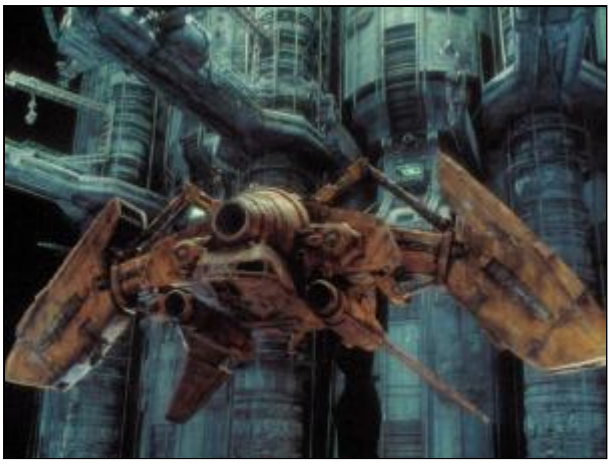
Matthew Gratzner discusses the 'Betty' of *Alien Resurrection*

Originally published at http://www.denofgeek.com/movies/alien/14634/matthew-gratzner-discusses-the-betty-of-alien-resurrection

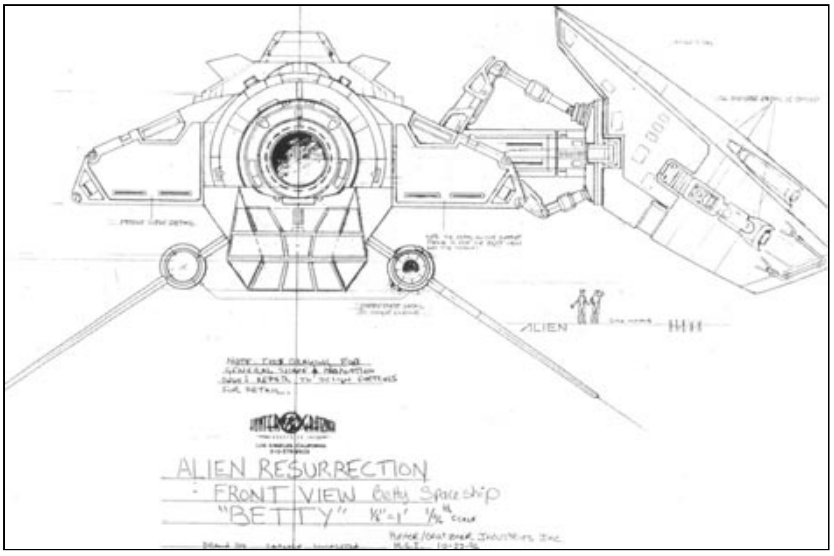


Matthew Gratzner, together with working partner Ian Hunter, are arguably the last major league hold-outs producing quality miniature effects work in Hollywood. Currently working on Martin Scorsese's Shutter Island, Gratzner's credits include The Aviator, Superman Returns, Night At The Museum 2 and many others.

As one of the art directors on Jean-Perre Jeunet's 1997 sequel Alien Resurrection, Gratzner was closely involved with the creation of the 'Betty', a ship I took a big shine to and featured in Top 75 spaceships in movies and TV. Matthew was kind enough to tell me a little more about the ship...

How did the Betty evolve from the script stage of *Alien Resurrection* into the final shape?

We actually didn't physically design the overall look of the ship. We did bulk out quite a bit of the detail. It went through a series of iterations. The guy who I think really did the bulk of the design work was a gentleman named Bill Boes, who was one of the art directors on the show; he's now a production designer and designs quite a bit of film.



At the start they had some very rough concept sketches, and he ended up building...a lot of the ships in the film were initially realised as three-dimensional maquettes, sculpted out of a kind of blue-foam. It was more a kind of sculptural development technique. I don't want to talk out of turn; I have a feeling that he worked very closely with Jean-Pierre Jeunet, getting the look, but it may have been more closely with Nigel Phelps, the production designer.

We came on the show relatively early. The Betty was still being designed at that point. But what [*Boes*] ended up doing was he sculpted the bulk of it out of blue foam. It was a relatively small maquette, only about seven or eight inches long.

So the maquette was just to show Jeunet as a conceptual idea?

Yes, originally it was for concept - that was the starting point. I remember Bill giving the maquette to us; he'd used anime model robot bits The engine pods are very obviously like the fore-arms from a Japanese robot. So that's what he used for the maquette and that's what we sort of replicated. There were a lot of 'found' parts that he'd used, which we didn't replicate to the letter.

But that was what gave it the shape. And then there was a gentleman by the name of Jim Martin, who's a concept artist and art director as well, and he did two blue-line pencil sketches. From there they generated some concept art like a kind of overlay. This was really pre-Photoshop days -

they had Photoshop but nobody was using it in art departments. They were using conte crayon and watercolour. So they went back over a series of layers, I think done in vellum, just doing different colour schemes.

They were going with this kind of tiger-stripe. Which is funny, because that's actually how it's painted. You'd never know it.

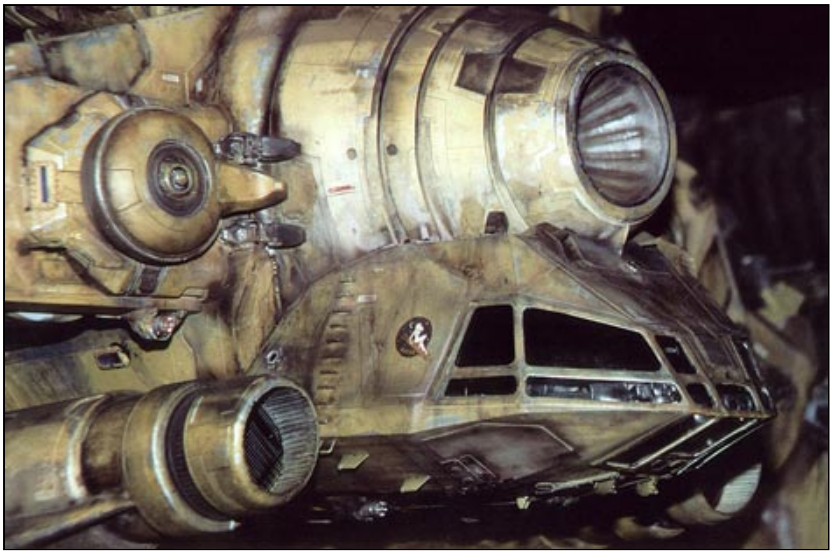
Sounds rather Chris Foss-like, as the Nostromo was before Ridley Scott had it painted grey.

Exactly. It was that mustard-yellow colour with brown, rectilinear...almost zebra stripes. And then it was aged. But what happened was that the director of photography was constantly concerned about a sheen on the model...

Is this [*Alien Resurrection DoP*] Darius Khondji and his silver-replacement technique causing problems?

No, Darius Khondji was first unit. The DP who shot the miniatures was Rick Fichter. I haven't worked with him since that movie. There were some decisions made that were quite frustrating, and beyond our control. [*laughs*]. But he wasn't our pick - this was before we became a full production company. We were just doing miniatures and art direction, and we didn't actually produce the photography.

Rick Fichter shot some of the miniature effects for *Alien 3*, too. But he got extremely focused on a sheen which frankly I don't think existed. So he had our painter going back with black mortar tint. It's something you mix into mortar to tint it for grout. This black mortar tint was so heavily caked on that you lost almost all the colour and all the paintwork. If you look at pictures carefully, you can kind of see that there was this zebra-stripe motif on it.



But at any rate, to build the miniature we ended up getting the little foam maquette, two blue-line drawings and a colour scheme for the paint. That was it. I brought in a gentleman who worked with us for some time named Eric Brown, who is an illustrator and model-maker, and he did all the blue-printing. And then we kind of filled in all the blanks. Any place that needed detail we would do. We'd find all the pieces, kept the production in the loop with the refining of the miniature itself.

Presumably there has to be some liaison with the set-designers and builders...?

Well, that's actually funny - we were ahead of the art department by leaps and bounds in terms of construction [*laughs*]. The movie had such an enormously short pre-production schedule, that they were on top of themselves building sets. The sets were colossal. So anytime we had to build anything that involved a miniature, usually we were ahead of them in terms of construction.

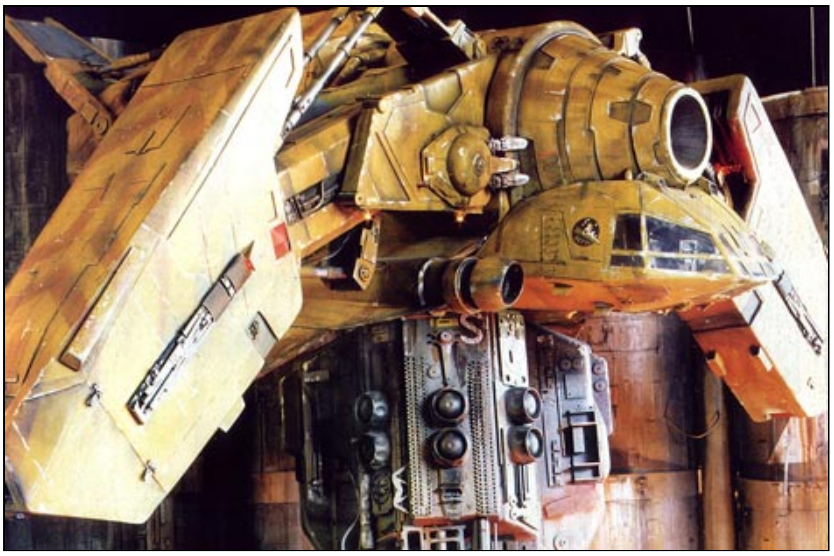
What happened then with the cargo doors of the Betty - the exterior rather than the interior - the part of the Betty that they load stuff into, and any interior side of that part and the docking arm...they were coming down and taking photographs of the miniature, and then matching that to build a full-size set.

This made us laugh, of course. There we were kluging up the exterior of a doorway with, you know, Tiger Tank wheels and 50 calibre machine-gun parts and other bits of miniatures being glued on; and I'd go on the set and there'd be these giant-sized versions! *Machine-milled* MDF model-parts that were just representations of these little tiny thirty-second scale details [*laughs*].

It was a dead match. They did a really great job and it was very true to what was in the miniature. We worked very closely with the art department. I'd go down to the live-action set at least two times a week, sometimes three, taking a lot of photographs and checking out the progress. Because we were both building very much in concert with each other. It wasn't like they shot the movie, they finished, and then we were brought on the show. We were building while they were building this live-action set.

Was there only one version of the ship?

The construction of the Betty was led by model maker Adam Lovell and the Docking bay was lead my crew chief, Scott Schneider. There were two scales of the Betty that were built. Everything was built for the Betty and the docking bay in 1/32nd scale. The docking bay was about eighteen and a half feet across, and maybe about seven feet tall. The Betty itself was probably about five and a half feet by five or so feet long, and that had a series of stepper motors inside, and chain drives that would drive the engines up and down. It also had stepper motors which would rotate the engine pods, and then another one in the tail, that would raise and lower it. In dock, it sort of 'relaxes'.



For the close-ups of the coupling arms coming up and grabbing the sides, which are two giant magnetic things, we built an over sized piece at 1/16th scale. It was only a section of the side of the ship, with the cargo bay and a part of one of the arms. That was built as a high speed miniature - that was on our mover and would move up into frame. Then we had the coupling arm sort of grappling against it; that was all puppeteered. We had a sort of electro-magnet in it so that when it came close to the side of the ship, it would kind of grab it. It was kind of cool - just a very simple cable-puppeteered gag.

Was there any consideration to keep the outline of the Betty uncluttered in order to get a clean matte off it, or even to adjust the finish because of Darius Khondji's deep blacks?

Again it came down to the DP, who was just concerned that any sheen on the surface might look like a model. There was a [*laughs*]...we haven't really looked at the movie in a long time, but there were some pretty insane approaches to the photography. Again, I'm speaking primarily of miniatures. Darius did all the first unit, but the motion-control passes...we did passes that were *twenty-two hours long*. It was in my opinion unnecessary. The DP was very old-school and felt that you had to shoot these insanely long passes to sustain depth-of-field...but, just use faster film stocks and open up wider! It was just a lot of ...it was crazy. To the point that there was an opening shot in the movie that never made it into the movie. We built the models for it.

Is this the opening sequence that Jean-Pierre Jeunet re-created on the *Alien* quadrilogy in his special edition version of the film?

Yes, the pull-back. There was so much stuff built for that. Amalgamated Dynamics built this colossal bug/insect puppet. For the close-up they built this huge thing they called the observation post. It was basically a Huey helicopter cockpit hanging vertically, with a full-scale interior, and we built a colossally oversized exterior of this section of the conning tower from the Auriga. It was ridiculous. We built all this stuff. When the DP calculated how long it would take to shoot it, they pulled the plug. I wasn't real happy about it, to be frank. The whole thing was a waste of money and time. The models were magnificent - really beautiful models, and they just never saw the light of day. They had them on stage and everything, but with [*the DP's*] calculation for shooting it, they went 'This is ridiculous. We're cutting this.' Jean-Pierre Jeunet was not too pleased either.

Do you have any idea where the Betty is now?

Funny you ask; the Betty was down in the Rosarito Baha filming location. Fox has a studio down in Baha, Mexico. It's where they shot *Titanic*. I never saw it there and never saw pictures, but I heard they had it on display there for a number of years. I don't know what became of it after, but I heard that the Auriga was down there as well; I think it was hanging up or something.

But as I say, it's funny you called, because we're actually in the process of building another one. It's about ninety-percent done, because we have the molds, we have all the original patterns, and we have everything in storage. We have a huge archive here. For years both Ian [*Hunter*] and I have been saying 'We really should build another one of these and hang it up'. It's a really cool model and it's a really cool design and everybody loves it. So we ended up going through hundreds and hundreds of archival photos of the ship in progress.

We had to go through a lot of those to figure out how some of it was built. While we had all the original masters from the mould, a lot of the moulds have deteriorated over the years, and we had to remake them. It's been an ongoing project for the last couple of months. Whenever we had downtime or any of the model-makers wanted something to do, we've been working on it. But it won't be mechanised - we're not putting motors in it - no reason to!

But it's pretty accurate. Ninety-nine percent of it is all original mould, but it's been great to do. It's a great-looking model and I think that in some ways it was sort of...I wouldn't say it was under-used in the film, but it's not really seen too much. The movie was interesting because they'd be sort of rewriting the third act of the picture while we were delivering models to stage. But what are you going to do? They have deadlines and they try to make their deadlines. Once a film gets green-lit and it's into production, they may not necessarily have a locked and concluded, solidified script.

How much did the Betty weigh?

That's a good question. It was all made out of epoxy and fibre-glass. The main body was made out of a material called Sintra, which is a foamed PVC; it's like a thick plastic but it's relatively light-weight. But I would say the whole thing with the motors - and it had an aluminum sub-structure that carried all the motors and the mechanics - I'd say it probably weighed about a hundred and twenty pounds. It wasn't that heavy. The Auriga was ridiculous, though. The Auriga weighed, I don't know...three hundred, four hundred pounds.

Wow - I've seen it on the *Alien* quadrilogy documentary. It had to withstand a great deal of heat from lights, as far as I understand?

Well that goes back to the DP; he had this idea that he was going to do this 'negative fill'. Usually you bounce light onto the subject with anything from white cards, grey cards, fillers, whatever. He was bouncing 18ks into black wrap. I don't know what he was trying to do, but he claims it was a 'negative fill'. It was so hot on stage that the model was literally melting! The heat was making the oil leech from the resin. When Ian and I were interviewed for the quadrilogy, we mentioned something about the heat, that was sort of the politically-correct way of saying, yeah, this is ridiculous [*laughs*].

[*The Auriga*] was not designed to resist that kind of heat. It was to a point, but it got so absurd that the model was literally melting because it had so much heat on it. It was un-necessary. There was no reason to have that much light on it.

Which company actually filmed The Betty and the Auriga? The one that Jean-Pierre Jeunet brought over with him?

No, it was the production. The production set up a separate photography unit at Fox, and it was not a sub-contracted company. We pushed for that, actually. For many years we were working with a company called the Chandler Group, whose photography company we ended up buying out and taking over. we pushed for them to be there and to do it. Their director of photography, Tim Angulo, who funnily enough we still hire all of the time, is an excellent photographer and was in fact hired as a second DP because of the enormous time it was taking shooting the models.

Don't get me wrong, it's not that I dislike this man as a human being - I just thought that his techniques were a bit archaic and frankly it didn't really show off the work that we were doing for the amount of time that was put into it. Particularly losing that photographic pull-back at the beginning of the film, which was all based on his photographic time. You work in the film business long enough and there's always 'revisionist history' that tells the story of why something didn't work out. *That's* really why it didn't work out.

It was just frustrating at the time because we put so much time and effort into these miniatures. The observation room for the film was just colossal, thirty-foot in diameter and eight feet tall. I don't know if you're aware of that shot where there's a miniature of those alien pens - that's a hundred percent miniature.

It's a superb miniature, and I thought it was a set when I saw it! Were you involved with the re-done ending where the Betty lands near Paris?

No - they actually did call us and then they ended up doing it all digitally.

I'm glad the Betty has - or had - a real presence. Do you miss real models sometimes?

I do, but we still do them [*laughs*]. I'm doing [*Shutter Island*] right now for Martin Scorsese that I've been on for a year and a half, with tons of miniature effects. Frankly, it just depends on the director. If the director has a certain idea of what he wants and how he wants it, and most importantly he can visualise what the shots are, then the work ends better sometimes as miniatures. I use miniatures in full-on, in-camera shots. I still use all the old techniques and the new techniques. But when you have a director who can't really conceive of what he wants, and everything becomes sort of an 'after-thought', then digital effects are a better tool. With a miniature you absolutely have to know what you're going to build, know what you're going to shoot, and you've got to achieve it in a relatively timely manner.

What happens with shots that are created entirely digitally...look at the new *Transformers* picture; there's so much action in there, a lot of that would be near-impossible to do as a miniature. It's too difficult, and the camera's moving all over, too.

My partner Ian just VFX supervised a huge sequence in the *Night At The Museum* sequel. We recreated the Air & Space Museum in 1/16th scale. There's an 80-foot long model, and we did this huge fly through, all with miniatures. That's at the point where they steal the Wright Brothers' plane and fly through the museum. The backgrounds and anything else behind the aircraft, all miniature, and you'd never know it.

Is there a particular quality that comes from filming a real-life model?

Oh, absolutely there is! When you shoot a miniature you're going to get something that you don't get digitally, and if it's a high-speed miniature...because we do a lot of action models as well; in *The Dark Knight*, we did that sequence where the Tumbler crashes and with the garbage truck. That was all an in-camera shot with 1:3 scale models; but you just get a certain randomness that just happens with gravity and inertia, that really you don't get with digital work. You can program it in and work up particle systems [*laughs*] and figure out certain code to make something *look* random, but things that happen accidentally in life just make it look real. And there's certain textures and certain paint-schemes. Things we do as miniatures just look that much more believable.

But I have to say that it really becomes just the right tool for the right job. There are things you can't do with miniatures, and that's where the computer can come in, and we try to mix all the techniques so that you never know how the shots are done.

That's, to me, what visual effects should always be; it's not like everything has to be done in the computer, or everything has to be done in miniature. But the down side of this is that so few people now do miniature effects that the only tool everybody does seem to have, is the computer. And you get a lot of movies that look like cartoons. I go to movies all the time; the new effects films...there was a time when the big action film was really coming about, and there'd be a big miniature sequence somewhere in the film, Now we seem to shoot more elements, and just miniature sections, and I really think it's a mistake.

On the new *Star Trek* film, everything was pretty much a digital effect, and they did a great job, but there was also a lot of pyro and other stuff that I think probably should have been photographed. Do I think it was terrible? No, I think they did a wonderful job. It looks really great. But they've set a precedent now by doing it that way. Someone will say 'It did well in that, it'll work well for this', but they may not have the firepower that ILM has, so it won't look as good.

I don't consider anything 'visual effects' when it comes to strictly computer-animation. To me, it's animation. Somebody says, 'this is a visual effect', really, if you want to be truthful about it, it's animation. That's what it is - you have people sitting around at a workstation working things out as a wire-frame or shaded model - that's animation. The difference between something like that and Pixar is that Pixar is just putting a certain style and art direction to it. Visual effects have always been designed to carry out a story that you couldn't do for real. Go back to the silent era and there were miniatures, matte paintings, photographic opticals...that to me is sleight of hand. It's what really makes an effect 'effects', and makes it believable - that it's a magician's trick. You misdirect the audience and give them a different trick, whether it's a model one shot and then CG the next, back to a model, back to live-action...that's effects.

It's just me speaking [*laughs*]; I don't represent the whole visual effects community! I think that's what makes a good visual effect - go out to a location, shoot some actors, maybe with a full-scale set, go back to a studio, recreate all the extensions in miniature, wherever you can do a miniature you make the model, if it can't be completely in-camera, then matte the textures onto digital geometry, match it up to visual matte paintings if necessary, and put it all together in a shot. That's what makes it. When you can't see where the live-action starts and the effects stop, that's what a good effect is.