

**I** am probably my greatest critic and my greatest motivator," states visual effects master John Dykstra when *SFX* catches up with him. "What gets me up to go to work each day is the enjoyment of creating things from scratch."

And without Dykstra's involvement SF films would be very different. The inventor of a motion control system (dubbed the Dykstraflex), which seamlessly synchronised with complex onscreen effects, Dykstra's work was so groundbreaking that he was given an Oscar for his efforts. As if that wasn't enough, he went on to perfect the use of CGI characters and, well, pretty much outdo his own lofty achievements on an endless number of genre classics. A certified genius? You bet he is. So it really was about time we honoured him in these pages...

### SILENT RUNNING

Before *Star Wars*, this ecologically themed classic was perhaps the best example of special-effects driven SF action. More philosophical, and apocalyptic, than the adventures of Luke Skywalker and friends, *Silent Running* was directed by Dykstra's old mentor Douglas Trumbull.

"I lived in the parking lot of Doug's shop for a while because I had just

where he was based. We were clocking in all kinds of crazy hours back then. I remember starting to work on the photographic effects for *Silent Running* at the same time as we built the models. It resulted in long, hard days in the workshop but the end result was worth it.

"Doug was the final authority when it came to what got on the screen, but he did give me the opportunity to photograph miniatures and also the primary ship in the movie. I would say that getting the visual effects together was a trial by fire but, looking back, *Silent Running* was also an excellent warm-up for *Star Wars*..."



The Valley Forge from *Silent Running*, complete with forest domes.



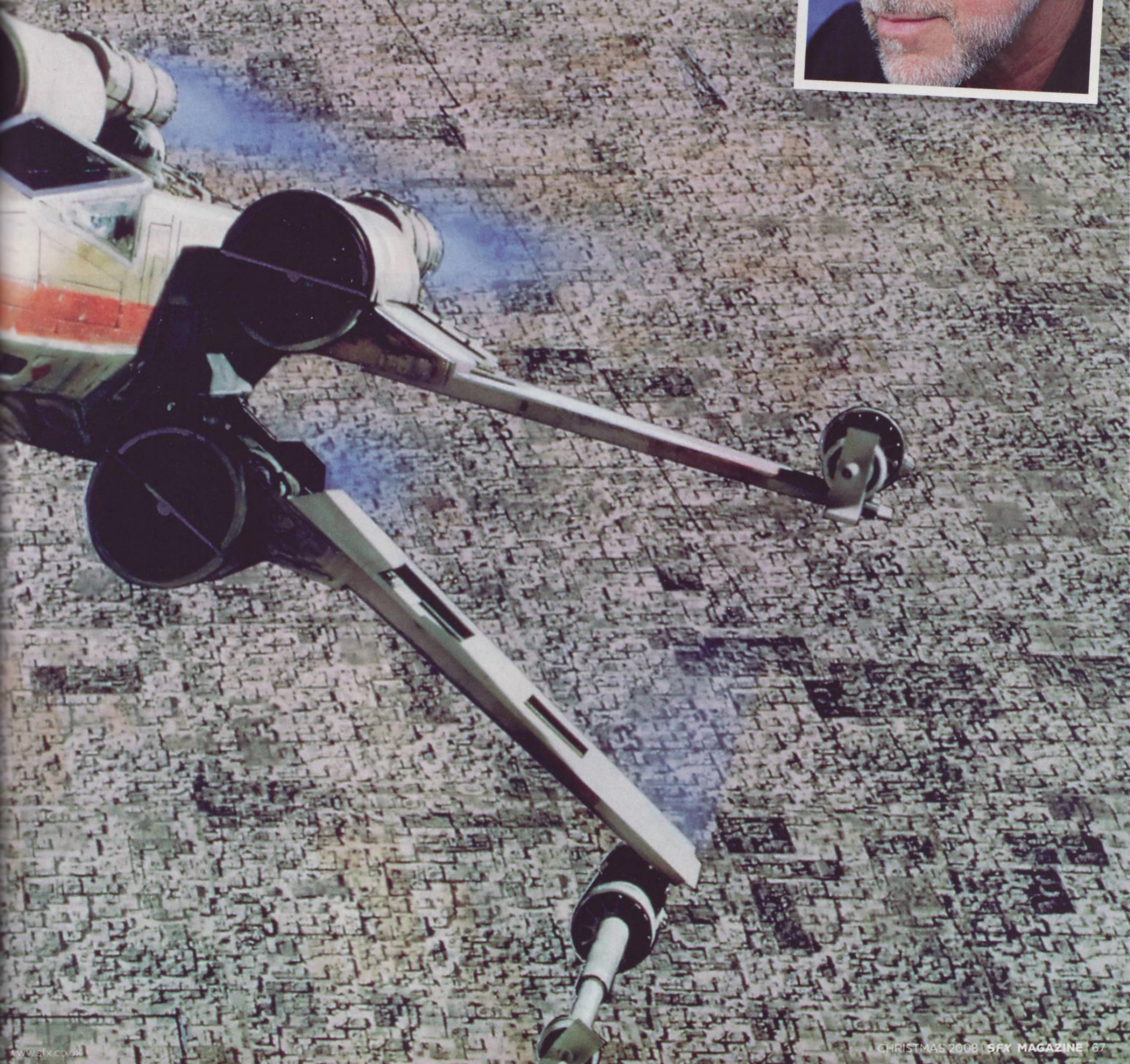
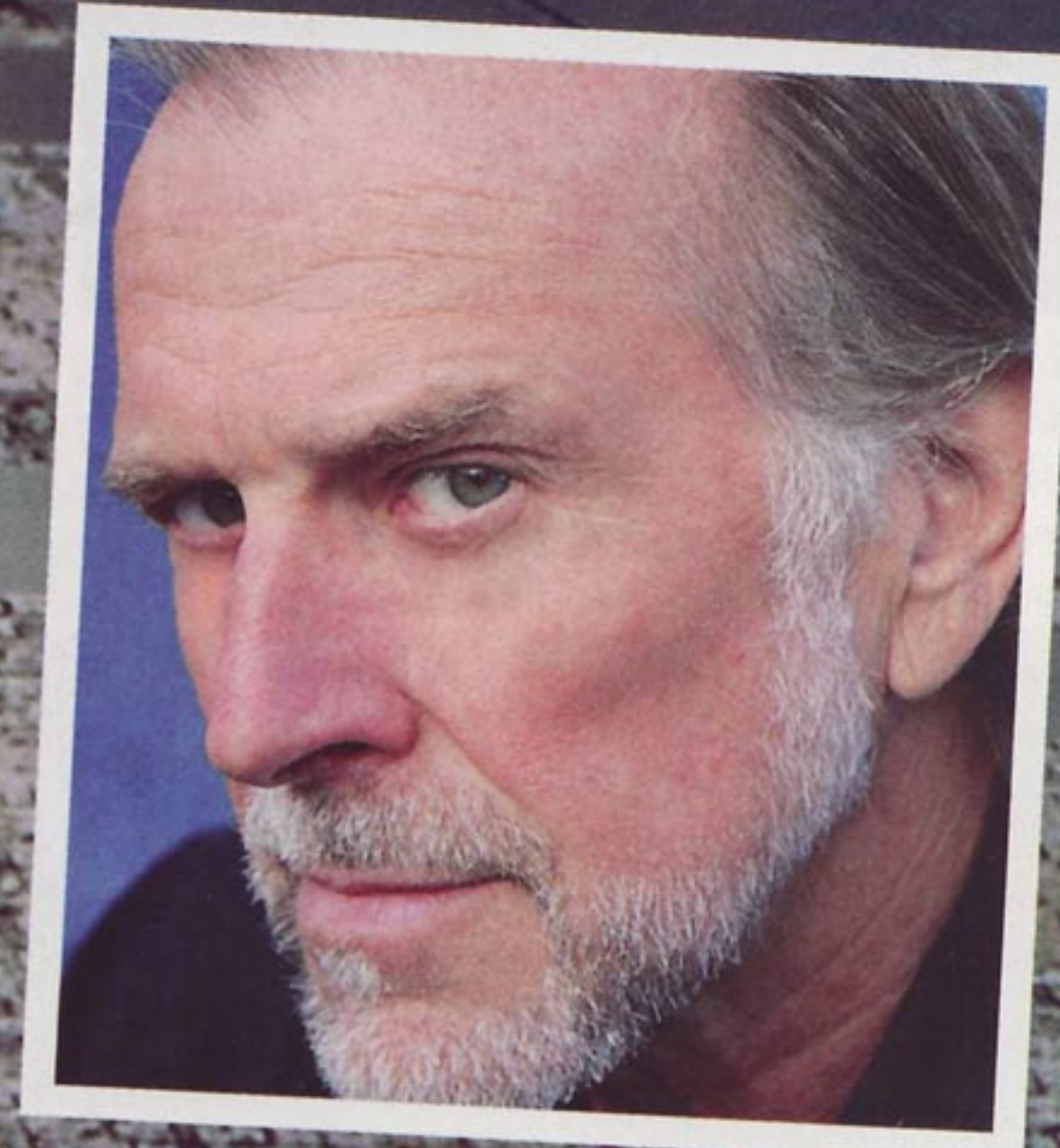
### STAR WARS

The movie for which Dykstra's talents really came to the forefront. Lucas didn't appreciate how much money the Dykstraflex took to develop - although he wasn't complaining when his final trench battle came out looking as slick as did. Tellingly, he chose not to use Dykstra on the subsequent *Star Wars* films.

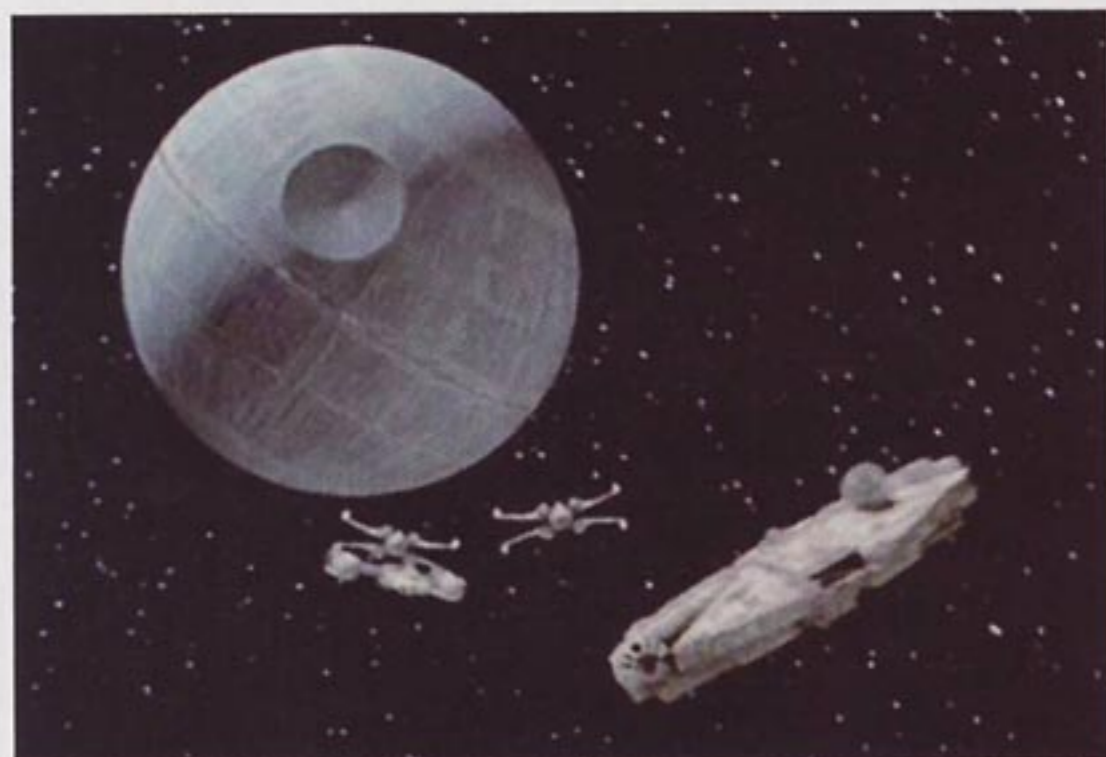
"We were working 18-hour days and a lot of us were living in the facilities. As fortune would have it we made six or seven assumptions about things that we could do on *Star Wars* and we were successful with most of them. We had the facility to control the movements of the camera - that was how the Dykstraflex came about. It meant that we could initialise the camera from a zero point and then we could repeat the exact placement of it for shot after shot, which saved us a lot

# The Dykstra Effect

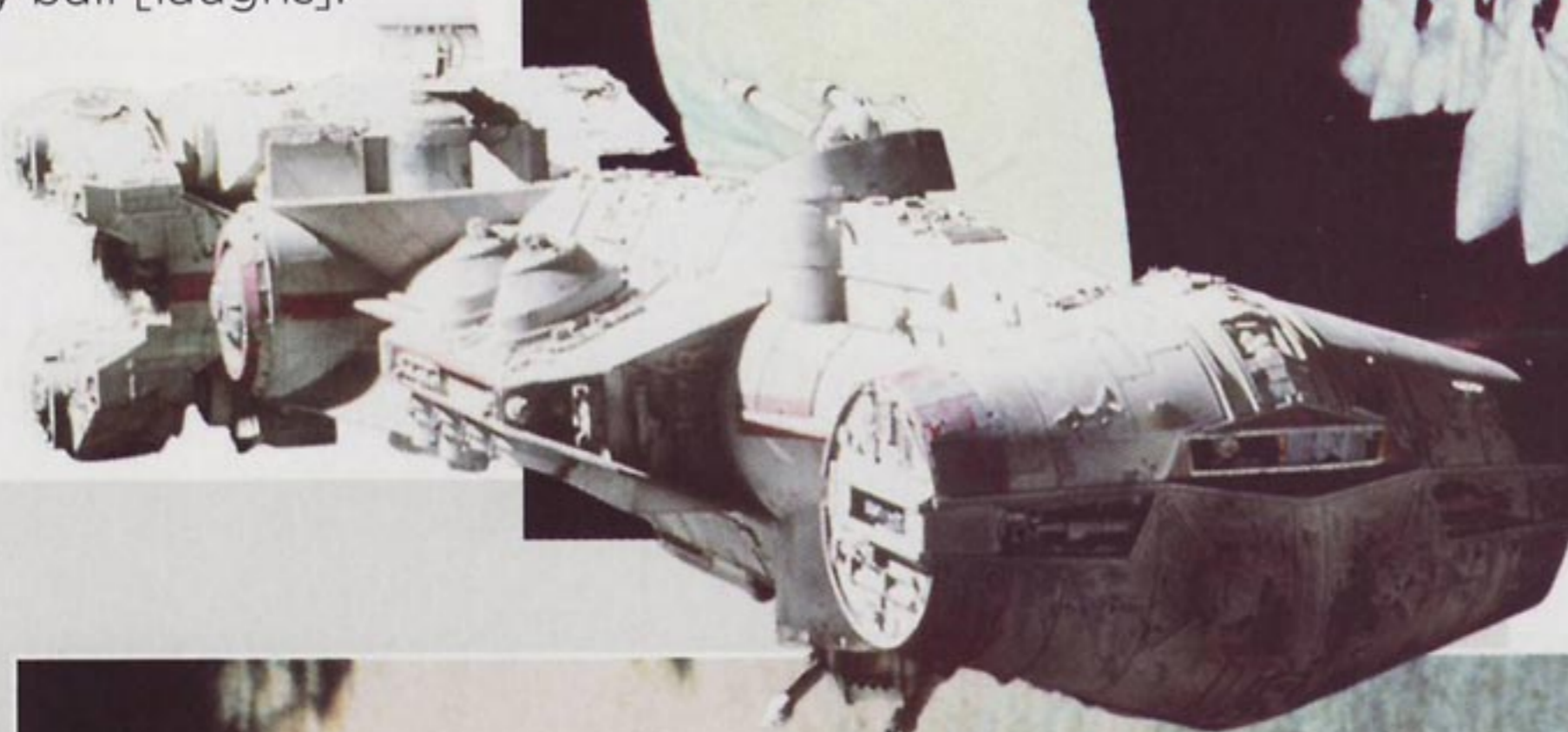
One of fantasy cinema's premier effects maestros, John Dykstra takes Calum Waddell through his credits, from *Silent Running* and *Star Wars* to superheroes and space vampires



Dykstra gets to grips with the Millennium Falcon before unleashing it on the Death Star.

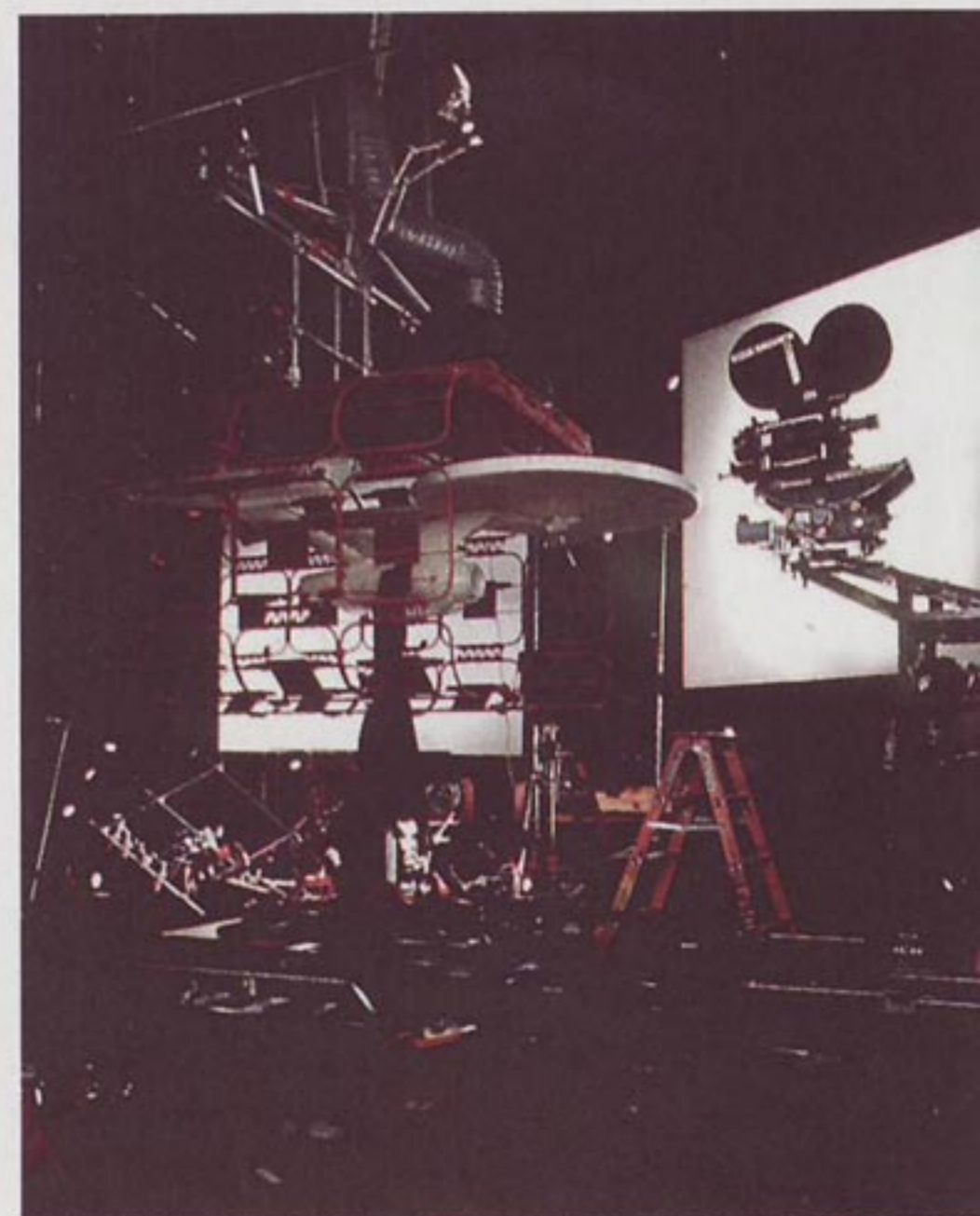
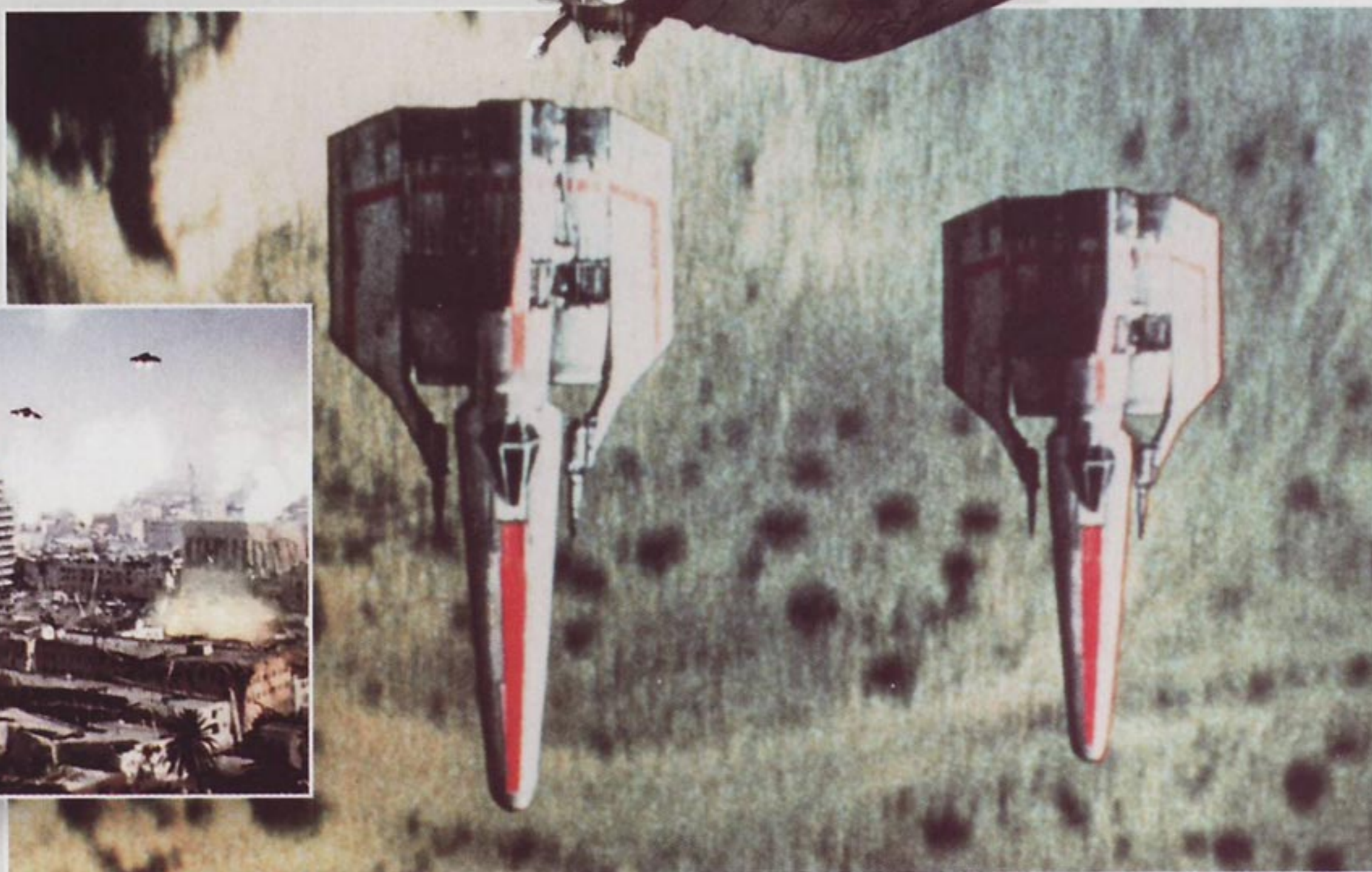


think you'll find he felt there were shortcomings in our system. For example, he believed that it was too expensive to create. He was correct, but when you consider what a long-shot *Star Wars* was, we were incredibly successful. The things we all came up with for that film had never been done... What's that? Why didn't I work on the sequels? Because I didn't play ball [laughs]. All of that new technology cost George a lot more than he probably ever intended to spend on it."



Right: The Viper was so iconic it's virtually the same in new *Galactica*.

Below: The effects in *Galactica* broke new ground for television.



The technology (above) that results in shots like the one below.

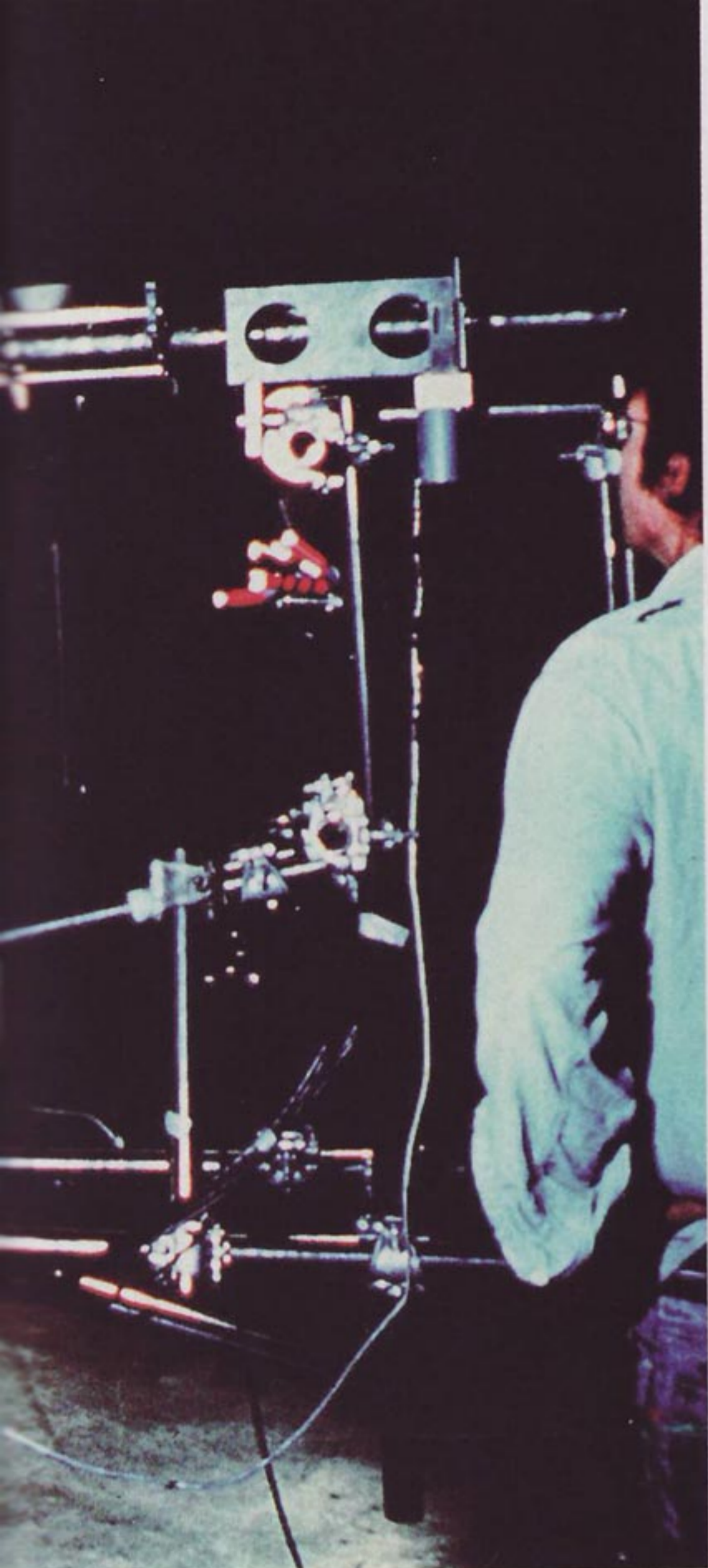
## BATTLESTAR GALACTICA

Originally considered a poor, small-screen version of *Star Wars*, any initial criticism was quickly thrown to the wind when the television show developed legs and a dedicated fan base second only to *Star Trek*.

"It was an almost impossible challenge. When you sit in front of a motion picture screen it fills about 30 or 35 degrees of your field of vision, but when you put a TV set in front of yourself it's a tiny little thing and it fills maybe five or ten percent of your point of view – especially in that era

so even the stars in *Battlestar Galactica* had to be the size of golf balls or else they would totally disappear. Even the size of the ships, as they passed the camera, had to be exaggerated. So we faced all of these problems – reductions in resolution, reductions in contrast, creating proper black levels, creating the speed of movement and making everything the right size. We had to do all of this and, at the same time, we were expected to produce – on a much lower level – the sort of effects that we pulled off on *Star Wars*. That





## LIFEFORCE

After the success of *Poltergeist*, director Tobe Hooper was given a bigger budget than Spielberg had for *Raiders of the Lost Ark* and paired up with *Alien* scribe Dan O'Bannon to bring cult novel *Space Vampires* to the big screen. The Cannon Group hoped it would be a summer blockbuster but the end result – which was filled with gore and nudity – failed to register with a mainstream audience.

"It wasn't a particularly pleasant experience but I liked Tobe Hooper a great deal. The big problem was that it was very, very difficult to get coherent support from Cannon Films. Finding people who could do groundbreaking special effects in England at the time was very, very hard but that was where they wanted us to shoot *Lifeforce*. I remember going to a

British model-making organisation, telling them I wanted a model made a certain way and coming back to find out that they had just done their own thing. So I didn't have a great time in terms of my ability to collaborate with other people but I also think part of it was because I was a Yank and obviously they knew better [laughs]. Tobe was also used to showing up on the day and saying 'this is what we're going to do' but on a technical film you pay a price for that. It wasn't that Tobe's ideas were outlandish or hard to pull off – it was just that often times we would make things up on sight, which is his experience from doing his low budget stuff. But, all that said, it is a horror film. It's a zombie movie, you know? That's what Tobe's great at doing, but I think that movie just slipped away from him."



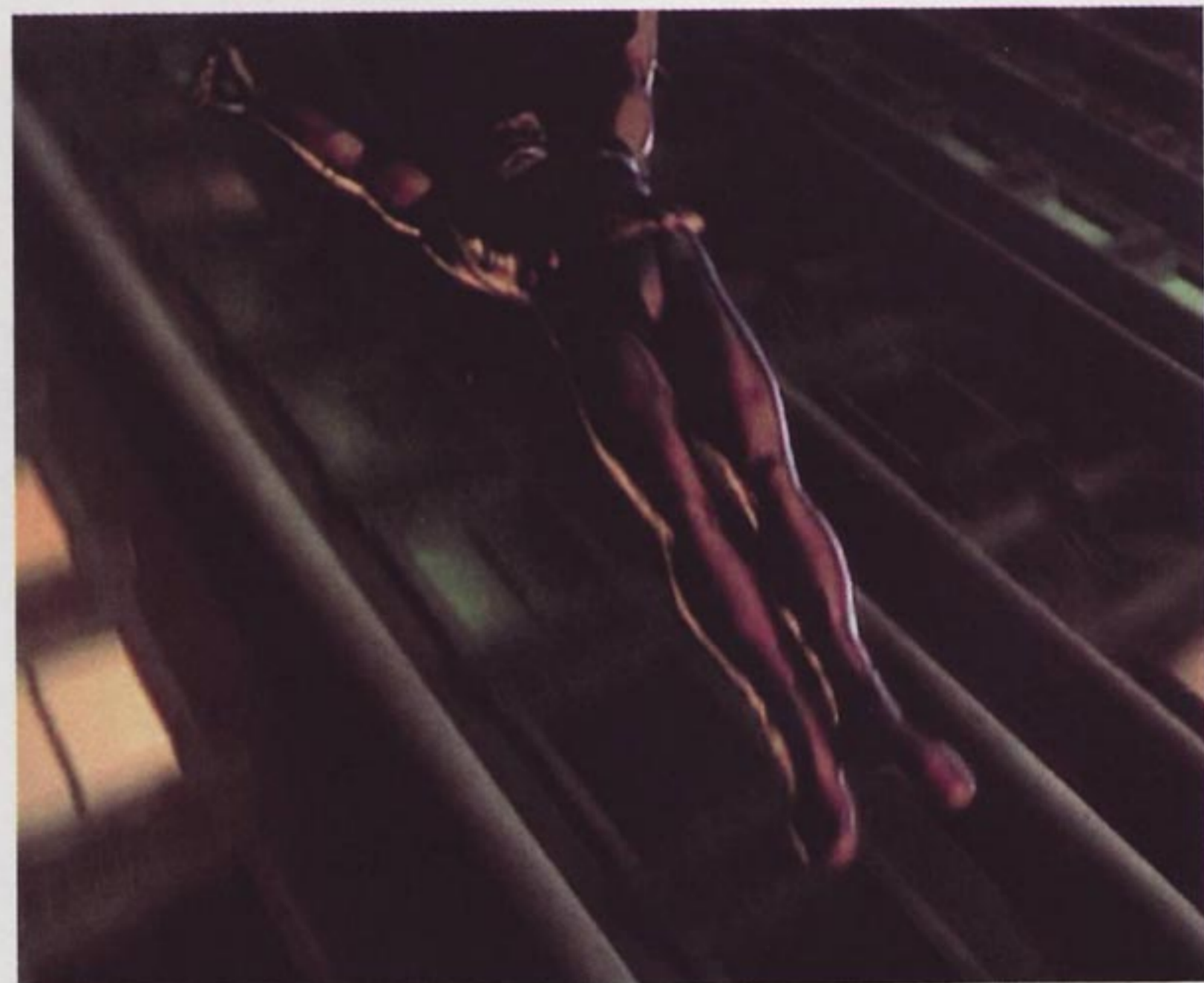
**"Star Trek was an opportunity for us to blow an audience away"**

## STAR TREK

After the success of *Star Wars* it was inevitable that one of the genre's most famous franchises would be revamped for the big screen. What few could have predicted, however, is that director Robert Wise's effort would be so bloody ponderous. Great special effects though...

"We began working with lasers at that time and we built all kinds of great new stuff. Again, the process was one of invention. *Star Trek* was an opportunity for us, as inventors, to come up with new, realistic effects that would blow an audience away. Back then it was more difficult to do that because there was no CGI. You

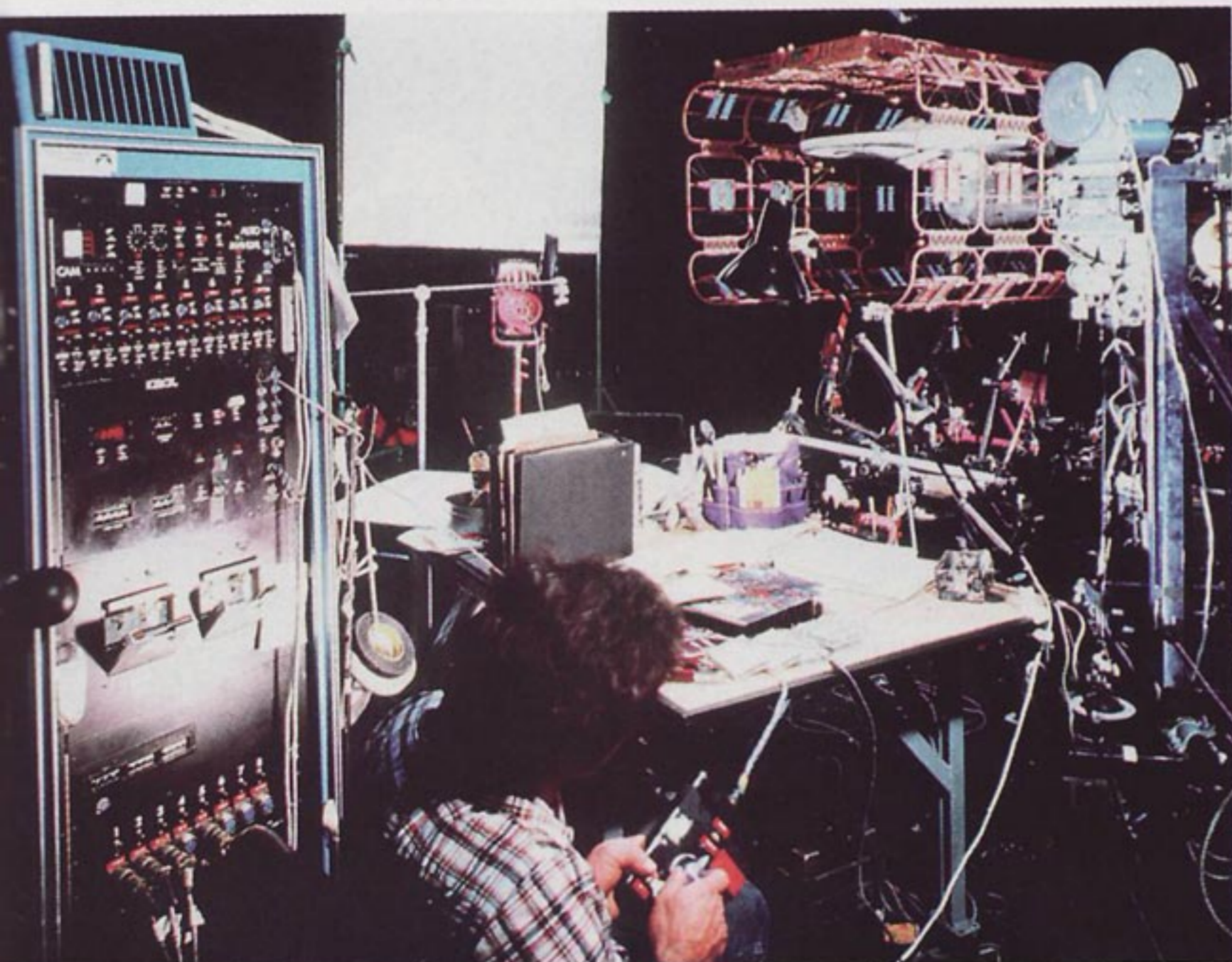
just put something in front of the camera, recorded it on film and then composited these elements in a digital printer. On *Star Trek* I was fortunate enough to be able to bring in an industrial designer called Syd Mead – who went on to work on stuff like *Aliens* and *2010*. I was a big fan of Syd's and he was the guy who worked on the designs for the exterior of V'ger. We wanted V'ger to be of a scale, and of a design, that didn't look as if it had been dreamed up in 1979. Syd was such a futurist and he came up with pseudo science to support his concepts and I'm still very proud of how it came out. Creating that was the best part of a terrific experience."



We bet his Airfix models must have been perfect when he was a kid.

Below: The Enterprise in 1979's *Star Trek: The Motion Picture*.

Above: Val Kilmer looking slim and toned? Surely must be CGI...



## BATMAN FOREVER

Tim Burton bailed out on this 1995 sequel which dumped the gothic atmospherics of *Batman Returns* in favour of frantic overacting (yes, Jim Carrey and Tommy Lee Jones, we're looking at the pair of you), dodgy one liners and Bat-nips. It did, however, quietly introduce a digitally created superhero...

"That was the first time I had to animate something with CGI. It's when Batman leaps out of the hotel and then jumps into a manhole in the street. That was a very interesting experience and a seminal point for me. I had started to direct commercials before doing *Batman*. I did that because I was so frustrated >>



The John Dykstra-designed Batplane.



Not even great effects could carry Hancock's dubious story arc.

## HANCOCK

Will Smith's attempt at entering the 2008 superhero sweepstakes resulted in grand box office but a lukewarm critical reception. Not quite *Iron Man*, in other words, but a damn sight more successful than *The Incredible Hulk*...

"I had an enthusiastic team with me on *Hancock* and I think that's part of why the film looks so good. Again, I think that the key, and the toughest part of making *Hancock*, was to stretch the limitations of what is believable and what is real. We wanted a special effect where this guy picks up a vehicle in downtown LA and carries it at what would be deemed a believable speed. The challenge there was making sure he did it fast enough to be exciting but slow enough to be acceptable to the audience – and getting that fine line with digital animation is always hard. I've done lots of things in movies – including *Hancock* – that I didn't agree with, but it's not my job to argue. It is my job to take what the director is asking for and do the best I can to make the effects believable." **SFX**

with optical compositing. I was doing digital compositing on video long before it was commonplace on film. That meant that when I went to work on *Batman Forever* I was well positioned to see how far we could press the digital medium.

"The pressure of doing something like a *Batman* movie is big but this is my trade – to consistently come up with new ways of doing things. Now, of course, you see digital characters in every superhero movie, but we were there first."

The Spider-Man franchise was another of John Dykstra's success stories.

**"When they say 'make it real' they really mean 'make it believable'"**



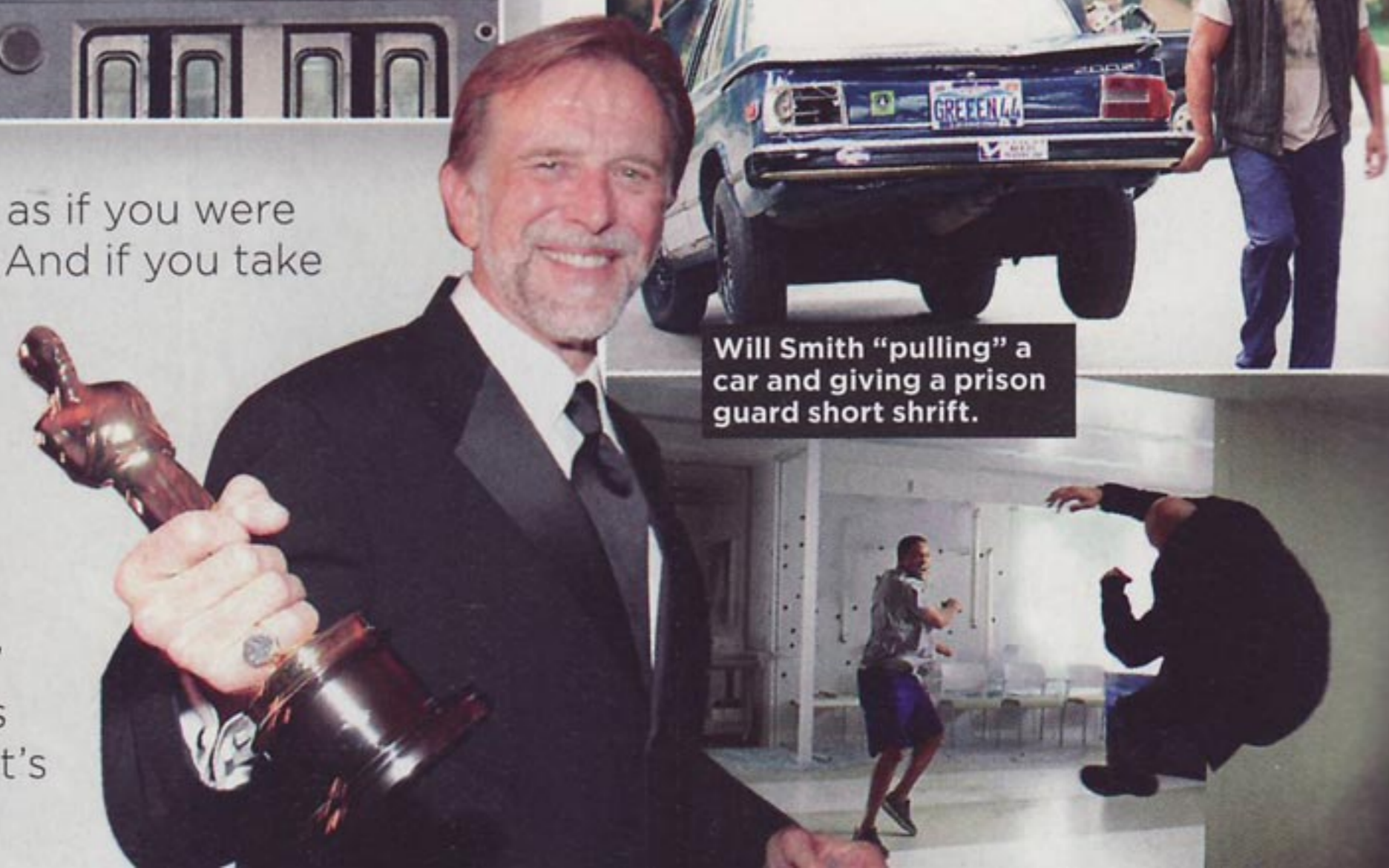
How would Doc Ock's arms move in real life? Not like this, probably.

## SPIDER-MAN/SPIDER-MAN 2

Coming hot on the heels of Bryan Singer's *X-Men* series, Sam Raimi's pair of comic book adaptations further cemented the superhero movie as a summer blockbuster mainstay. And after the likes of *Batman and Robin* and *Spawn* that was no mean feat... As the visual effects designer on *Spider-Man 2*, Dykstra obtained his second Academy Award.

"I think my involvement with the physics of the world, and my enjoyment of all visual stimulation, really helped me out on these movies. For example, if you take a contemporary race car film like *Talladega Nights*... the race car footage might look exciting but unless you've done that yourself you just don't understand what it's like. None of us can be Spider-Man but my intention was to try and make you feel as if you were right there with him when he was flying about the city. So although Spider-Man travelled much faster than Spider-Man would really travel if he

that allowed you to feel as if you were having that experience. And if you take *Spider-Man 2* and Doc Ock – his tentacles were a compromise between what the real thing would do and what you would believe they would do. When people say 'make it real' what they really mean is 'make it believable.' That's what an illusionist does and Sam was such a



Will Smith "pulling" a car and giving a prison guard short shrift.