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SPECIES 8472

BIOSHIP

TYPE: ORGANIC

LAUNCHED: 24th C

LENGTH: 50 METERS

CREW COMPLEMENT: 1

Contents

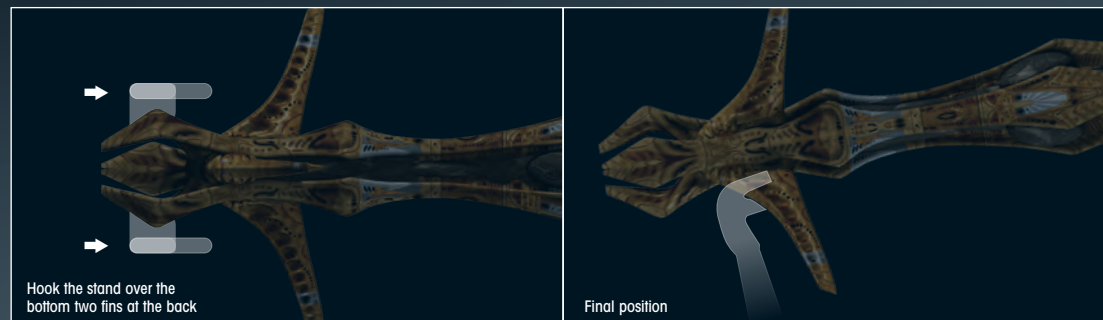
P04: SPECIES 8472 BIOSHIP

P10: DESIGNING SPECIES 8472

P16: DESIGNING THE SHIP

P18: ON SCREEN

Stand assembly:



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SPECIES 8472 BIOSHIP SPECIFICATION



TYPE:	ORGANIC
LAUNCHED:	24th CENTURY
ORIGIN:	FLUIDIC SPACE
LENGTH:	50 METERS (APPROX)
CREW:	ONE
POWERED BY:	ELECTRODYNAMIC FLUID
WEAPONRY:	BIOGENIC ENERGY BEAM



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SPECIES 8472
BIOSHIP

▼ The bioships used by Species 8472 were living vessels that were very heavily armed and shielded. Even Borg cubes were largely defenseless against these bioships – for them resistance was far from futile.



SPECIES 8472 BIOSHIP

Species 8472 operated living organic vessels that were enormously powerful and extremely resilient.

Species 8472 operated small, but immensely powerful organic ships that were composed of the same genetic material as the creatures themselves. These highly advanced vessels were native to fluidic space, but they were also observed operating in the normal space of the Delta Quadrant.

The bioships had a very unusual shape that was vaguely reminiscent of a squid. They had tendrils at the front that could clamp onto another object, while extended finlike elements at the rear projected from the ship when it was flying. Various parts of the bioship glowed with energy, particularly the 'engines,' which were capable of powering it to high warp speeds. They were also extremely manoeuvrable and carried only a single crew member, who acted as its pilot.

Despite being only approximately 50 meters in length, the bioships were extraordinarily powerful: a single vessel could easily destroy a Borg cube with its energy beam weapon, and when they acted together the bioships were powerful enough to destroy an entire planet.

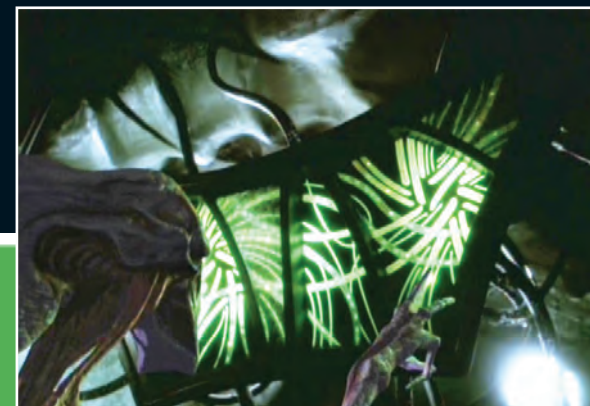
LIVING VESSELS

The interior of a bioship was clearly organic. The floor, walls and ceiling appeared to be flesh, while supports running across the ceiling resembled a backbone. Several pulsing veins could be seen trailing across the walls; these functioned as conduits, transporting energy in the form of electrodynamic fluid around the ship. Various cobweb-like materials covered some openings in the walls. The bioship's computer systems were analogous to a nervous system and used neuropeptides. The interior was also filled with a high concentration of antimatter particles which powered the ship.

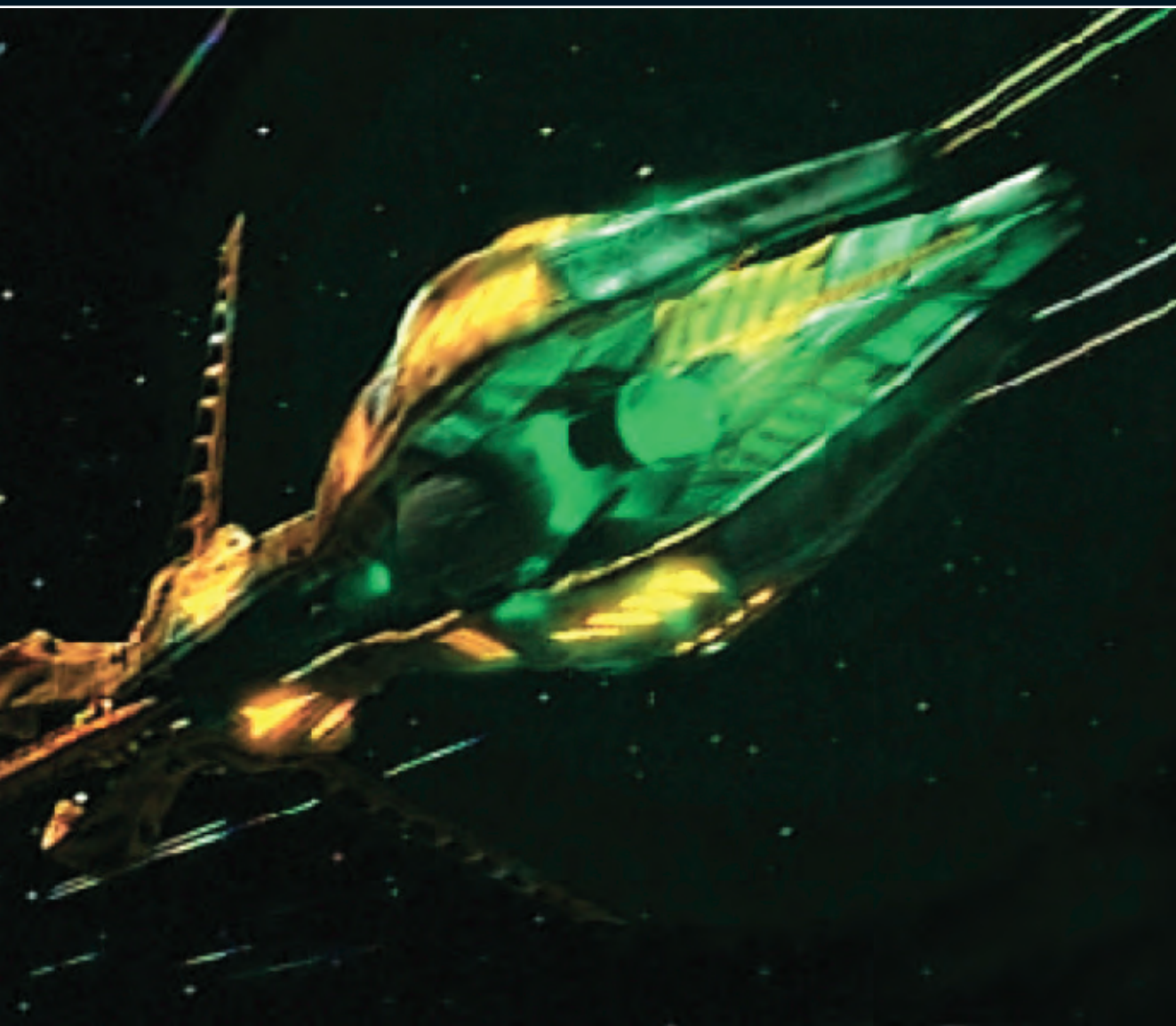
Species 8472 used telepathy to communicate with each other, but it was not clear whether the bioships themselves were controlled telepathically, as the creatures were witnessed operating a console to pilot the vessel. A bioship explored by members of the *U.S.S. Voyager* NCC-74656's crew contained an atmosphere breathable by humanoids; however, as it was in atmospheric contact with the inside of a Borg cube at the time, it was possible the original atmosphere of the bioship had been displaced by the internal

DATA FEED

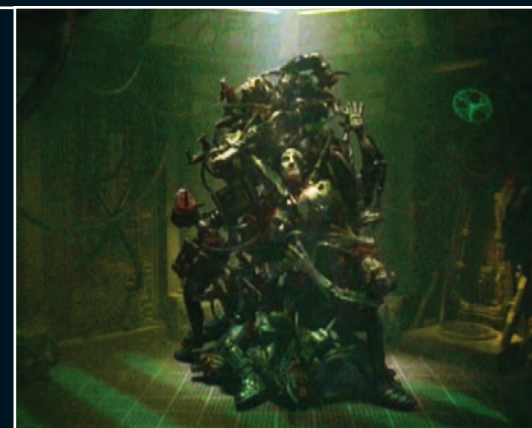
Species 8472 was the Borg designation for a highly aggressive and xenophobic tripod creature whose actual native name remained unknown.



◀ The interior of a bioship resembled the insides of a living creature's body. The 'walls' appeared wet and fleshy, while structural supports looked like they were made of bone. Power appeared to be distributed by an electrodynamic fluid circulatory system, and the computer was similar to a nervous system.



► After a bioship had attacked and disabled one Borg cube, an away team from *Voyager* found a number of mangled dead Borg bodies on board. They had been piled high in a grotesque sculpture of death by a Species 8472 creature.



► A bioship looked inconsequential next to a huge Borg cube, but despite its small size, it was easily able to destroy the Borg vessel with just a few blasts from its biogenic weapon.



◀ A number of bioships formed a circle and channeled their power through a single ship in the center, in effect combining their firepower. The resultant blast was enough to destroy an entire planet.



◀ The *Voyager* crew thought they were about to be destroyed when 15 Borg cubes appeared in their wake, but it transpired that they were fleeing from Species 8472. When the bioships caught up with the cubes, they were quickly annihilated.

▲ Rather than being designed and built in an engineering facility, the vessels used by Species 8472 were organic. This probably accounted for their unusual squid-like appearance that featured tendril-like arms at the front.

atmosphere of the Borg vessel.

The bioships normally operated in a parallel dimension which was filled with low density matter; this realm was known as fluidic space. The ships were very sensitive to movements in the fluid that filled this dimension and could instantly detect the arrival of any intruding vessels.

The bioships could move between the two dimensions by opening a quantum singularity, and were unaffected by the intense gravimetric distortions that the singularity generated.

As the bioships were organic, the sensors on a Starfleet ship did not identify them as vessels. They were impervious to almost all Federation and Borg technology and their surface reflected sensor scans, making it impossible to establish a transporter lock. Bioships were completely resistant

to tractor beams, and could easily absorb the impact of dozens of Borg torpedoes.

The densely coded DNA which the bioships shared with Species 8472 made them immune to Borg assimilation techniques. However, they were not entirely impregnable as they could be damaged by Borg disruptors, but they regenerated themselves at great speed.

WEAPON SYSTEMS

The bioships used an unusual weapon that generated a lashing tendril of energy. This was so powerful that it could cause damage simply by passing by a target. If a person was near an energy charge, it could disrupt their neuroelectrical pathways, often causing death. The strength of the weapon depended on the

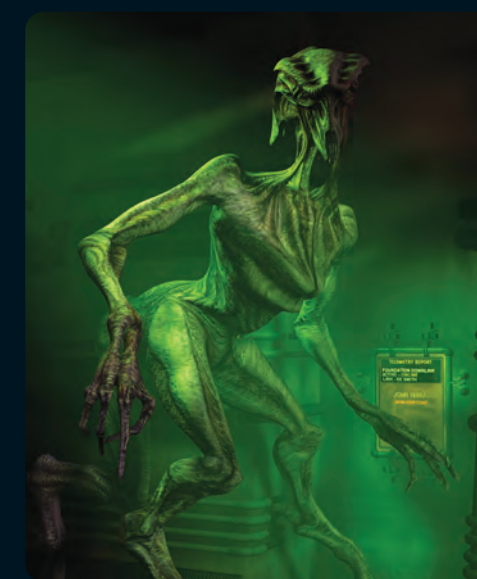
'health' of the bioship.

Bioships could also combine their weapons. Eight ships were seen to form a circle with a larger ninth vessel in the center; the ships in the circle transferred energy to the central ship, which fired a single beam so powerful it destroyed a planet.

Conventional weapons proved ineffective against the bioships, but they could be destroyed by modified Borg nanoprobes. This technology was developed by *Voyager's* EMH, and worked by disguising the nanoprobes with the same electrochemical signatures as Species 8472 cells. This allowed them to 'ambush' the bioship at a cellular level. They denatured within seconds, destroying the bioship's cells and generating a cellular reaction that made the vessel explode.

DATA FEED

Species 8472 had an unusual physiology. They were nearly three meters tall, had three rather than two legs, and possessed enormous physical strength. Their DNA was a hundred times more densely coded than human DNA and could resist any form of infection. If they were wounded, their bodies could heal themselves in a relatively short time. They also did not appear to have vocal cords, and communicated telepathically.



DATA FEED

The crew of the *U.S.S. Voyager* NCC-74656 came to believe that Species 8472 intended to use their bioships to destroy not only the Borg, but all life in the galaxy. The assault by the bioships was only halted after *Voyager's* Doctor developed an effective weapon against them by modifying Borg nanoprobe technology.



Central command module

TRUE RESISTANCE

The biogenically engineered weapons technology utilized by Species 8472's bioships was superior to anything known by the Borg. Species 8472 were also believed by the Borg to be the apex of biological evolution, and this made them an extremely attractive target for assimilation. Unfortunately for the Borg, Species 8472 not only repulsed their incursion, but sent hundreds of bioships into the Delta Quadrant in a retaliatory attack. In the space of just five months the once indomitable Borg lost eight planets, 312 ships, and over four million drones to Species 8472.



Stabilizing fin

Docking arm

Biogenic weapon emitter

Stabilizing fin

Energy exhaust port

FLUIDIC HOME

Species 8472 originated from fluidic space, a parallel dimension that contained no stars or normal space matter. They were the only known life form to exist in this realm, and they did not appear to be aware of other species until the Borg invaded their space in 2373.

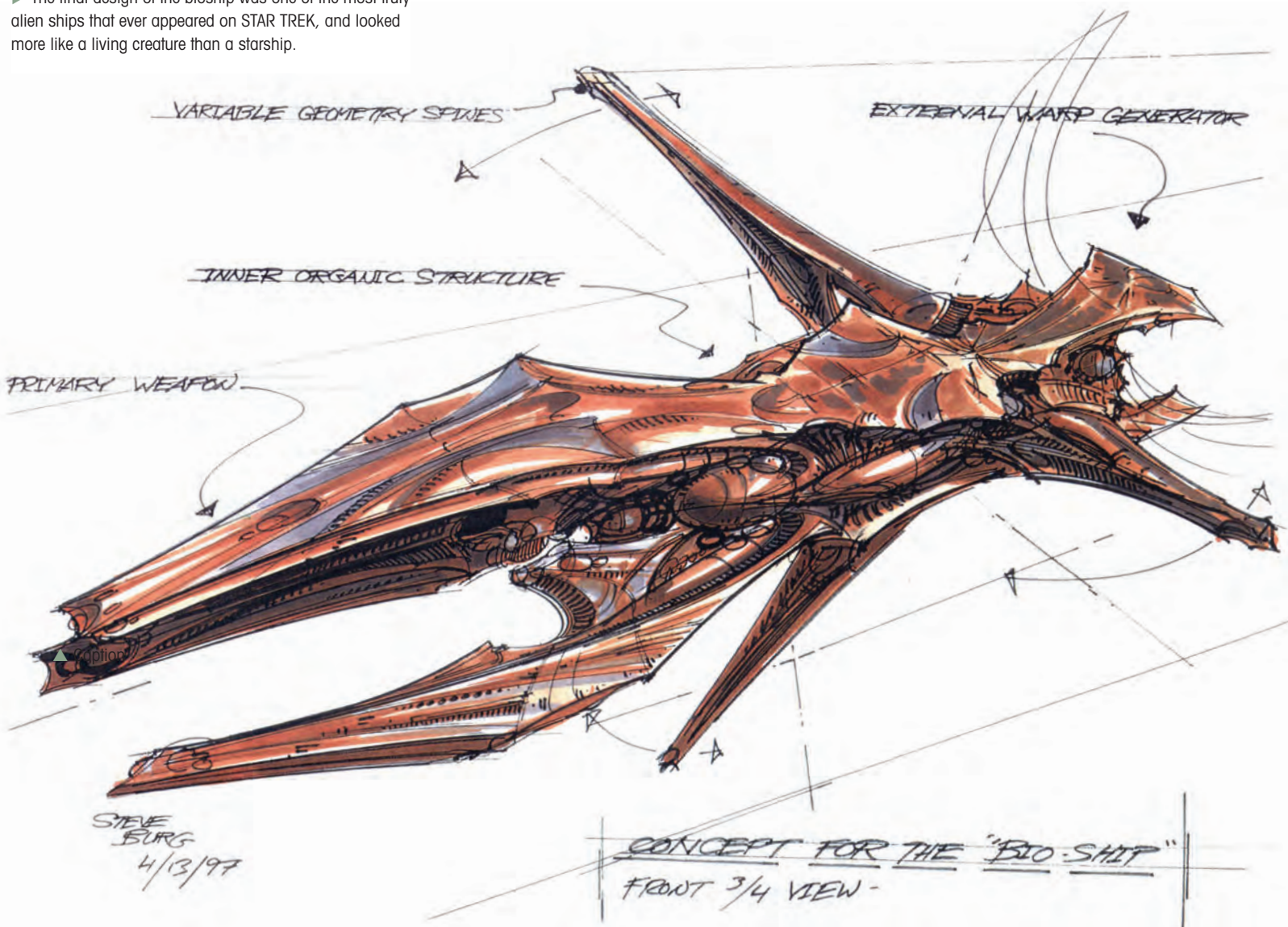
UNUSUAL POWER

Electrodynamic fluid was carried within the organic conduits of the bioships. This fluid was believed to be an energy source for the vessels.

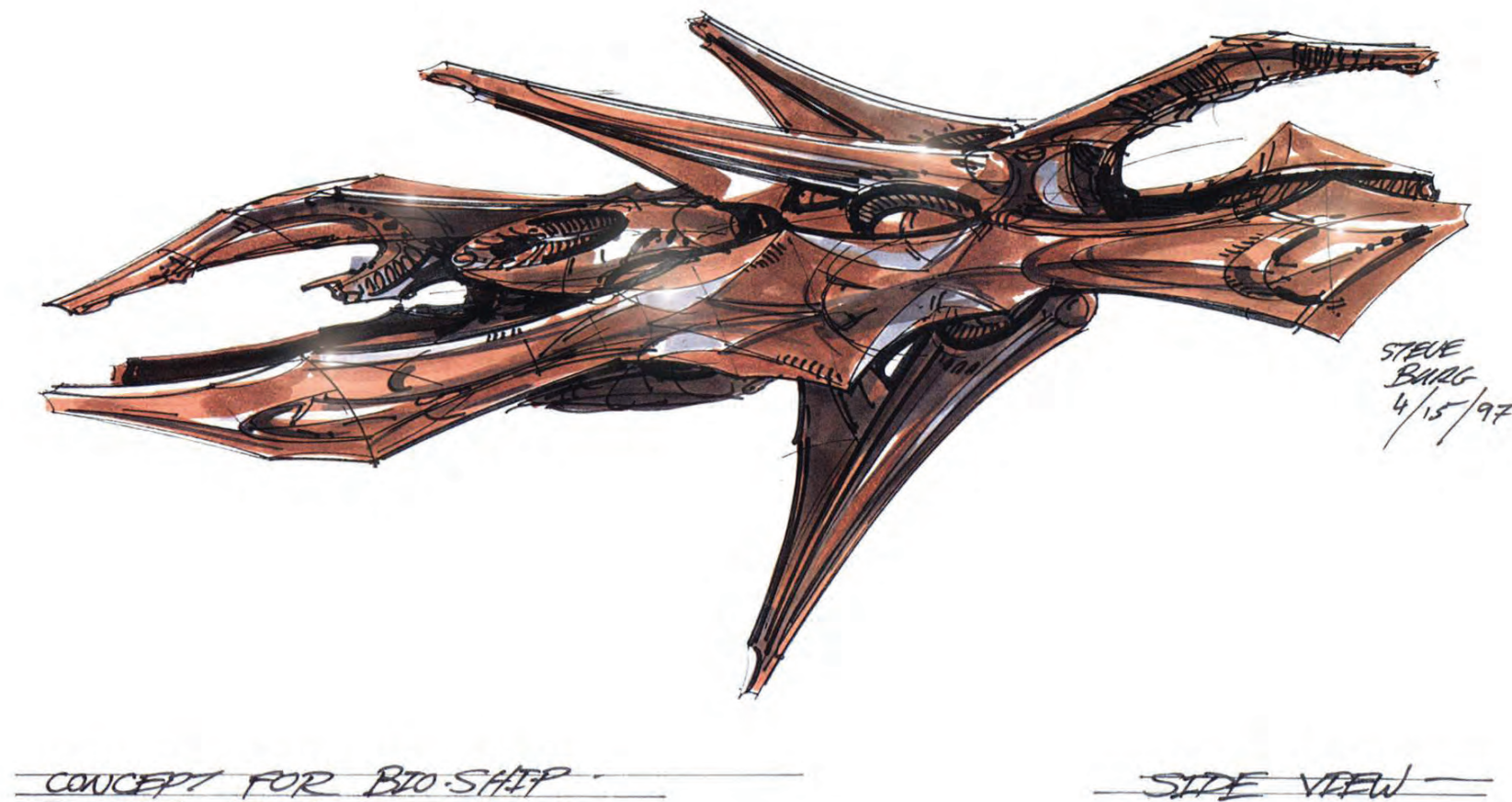
WEAK WILL PERISH

Species 8472 were highly xenophobic. They considered all humanoid lifeforms to be inherently weak and that they posed a threat to their genetic purity. They believed that the only way to purge a species of its weakness was to exterminate them, even if it meant destroying entire planets with their bioships.

► The final design of the bioship was one of the most truly alien ships that ever appeared on STAR TREK, and looked more like a living creature than a starship.



► Steve Burg produced drawings that showed the ship from a variety of angles with the 'spines' in different positions.



DESIGNING THE SPECIES 8472 BIOSHIP

From the beginning Species 8472 was going to be a radical departure for *STAR TREK*. They wouldn't involve makeup or practical models, but would be completely computer-generated. They were the next generation of aliens, and, as a result, the brief given to the designers was to take full advantage of the technology to make them look genuinely strange and different.

Everything we knew before was off the table and in its place were the least human creatures we'd ever seen. The same applied to their ships, which were freed of the need for familiar technology like warp nacelles.

SOMETHING DIFFERENT

The creatures and their ships were both designed by Steve Burg, a concept artist who had a long history with one of

STAR TREK's VFX houses, Foundation Imaging, but had never worked on the franchise before. As he recalls, the first priority was coming up with a design for the creatures themselves, but the ideas behind the creatures, and the eventual design that the team settled on would have an enormous influence on what their ships looked like. "I remember reading the script," Burg says, "and finding that it was pretty vague about

anything to do with the creature, except that it was large, powerful and pretty scary. But one thing it did make clear was that it existed in what was described as fluidic space - a dimension literally filled with fluid material and very little else, not even stars or planets."

This idea instantly led him to think about Species 8472's ships as being some kind of aquatic creatures, which he knew, could look very alien. "I've

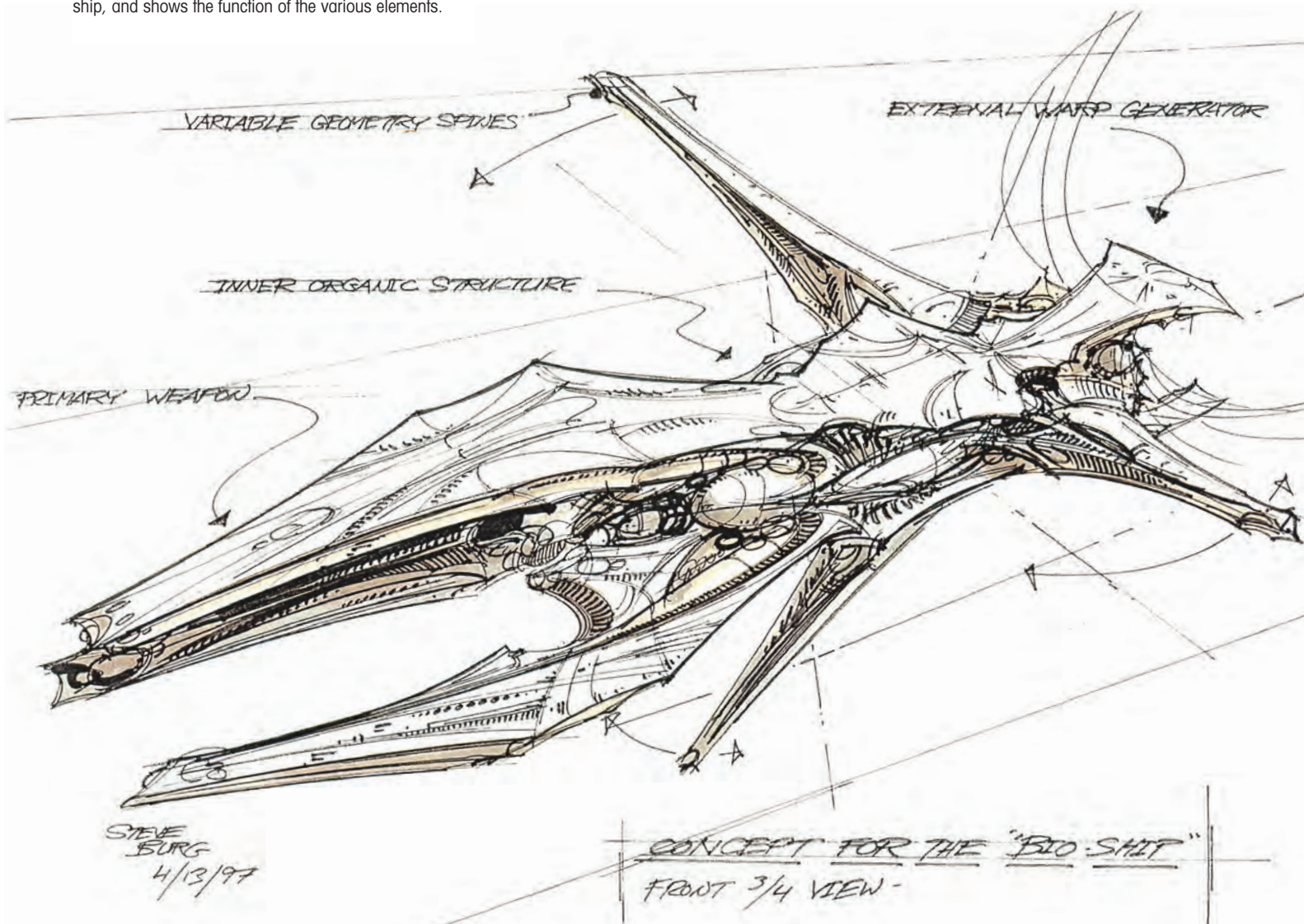


▼ The design of the bioships drew a lot of inspiration from the design of Species 8472 themselves.

always taken inspiration from real sources and in this case I started looking at the ocean and in particular the crustaceans that inhabit the mid water. They exist their entire lives neither on the

surface nor anywhere close to the bottom. If there was a dimension where planets as we understand them didn't form but yet had some kind of structure then that mid water point

► Burg's first design established the basic shape for the ship, and shows the function of the various elements.



would be a good comparison."

Burg eventually came up with a design for a tripod, five jointed creature, whose skeletal like body was connected by soft tissue. Once the producers had signed off on it, he was able to turn his attention to designing the creatures' ships.

ORGANIC SHIP

"Again, as far as the script went there wasn't a whole lot to go on," recalls Burg. "At the time it wasn't even called the bioship. What we did know from various scenes in the script was that the craft could attach itself to the Borg cube, kind of like the way a bacteria

will attach itself to the outside of a cell, which I thought was pretty cool, and that the creatures' technology was derived from organic life. That meant that their spaceships were supposed to look like they'd actually been 'grown' rather than manufactured. I thought it was interesting that it was not obvious that it was a spaceship. It looks like more of an organism, like a giant face hugger or something has attacked the cube."

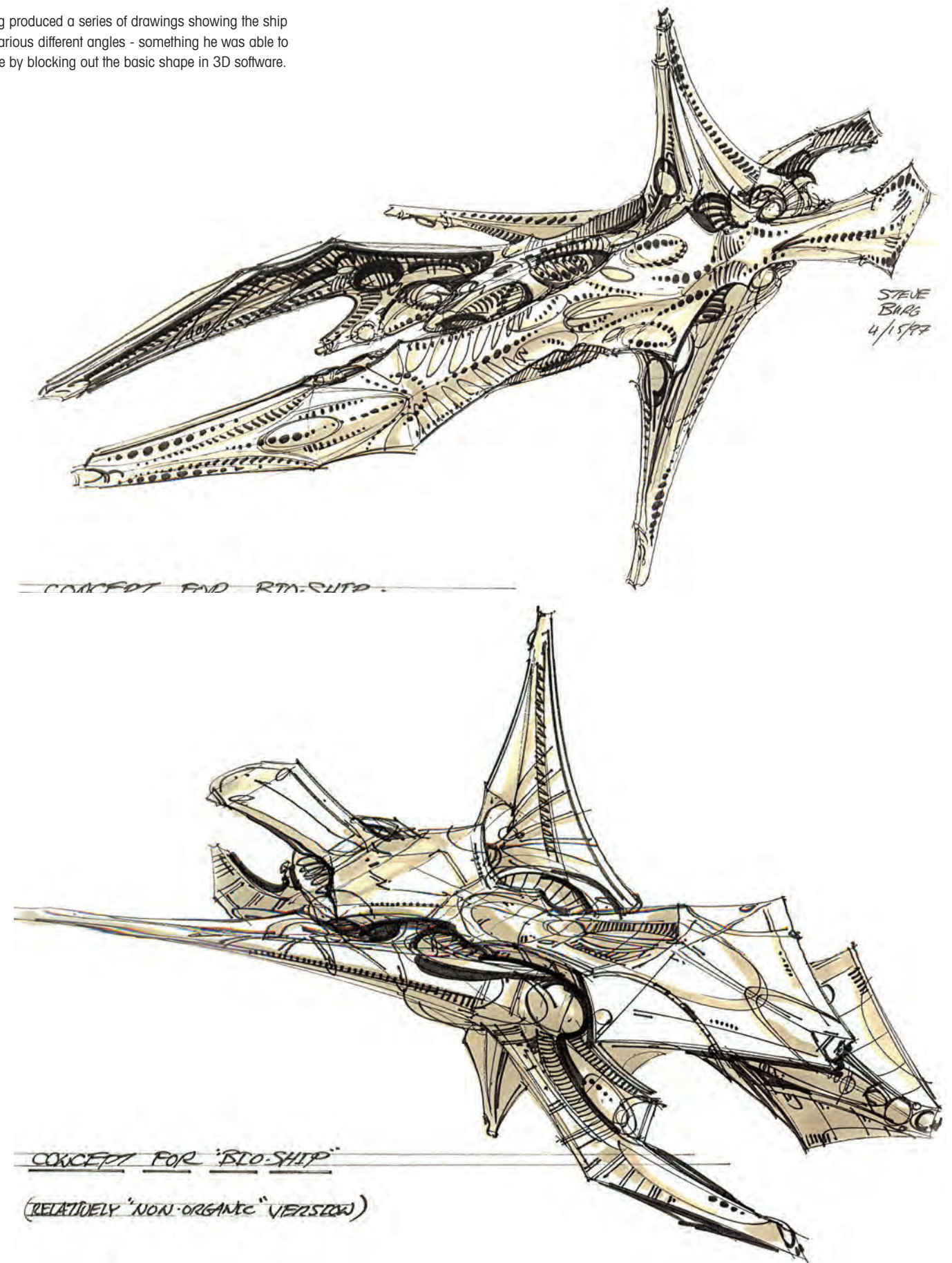
The producers also told Burg that later on in the story there would be scenes showing swarms of the ships in action so they needed to look good in a group. He also felt strongly that a

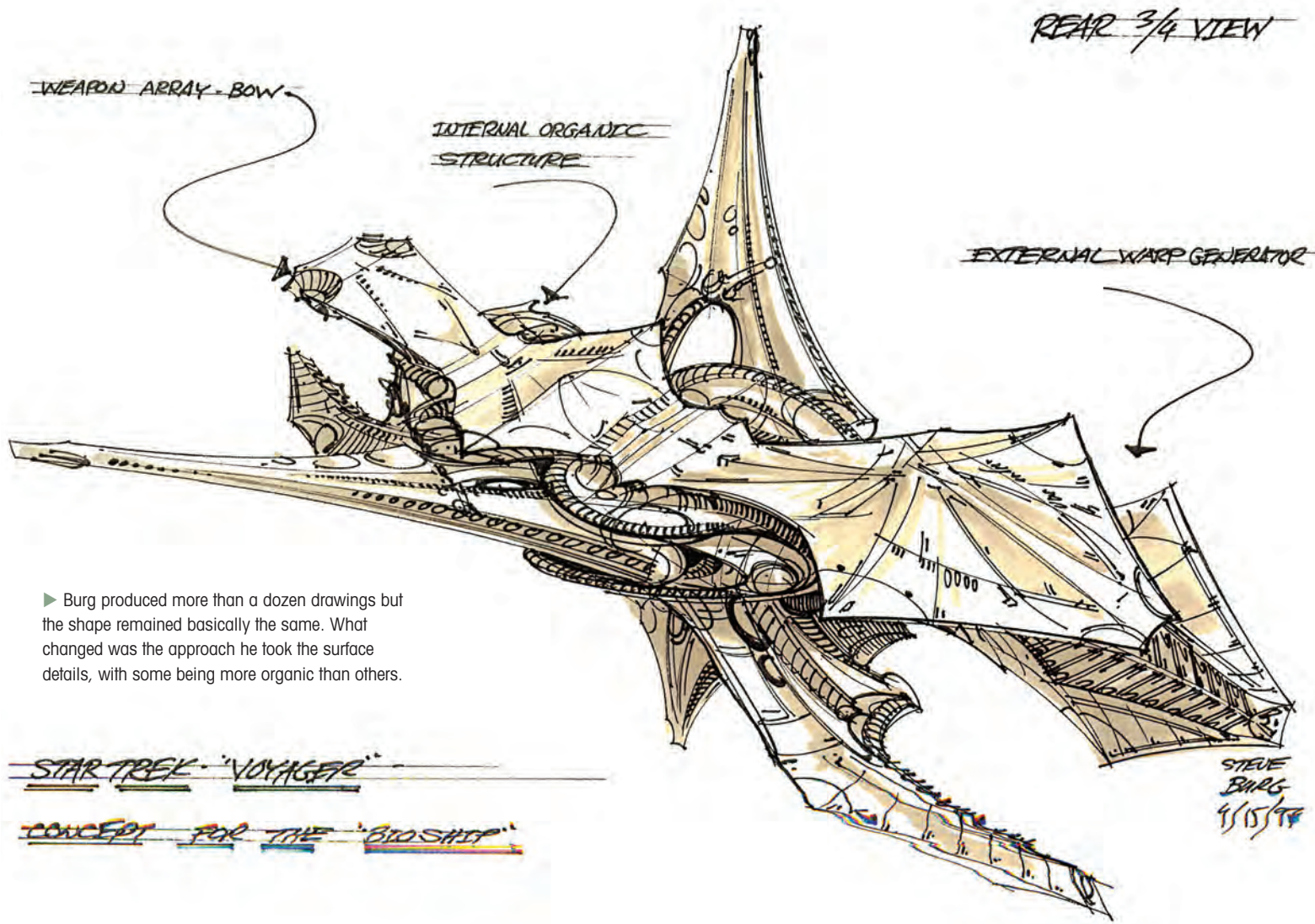
good design for any ship involved coming up with a simple silhouette that could be identified at a glance, and he knew that the ships should instantly look as if they belonged to the newly designed creatures.

ALIEN SYMMETRY

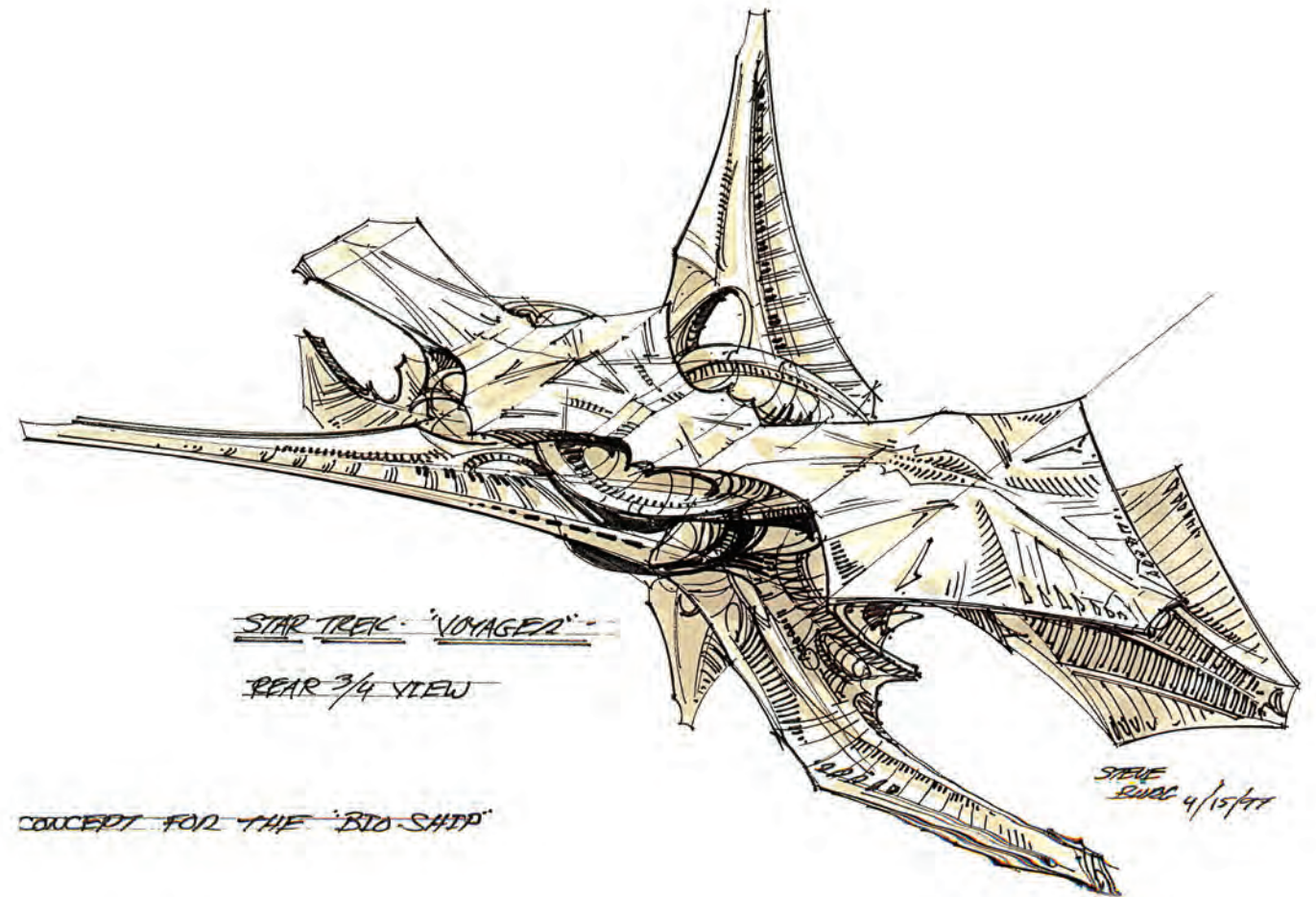
"I hit on the basic approach of a three-way symmetrical kind of thing. I thought the symmetry would be a good way to start, particularly as I was working on pretty random shapes, like a bone or a piece of driftwood and then making it come across like a deliberate machine," explains Burg. "It would have been very easy to go

► Burg produced a series of drawings showing the ship from various different angles - something he was able to achieve by blocking out the basic shape in 3D software.

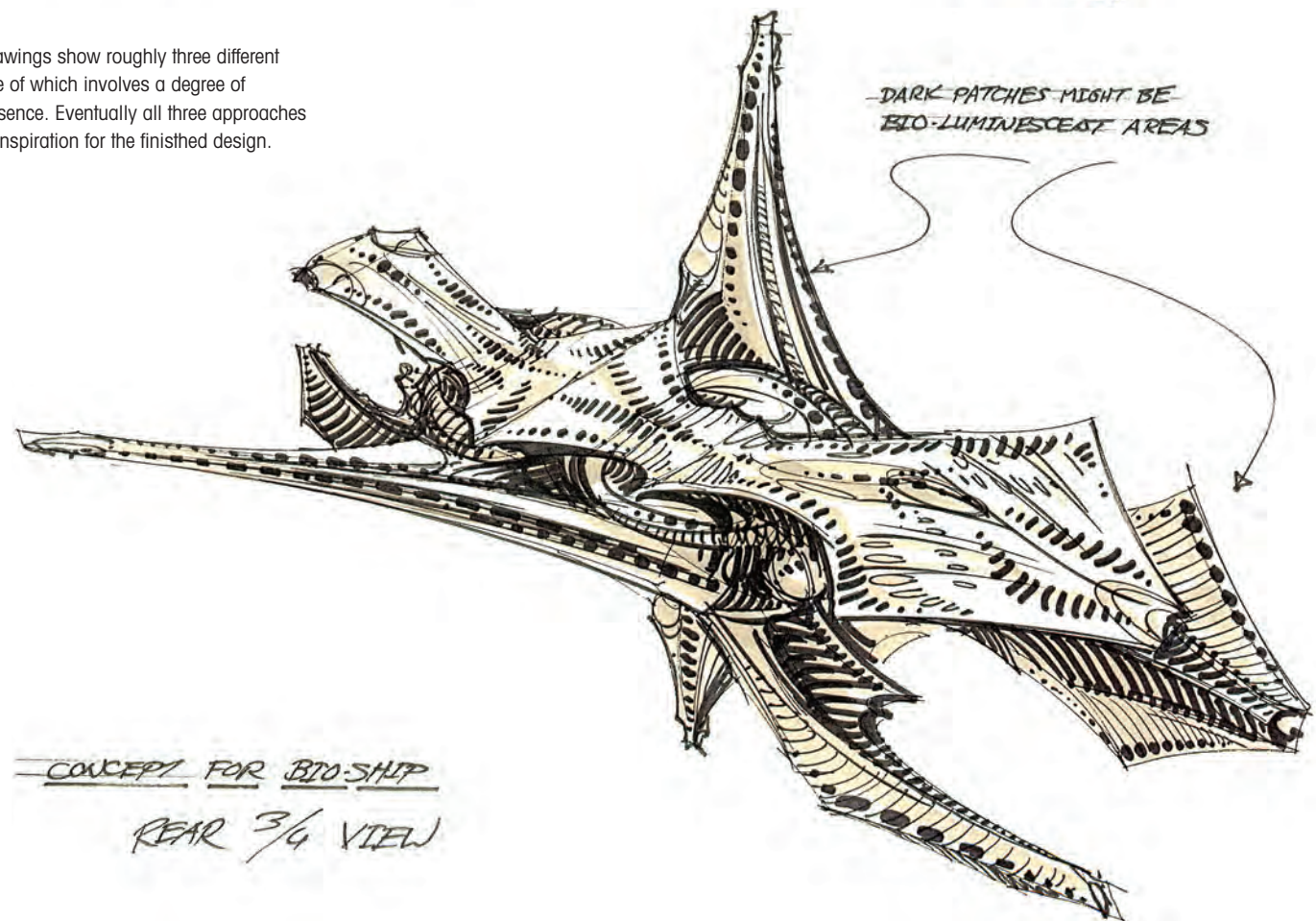




► Burg produced more than a dozen drawings but the shape remained basically the same. What changed was the approach he took the surface details, with some being more organic than others.



► The drawings show roughly three different looks, one of which involves a degree of bio-luminescence. Eventually all three approaches provided inspiration for the finished design.



with the idea of it looking like a blob or an amoeba in keeping with the characteristics of the creature's environment, but I thought that as it was supposed to be a warship it should have more of a character than that."

At least in part because the shape he was working with was both complex and random, Burg blocked out the basic design as a very simple 3D model that he then traced over to produce conventional drawings. At the time, the 3D software was far from sophisticated so he never considered creating a 3D model that he would have shown to anyone else. What this approach allowed him to do was produce very accurate drawings that showed the ship from different angles without having to

make some kind of physical model that he could refer to.

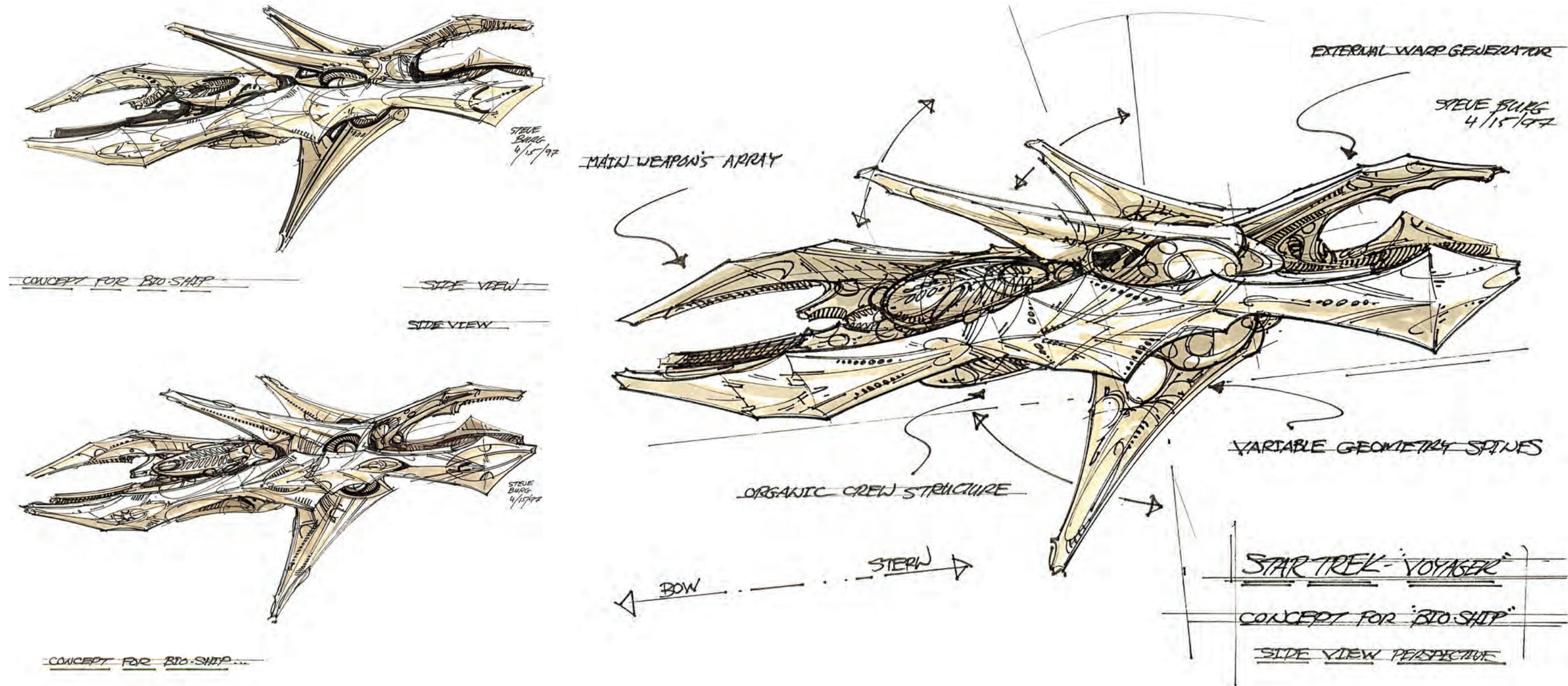
TECHNOLOGY OF THE FUTURE

One of the questions Burg considered as he was designing the ship was exactly where to draw the line between something organic and something mechanical. It was clear that the ship should look like some kind of creature, but he theorized that it might involve an armature made of metallic material that would then have had an organic material grown over it.

"In my view, if we go way into the future the difference between organic and manufactured technology is going to be a gray area," explains Burg. "I think they'll be able to grow a

lot of the things that we think of as coming out of a factory. As it is, the human body already has nano technology. It has a system in place to fight off attacks in the form of bacteria and viruses and we are always under attack. It would be easy to make a case that life is a sort of technology. So using that as a foundation I started exploring the idea of it being a living ship."

The producers were clear that like their new aliens the bioship should be both alien and deadly. Despite its strangeness, Burg was careful to think about how it might work and the function of the different elements. "It's not super huge," he says. "I guess they're one-man ships. They wanted a large amount of it to be one big gun



with the back third of the ship reserved for propulsion," he explains. "So the occupant or pilot would operate from and live in the front half of the ship just under the spines."

LIVING TECHNOLOGY

Ultimately Burg had the three front limbs fold together to focus a beam that came from inside the ship, and the drawings show that a similar group of three limbs at the back housed some kind of alien propulsion system.

Burg's drawings also show that he was putting a lot of thought into different looks for the exterior of the ship, from a relatively conventional smooth finish to a surface texture that was covered with the kind of detailing found on crab shells. He experimented with replacing the pistons you would see on something mechanical with more organic looking structures that closely resembled the white tendons found in King Crab legs, while the central area that the creature used to operate the ship looked like an

exposed muscle or some kind of organ.

MOVING PARTS

From the beginning the producers had also been clear that they wanted to take advantage of the bioship's computer-generated nature to give it as much articulation as possible. Burg added spines to the front of the ship that could fold back like an umbrella when the ship detached itself from the Borg cube and prepared to attack *Voyager*.

Burg produced more than a dozen sketches, but looking at them he says they weren't necessarily intended as alternatives to one another but rather to show different approaches to different details. "Most of the sketches I did were various treatments of the same design," says Burg. "Some had more of a sort of seashell like break up on the surface while others were a bit smoother. There were a couple which looked more clearly like a machine, albeit an organic one. There were also some that looked

more like a squid or something. Then there were different areas or degrees of luminous patterns that were explored."

As a final step, Burg took two of the drawings and colored them up before handing them on to the modelling team at Foundation, who actually built the ship, which made a spectacular and terrifying debut in *Scorpion Part 1*. He's pleased to find himself discussing the design nearly 20 years later - proof that it wasn't just a novelty but has lasting value.

▲The drawings show the different kinds of surface detail from all angles, explaining the function of the different elements and suggesting how parts of the ship might move.

ON SCREEN



FIRST APPEARANCE:	'SCORPION, PART I' (VOY)
TV APPEARANCES:	STAR TREK: VOYAGER
DESIGNED BY:	Steve Burg

KEY APPEARANCES

STAR TREK: VOYAGER

'Scorpion, Part I'

Captain Janeway and her crew prepare for their most challenging encounter yet, as they enter the heart of Borg territory. They head for a narrow passage filled with gravimetric distortions that scans reveal is devoid of Borg activity. However, they soon encounter Species 8472, an even more deadly race, who are bent on destroying all life in the galaxy. In order to save her ship and crew, Janeway takes radical action – over the objections of first officer Chakotay – and forges an alliance with the Borg in the hope of combating this new threat.

STAR TREK: VOYAGER

'Scorpion, Part II'

As part of their uneasy collaboration, Janeway and Tuvok work on board a Borg cube with Seven of Nine in order to develop a torpedo delivery system for a nanoprobe weapon devised by the Doctor that can be used against Species 8472. Later, while in fluidic space, *Voyager* launches its new nanoprobe torpedoes that destroy several Species 8472 bioships, forcing them to retreat. With the victory complete, Seven announces that the *Voyager* crew will be assimilated, but Janeway has anticipated this betrayal and has plans of her own for Seven.

TRIVIA

Seven of Nine made her first appearance in the *STAR TREK: VOYAGER* episode, 'Scorpion, Part II.' The writers had initially conceived the character of Seven in time for the first part of this two part story, but casting considerations meant her introduction was pushed back. Once Jeri Ryan was cast in the role, she remembered that the hardest thing about her first day's filming as a Borg was that "every time I smiled or laughed, the laser over my eye popped off."



The heap of dismembered Borg seen aboard the disabled cube in 'Scorpion, Part I' was comprised of a pile of Borg action figures made by Playmate Toys. Visual effects producer Dan Curry explained, "Kudos to the person who sculpted those toys, because the detail was so good that I was able to stack them up with hot glue and shoot them at home against a little blue screen cover."



In 'Scorpion, Part II' Seven of Nine says that she has been in the Borg Collective for 18 years. This would mean that she was about 24 years old, as it is later revealed in the episode 'Raven' that she was taken by the Borg at the age of six.

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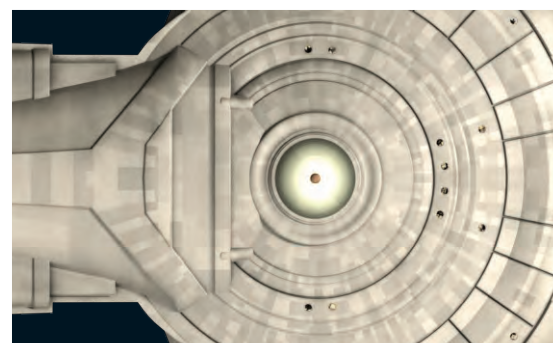


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- The inside story of how John Eaves designed the *Intrepid*
- A look at the creation of the CG *Intrepid*



STAR TREK™

