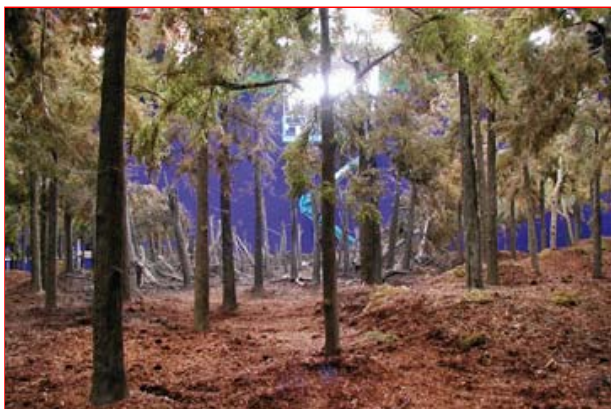


Small is beautiful

David Valentine talks to Leigh Took about his career in mattes and miniatures and the new techniques and opportunities presented by his first digital feature, *Mutant Chronicles*.

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Mini forest created for *Stardust*.



Miniature Roselyn Chapel from the *Da Vinci Code*.

It seems barely a day goes by without breaking news of some new development in HD acquisition or storage. HD televisions and channels, varying formats of HD DVD, and new methods of digital projection are all falling into line behind the movement to facilitate distribution. But as the shift to HD gains ever increasing momentum in both film and television, what effect is this having on the way companies and studio departments function? Already, courses are being set up to retrain make-up artists to cope with HD's sharper, more detailed image; after all, we wouldn't want to see the reality of spots, blemishes and moles on our stars of the silver screen – would we? And what about set design? Has the level of detail needed to be increased? Has this translated into increased work-hours? Does filming an HD feature mean a more expensive budget for sets? Could the world of shooting miniatures, where fine detail is an essential for realism, become too costly just when this more established form of visual effect is returning to popularity as an alternative to CG environments?

One man that can shed some light on, at least, this last question is model effects supervisor Leigh Took, whose company Mattes and Miniatures Visual Effects is one of the leading businesses in the field. Based at Bray Studios, Pinewood the facility recently worked on *The Da Vinci Code* (2006) building a 1/5th scale model of Roselyn Chapel; produced about 40 shots for *The Descent* (2005), including constructing caves with working waterfalls; and has just built a forest laid waste by a crashing meteorite for new fantasy sci-fi movie from Paramount, *Stardust*. Leigh himself has been working in film and television since 1978, first serving as an apprentice in Pinewood's matte department, producing some of the first matte paintings for IMAX.

"I was fortunate enough to get a trainee position with the matte department at Pinewood on a film called *Warlords of Atlantis* (1978)," explains Leigh, "with a chap called Cliff Culley, who was one of the very few matte painters around in those days. I first got involved in miniatures working with Ray Harryhausen on *Clash of the Titans* (1981), making up little miniature sets, shooting them and combining those with matte paintings. All on film, using color separations and breaking film down to make new negatives, with a lot of in-camera effects creating things that you couldn't normally achieve on a set. In those days, we would use front projection, back projection and latent image shots as well. It was a whole time of experimentation. Obviously, being before the digital age, it was all optical. We were constantly coming up with new techniques of how to achieve effects all the time. People such as John Dark and Kevin Connor were making films like *Arabian Adventure* (1979) and *Warlords of Atlantis* back-to-back. It was a good era for getting to experiment with effects and making models – to keep production costs down really."

After working for several years with the great special effects grandmaster Derek Meddings on films such as *Batman*, Leigh set up Mattes and Miniatures, embracing the advancement of any digital technologies and tools that would assist their work. The base at Bray Studios includes a matte studio, motion control, model and special effects workshops, all of which work in conjunction with their own digital facilities at Pinewood, combining traditional film techniques with digital post production.

The facility's first experience of working in HD was on a student film for the National Film and Television school in Beaconsfield. Shooting a digital matte painting with some small miniatures, Leigh recognized the potential of the format, particularly the immediate opportunity it gave to fine tune the model and lighting while viewing it on a monitor. Next came the teaser trailer for director Simon Hunter's HD sci-fi epic *Mutant Chronicles*, shot on a shoestring.

"We did the trailer that Simon used to get the full thing funded," says Leigh. "We built miniatures on a very small scale and literally shot table-top stuff at our workshop in Bray Studios. We built a landscape with a forced perspective hillside and some small two-foot-high guns that were just knocked up out of kit parts very quickly because of the limited, microscopic budget. But we cut our cloth accordingly; we were using old bits of rubbish out of the skip or anything just to get him to where he wanted to go.

"The great thing we started to learn about using high definition is that you didn't need massive amounts of light to get your focus right the way up to the foreground. In the past it's always been a problem just getting the light levels up to where you can stop the camera down to

get as much depth of field as possible, especially when running at high speeds – so that opened our eyes to what was possible.”

The team at Mattes and Miniatures was originally involved with the *Mutant Chronicles* project some ten years ago when Stephen Norrington, director of *Blade* (1998) and *The League of Extraordinary Gentlemen* (2003), was slated to helm it and the movie had a budget of \$100 million. Much about the script may have changed, but the real saving on this now much lower budget sci-fi feature has been the decision to shoot on the Viper. Not just in terms of film stock and processing, but also the increased speed the film and effects crew were able to work together.

“We had a plan of action,” explains Leigh. “When the models would all be coming onto the stage and when the first model would be shot, how many shots there were to do on it, the lighting and everything. So it was just a case of us keeping ahead of the camera crew. Bringing in the models, setting it up, getting it lit, getting it dressed to camera – camera ready almost. Then the camera crew would come along and start blocking out their shots while we were onto the next set-up. It was surprising how close on our tail they were because of the speed in shooting. We were doing like 30 shots a day on some days, whereas you’d be lucky to get 10 using a film camera. We were just racing through them, doing some with smoke and some without, getting some clean plates so they could layer them up in post later. Anyway, we managed to keep ahead of the game and where sections of the set needed to be redressed, such as after an explosion, we had time to get them ready for another take while the crew moved on to another section to shoot. It worked out really well. I would like to have shot a time-lapse shot from the roof, I wish I actually had now; it would have been like an Oxford Scientific film with ants crawling about everywhere.”

But what about the sharper image that HD delivers? There is no denying that a miniature shot on HD will definitely require more fine detail to be added, but the costs for doing this can be reduced by making the model smaller. And one very neat bit of new kit that cinematographer Geoff Boyle brought onto the set of *Mutant Chronicles* made this not only more feasible, but also opened doors to whole new ways of shooting miniatures. We’re talking about the Probe lens.

“It’s the equivalent of a 10mm lens,” explains Leigh, “that we can poke into the sides of miniatures so that we get amazing shots that I don’t think we would normally even attempt. In a lot of films we build miniatures to represent one section of the film, but on *Mutant Chronicles*, although they built small sections of set in the studio, we were basically building the whole environment as a model. So our miniatures had to stand up to looking good close up, but there wasn’t a massive budget so we had to build our miniatures at the right size (smaller to save money). Getting this lens in there meant that we were actually able to see what we were doing, so we could draw graffiti and put tiny detail in with no possibilities of it being soft. It was great. That also gives you new angles on things that free the crew up from the storyboard. It gives them alternative shots. When setting the models up with a viewfinder, you’re able to get in places that weren’t worked out on the drawing board. So attention to detail is required, but a lot of films dictate that anyway. It’s something we pride ourselves on. You wouldn’t do a painting and half finish it. Normally, a designer on a big film would say: ‘Well these are my designs, stick to them. How much is this going to cost?’, but working with Simon on *Mutant Chronicles* we were allowed to design all of the miniatures ourselves and so we had to say, ‘well, he can afford to do this, we’ve got this, and we can make this’.”

But why bother to make miniatures at all? Why not just create the whole thing in CG? Well, miniatures offer a chance to work within a real-world environment, using natural ‘organic’ elements, which lends a greater sense of realism to the models. “There are other ways of doing things than just creating a 3D computer model,” says Leigh. “We’ve been doing it differently with rubber bands and bits of string for a long time. We can build a miniature, give it organic textures, we can make things become more real – not too clinical with no atmosphere. I mean, CG stuff is coming along, but with miniatures it’s a case of giving it that human element: seeing things, being able to make things up as you go along, being able to dress to camera and then capture that moment. You know that you’re only going to have a certain amount of time to do that shot and, yeah, you can nip and tuck it on a computer afterwards, but it’s that ‘moment’ that brings that element of excitement back. It’s a different tempo of working. We enjoy it thoroughly. Coming from a matte painting background, we are used to painting, matching it up, then blending and fine-tuning a set for a particular shot. We get right in there in front of the camera with a tea strainer and some talc to highlight an area in the road to make it look like a pool of light, or by spraying oil to give a model that wet down look or, for example, introducing smoke. It’s a great way of making these environments, which are relatively small, look big. And on *Mutants*, the fact that you’ve got the camera down at sort of worm’s eye view and you’ve got this lens distortion so that everything reaches up above you and it’s smoked up and you’re in some war-torn street looking on a hi-definition monitor – it’s fantastic. It really took me back to the days of doing stuff in-camera.”

Of course, in post production the computer can be used to enhance the model. So the old techniques are combined with the new. “Obviously, I’ve been in the industry for quite a while and I love it, and I’ve been fortunate enough to move with it. By being open and receptive to new techniques, we haven’t got stuck in our ways – they just seem to evolve with us. But after using high definition on *Mutant Chronicles*, it just seems there are even more possibilities on the horizon.

“Don’t get me wrong, I’m still a big fan of film. In the old days when doing matte paintings, we physically used to be able to paint in with the grain of the film, and obviously that’s gone out the window now. But now we’re doing it on the computer; you can zoom in and as long as you’ve got a high definition image, you can still do the same thing, but at a much higher resolution. So we’re painting pixels like we used to do with film grain. It’s amazing. We’re keeping on top of it, and certainly we’re using the Phantom and super high speed cameras. That again is a whole new area that we want to get involved with because it’s opened our eyes to just what flexibility we’re going to have in the future for giving things mass and scale. Filmgoers have become so hyper-critical of our work that we’ve got to keep pushing the boundaries, and we’re really excited about the way things are going. We’ve still got one of our feet in the old techniques, but we blend the two together.”

So far so good for HD and miniatures, but are there any criticisms of the new format? “One thing that we did notice on *Mutants* was that the cameras are so quiet,” says Leigh. “That’s something you are aware of coming from a film background. When the old cameras are turning over, and you are not shooting sound, they’re all rattling away, but these days its ultra-quiet – the sound of something moving and the smell of film is something we do miss to be honest. That’s just nostalgia, I guess.

“Technology is opening up things to make more possible, and that’s great for us. We’ve got about six scripts that we’re going through at the moment for films where miniatures seem to be all the rage. We’re storing all the miniatures for *Mutant Chronicles* at our studios in Bray so if *Mutant 2* comes up, we’ll be ready.”



David Valentine

David Valentine is a freelance writer and filmmaker currently working with arts organisations and education providers to support community filmmaking projects for young people. He is also a proponent of Free

Media.