design the interior of the bridge, establishing a Klingon design ethic that would last for decades.





◀ The Abel team had already designed and built an upgraded version of the Klingon battlecruiser, which Dykstra's team used for their effects work.

filmed. As a result it was left to Trumbull to decide exactly how the bridge would look and function. Working alongside illustrator Andrew Probert, Trumbull's main concern was to ensure that the Klingon bridge contrasted sharply with the look and feel of the bridge of the *Enterprise*. He formulated the idea that the interior of the ship should look as if it was permanently rigged for battle. To achieve this, Probert and Trumbull's design featured huge shock absorbers resembling spider's legs, which they felt made the whole thing look intrinsically malevolent.

CONVERTED BY V'GER

The script had indicated that the Klingon ships shouldn't simply explode in a flash when *V'Ger* attacked. So Dykstra came up with the idea that

V'Ger would somehow have the ability to transform the mass of the ship into an enormous amount of energy. The set was constructed as six separate pieces, which could be removed and replaced with a blue screen. At a later stage, VFX footage of the digitization effect of the ship disappearing would then be inserted onto the blue screen. At the time this was a brand new way of achieving what eventually became a standard kind of effect.

It wasn't the only innovation. Footage of Kirk and Scotty in the travel pod that had been shot on the soundstage was rear-projected on to the window of the model of the travel pod on a tiny screen. It was then filmed again along with the model to create the illusion they were inside. Meanwhile, a technique known as the 'slit scan', which Trumbull



◀ The travel pod involved filming the actors inside a full-sized version of the tiny vehicle and model shots where footage of them was rear-projected into the miniature.

▶ Trumbull used a technique called 'split scan' to streak the stars and create the warp effect.



had originally developed while working on *2001* was used to create the effect of light streaking across the screen when the *Enterprise* went to warp.

Trumbull's most complicated effect was the sequence featuring the *Enterprise* becoming trapped in a wormhole. Footage of the crew on the bridge had already been shot by the Abel team. Faces of the crew were cut out and blurred optically. This was then superimposed over the original footage to create the effect. The wormhole itself was created by using a laser scanning technique – a process which worked by using a laser to scan a shape and project the results onto a screen which was then filmed. For

the actual sequence, an audio synthesizer was used to generate wave form patterns which was then projected onto a screen, effectively creating the illusion that the *Enterprise* was moving through a tunnel. Abel's original footage was turquoise, but disliking this, Trumbull opted to take it first to black and white before changing it to orange.

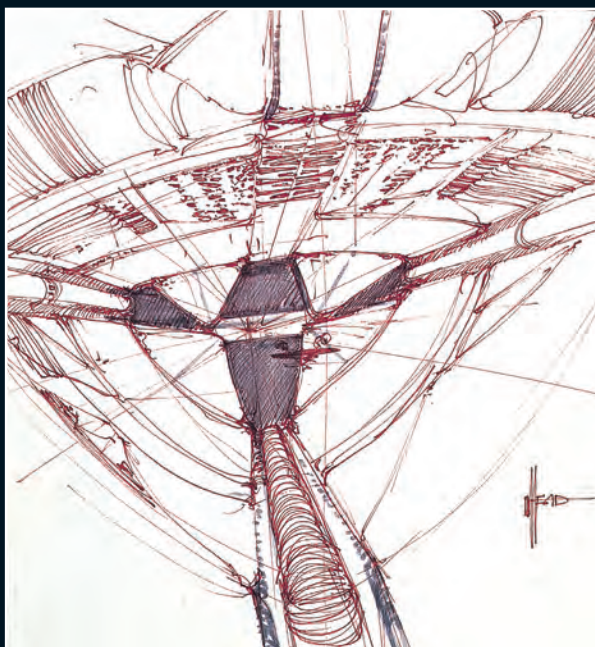
A THING OF BEAUTY

For the launch sequence, which included Kirk approaching the *Enterprise*, Trumbull stuck closely to Abel storyboards. However the pearlescent finish on the model of the *Enterprise* presented Trumbull with a logistical problem in that it reflected light in a way that made it almost impossible for the VFX processes he was used to deal with.

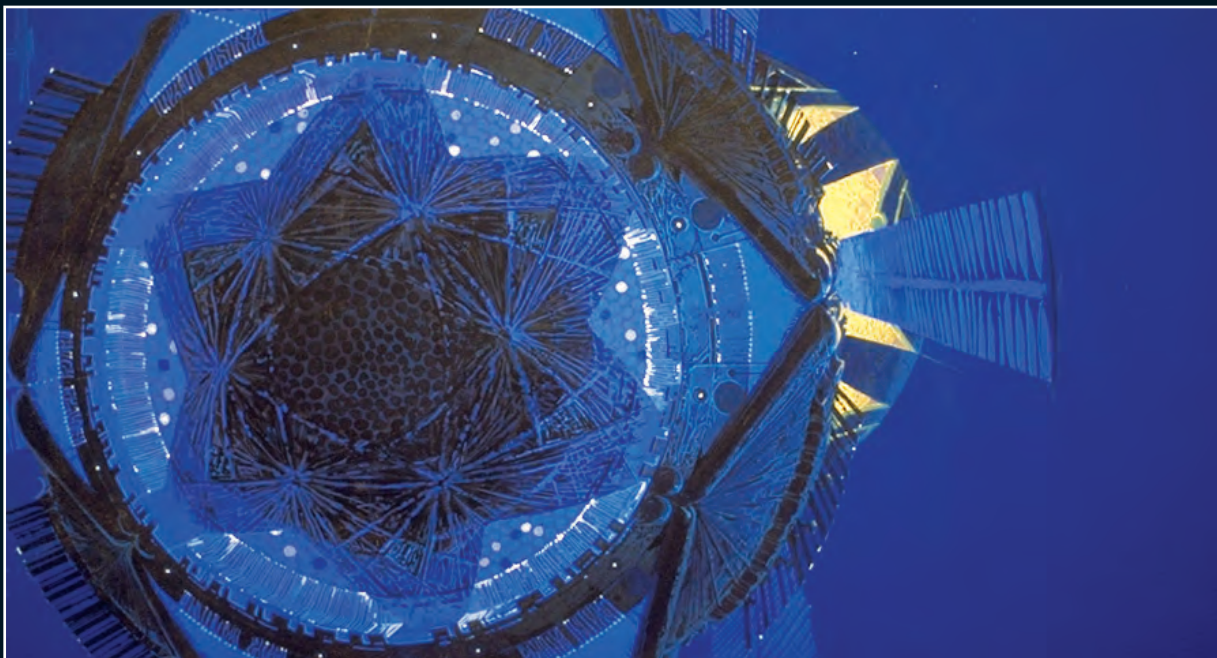
Dykstra employed the same approach when it came to *V'Ger's* attack on Epsilon IX. Although the Abel team had storyboarded the sequence, no model of the station, which was originally planned to be on the surface of a planet, had been produced. Dykstra therefore had the opportunity to give it a new look.

An enormous amount of the effects work centered on *V'Ger* itself. It was decided to split work between the two teams, with Dykstra handling the exteriors and Trumbull the interior and Spock's spacewalk. Although Abel had done some work, Trumbull opted to dump it, feeling that their version had the exterior looking like some kind of weird fish.

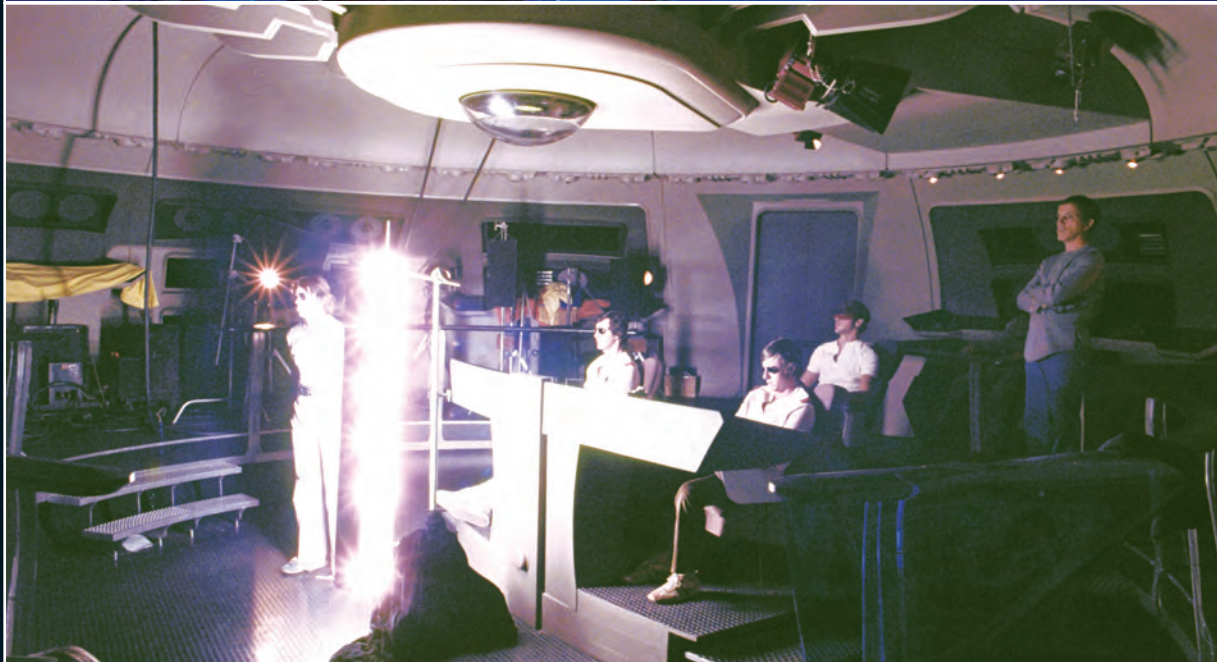
Dykstra suggested calling in highly-respected



▶ Trumbull was not impressed with Abel's version of *V'Ger* so he and Dykstra brought Syd Mead onboard to redesign it. This was his first sketch, showing the *Enterprise* approaching the *V'Ger* maw.



◀ Syd Mead produced a series of paintings showing the exterior of *V'Ger* inside the cloud. These were made into a physical model that reproduced his work in often incredible detail.



◀ The Abel team had worked out how they were going to film the sequence where the *V'Ger* probe investigates the bridge and takes Ilia. It involved carrying a powerful light source around the bridge. Dykstra didn't want to complete the shot the way they had planned so had to work out how to use the original footage.

artist Syd Mead, who worked alongside him to come up with a brand new design for the craft. Both Wise and Roddenberry were involved in the conceptualization, but Dykstra admits it was very much a case of making it up as they went along.

ENORMOUS CRAFT

Mead's illustrations were used as the basis of a huge 60ft model, the construction of which caused Dykstra more than a few headaches. Time constraints meant while one end was being constructed the other end was being photographed, with a black curtain used to

separate the two areas. Three crews worked eight hour shifts in order to film the huge number of shots required and to get the model finished. The process was further complicated by the fact the camera could only record the various passes over the ship at very slow speeds, and rather than sending everything to the lab to be combined, everything was actually done in camera, exposing the same piece of film again and again. Some passes took as long as 18 hours and, if the motors failed or even stuttered, it was necessary to start the whole thing again from scratch. Unsurprisingly, it meant that many of the planned shots simply

► For the *V'Ger* interior, Ron Resch created a series of cones that rotated to create a variety of unexpected shapes.



couldn't be achieved in the time allotted.

When it came to the *V'Ger* probe, Dykstra inherited footage already shot by Abel, which basically entailed a member of the cast walking around with a bright tube of lights that were shone on the faces of the actors. Abel's plan had been to remove the light source with a computer, something that was almost unheard of in 1979. Instead, Dykstra opted to take an optically flat mirror and by adding distortion to it, he tucked the crewmember and the light source out of the scene. What was left was a disturbance based on the light effect on the actors along with a spatial

disturbance. It had the effect of making it appear as if there was some kind of warp of energy, or time-spatial continuum.

INSIDE THE BEAST

Trumbull's first job on the *V'Ger* interiors was to change the way that *V'Ger* opened from the point where the *Enterprise* is pulled inside. He felt the original plans, which involved an iris were too conventional and began work with Ron Resch to come up with a new version. Resch was a genius in working with geometric structures that could then be built architecturally. He came up with the

► This rare photograph shows a model that was built as part of Abel's plan to film the memory wall sequence. Parts of this sequence were filmed but they were abandoned in favor of a new sequence featuring Spock making his way through a variety of extraordinary images.



idea of intersecting cones, which rotated to reveal strange geometric shapes, which Trumbull felt added a special look to the film.

As for the interior itself, Trumbull considered several different approaches – using matte painting or laser scanning – before finally deciding on a conventional model based on a six-sided symmetry. Syd Mead once again took over the design work. During filming, the model was filled with smoke in order to give it the right sense of scale. The original lighting, which consisted of miniature light bulbs, was found to be too big and unconvincing. Greg Jein, who had built the model, suggested replacing the lights with fiber optics.

A NEW KIND OF TRIP

The interiors were especially important as a memory wall sequence filmed by Abel had now been replaced by a new sequence which saw Spock going on a spacewalk inside *V'Ger*. Trumbull had decided the old sequence couldn't be made to work without spending a vast amount of money, and instead persuaded Wise to allow him to design something entirely new. He designed the sequence himself and storyboards were worked up by Tom Cranham, while several artists provided concepts illustrating Spock's experiences. Trumbull's sequence was much

shorter than the one conceived by Abel and as it was shot primarily from Spock's point of view, a stuntman was used to stand in for Leonard Nimoy. Shots flashing across Spock's faceplate were accomplished by projecting still images on to a large Plexiglas dome and then superimposing it on the spacesuit. The images themselves were inspired by the paintings of Robert McCall and built by Greg Jein. The massive image of Ilia was actually a plaster cast with light effects projected onto it, which was more or less the same approach Abel had planned to use.

For one of the final sequences where Ilia and Decker merge with *V'Ger*, Trumbull was keen to emphasize *V'Ger*'s evolution. To achieve this, live footage was mixed with powerful lighting to create an animating pattern across the faces of the actors.

Not only were the effects delivered in time for the film's release date but were universally acclaimed for their cutting-edge nature and, not surprisingly, received an Oscar nomination. Decades later, both Trumbull and Dykstra insisted that despite the tight schedule and despite having to abandon some of their more ambitious plans, the finished film had not only stood up to the test of time but also represented some of their best work.



◀ Most of Spock's spacewalk inside *V'Ger* was based on paintings that were created by Bob McCall.

STAR TREK

