

The shooting diary

In the first part of his shooting diary, Geoff Boyle details how the Red and Silicon Imaging cameras performed on Dark Country, as well as discussing the politics of filming 3D

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Shooting in the arroyo with the crane-mounted SI 3D rig.



Howard Smith with the SI Mini rig at the gas station.

Well, it's the first day of the shoot, and I'm buzzing at the thought that we are definitely doing something nobody has done before, although I'm sure it will only be a short time before lots of others are doing it. The MK-V-AR rig, combined with the SI Mini-based rig that ParadiseFX and Element have made, gives us a freedom of movement that is unknown in 3D. Sweeping moves over and around subjects, using dynamic interocular on the move to make your eyes go where we want them to. How far can I go with the noir look before I get screams of pain about the shadows? How far can I desaturate while still holding some skintone?

The first set-up is a diner interior, lit in a very noir way – three 18Kw HMIs providing the classic Venetian blinds look. Of course, with a base ISO of 100, this only gave us a T4.3. Scary. My use of mirrors rather than lights to provide reverse lights worked well – to some people's surprise. We had two 3D rigs up and running before the sparks had my 18Ks up! The SI rig was a joy to use. We had a few bugs that need to be ironed out, but we're getting there. There were some minor problems with cables being a bit heavy, and we're replacing those with shorter lighter ones. But that was it really.

The Reds worked well, but the size of them dictates a much bigger rig, and it was a pain to use. We've agreed that we'll use the two SI rigs for most of the work and keep the Reds for background plates and shots where we may want to move around the image in post.

There's also the question of recording time and boot up that I've touched on before. The CF cards only hold five minutes, maybe six, and the camera takes just under two minutes to fire up. These may not sound like major problems, and for a lot of people they won't be, but for us they're proving to be a pain. We need longer record times. We're working with an actor/director, and my concerns that we needed to roll and not stop until we'd got a few takes proved well founded. The re-boot issue is also one that may not effect a lot of people, but we have to power down to move the rig.

So now it's the afternoon, and we're standing outside a gas station in Indian country. Magic hour is approaching, and we're about to make our first attempt at killing Howard. The gas station has been dressed to look like the outside of the diner, and the shot involves Thomas leaving the diner, walking back to his car and handing a coffee through the window to Lauren German, who's playing his new bride, and then walking round the car, getting into it, and driving off into the sunset. Straightforward.

However, Howard is going to shoot the scene as a single continuous take using the AR rig. It was originally conceived as a 270deg move, but it kind of grew into 540deg because we didn't think Howard was having to run fast enough. As Thomas comes out the diner doors, we track sideways with him as he walks across the forecourt and hands the coffee to Lauren. Thomas then walks around the back of the car while Howard goes round the front, staying on Thomas. Howard walks through the pumps, so we see those sweep through in the foreground, and Thomas crosses him and gets into the car while Howard goes around the back so we can read the words 'Just Married' on the trunk. Howard continues around the car on Lauren's side as it starts to drive off. He then has to run with the Steadicam as Thomas drives towards the exit. As we see the car start to drive out of the filling station, we reveal a mysterious stranger in the foreground. The camera stops there for a second, pausing with him big in foreground, and then Howard has to run up a ramp, letting the stranger drop out the bottom of frame to give us the wide shot of Thomas and Lauren driving off into the distance. We then cut.

Basically that's the end of the opening sequence and the titles will run over the next shot. There is a window for the light between 5:25 and 5:55pm – and that's pushing it. We will really lose the magic hour at 5:50, with the ultimate angle of the sun being at 5:44. Each take will take around five minutes because there is a lot to reset each time. I am having a van drive through the back of the shot just to get clouds of dust built up, but we don't want to see the van.

We got one take I thought might have worked, and that was our penultimate take – the one shot at around 5:44. My lighting crew did a great job on this, flying mirrors in and out during different parts of the shot. Nevertheless, I wanted to do one more take to be sure. That

involved a heated argument with the AD about whether we wanted to stop the traffic, which would take time, or whether we wanted to shoot with the traffic moving and actually get the shot. In the event, we waited too long and lost the light during the take. But I don't mind, because we actually got it on the previous take. Howard at that point, with a heartbeat of 160+, having been running with a lot of weight on him at 6000ft in the New Mexico mountains, ended up in the medic's van with an oxygen mask. But, you know, that's what he's there for: you've got to try and brake him.

Night shoot

The first night shoot is on the second day. It's a chase scene towards the end of the movie. Cars drive down a slope into an arroyo – and I'm going to stop talking about the plot there because it'll ruin the movie. Suffice it to say, there'll be a chase sequence in the arroyo. We'll have loads of 20Ks and 18Ks, all half corrected back to the same color. And the great thing is that all we have to do to shoot it in the opposite direction is spin the lamps around – the cars are always going to be backlit; everything will be backlit. So if we want to shoot in one direction, all the lamps will point in the other direction. And when we turn them round to shoot the other way, it'll look like a completely different location. It's the biggest lighting job of the film, and a separate rigging crew came in to run cables in the morning, so that we're ready to shoot tonight. The biggest problem is the loss of light caused by the beam splitter in the SI rig; it looks as if ISO 100 is the final speed.

The light will be heavily broken up, lots of shadow, and I'm hoping to use the car headlights a lot – and dust. There'll be cameras mounted on the cars and in the cars, and a Steadicam on an ATV racing through with them. The opening shot will be a Lenny crane with the SIs coming up from the ground on a wheel – and we've got one night to do it in. And not just that, we have to reposition to get the exit images a few miles down the road, and moves take a long time with this amount of kit. So I'm mentally prepared for not getting to the end of it tonight, and picking up another day. But I daren't say that to Dylan, the AD; he'd have a fit.

A great accident happened up the road. The location we had was deserted and empty – Howard's shooting that as a second unit while I'm setting up the shots here. But we turned up today and found that it was the world championship for ATV vehicles – or off-road or whatever. But the great thing is that, because we're shooting backlit, we won't really see them: what we'll see is just clouds of dust, which should look gorgeous; set your sun through clouds of dust. It's becoming a kind of motif of the film: dust. Does wonders for the cameras, and my nose.

The car went up there clean and now it's filthy; it's amazing. I think our police cars, our wonderful black police cars, are going to be so dirty by the end of this... it's great. 'What color cars do you want Geoff?' 'It doesn't really matter, because they're all going to be the same color by the end!'

Red camera problems

Anyway, while I've been at the arroyo, setting up, Howard has returned with news that the Reds apparently blew up! They need a firmware upgrade – again. Apparently there was too much detail in the shots for the codecs to cope with! So we have a 4K camera that can only cope with 2K of detail. And that to me is a camera that is unusable on a professional shoot. We used it for half hour yesterday, indoors, without a problem. We take it out to do a couple of shots at sunset, and the fucking thing blows up.

Anyway, we have another Red upgrade, which will be installed tomorrow. I have agreed to continue shooting with them on the basis that if they crash again I'm kicking them off the nearest cliff – about 5ft away in our current locations! The double crash cost us three hours of unit time and the loss of a number of shots that can only be got on a Sunday at sunset. I doubt we'll be able to schedule them on the right day in the right light now.

I was told the Reds had been running fine for a couple of weeks: "any problems and we just reinstall the software." How often do you have to do this? "Oh, only every couple of days or so, and it only takes a few minutes." If I'd known that before I started shooting, they wouldn't have come near the set. Having said all that, they do produce really nice pictures when they're working; that's why they're getting a second chance.

The SI cameras worked fine again, but we had problems with the record system. This time the MacBook Pros overheated and crashed. We had them in a closed bag for some shots on the Steadicam from an ATV. The electricians were great today – the whole length of the arroyo was rigged before I got there. Heroes! Lenny my gaffer was totally prepared and we were ready before the rest of the unit. I do like Condors – it is so easy to stand them on the edge of the cliff and adjust the lights so that they're backlighting the arroyo.

We got some great shots from up on the edges of the arroyo, with the SI rig in the AR mounted on a hot head on a Lenny arm. Shots starting 50ft in the air above the cars and rushing down as the cars came towards us – amazing stereo shots as the cars sped past, with the camera just 6in above them. I know it was 6in because Robert, my key, measured it. I wanted much less, but he was worried about hitting the cars. Wimp! Oh, and for those of you thinking that the Lenny doesn't do 50ft; it does if the ground the cars are on is 25ft below you! It does a lot more, in fact.

Cultural differences

Next day, Red sent us a new camera and told us they are sending a tech to us to check out the existing two cameras. Software upgrades appear to have worked, as we shot a lot of material on them and had no problems. We haven't completely aligned the rig to the new camera, but Max Penner and his team from Paradise have been terrific in getting as many cameras running at the same time as possible.

We started the day with Howard and I exclaiming, "what a lovely sky!" We looked at each other, then grabbed the AR rig, a pickup truck, the hero car and Rene our stunt coordinator, and rushed off to get driving shots while the main crew rigged the crane for the 'real' first shot. The image of Max in the back of the pickup with two Macs velcroed to a piece of board will stay with me for a very long time. Dylan, our AD, asked if English crews did this kind of thing all the time. Well, if you come from a documentary background, as Howard and I do, damn right you do! We managed to cross a couple of shots off the to-do list, anyway.

There is a huge culture difference between me and Howard – the British contingent – and the main unit. We're used to improvising and bodging; they are used to specialist tools. We're 'two bits of ply, some Vaseline and an elastic band' people; they're 'gyro-stabilized, torsionally corrected, hyper-reinforced, multi-computer-powered' people.

"I just want some effing Magic Arms!" insists Howard.

"But we can build you..."

"I just want some effing Magic Arms!"

Howard was saved from insanity by the sound department, who have discovered what a joy Magic Arms can be. It's actually very funny to watch, except at one in the morning when you're freezing and wish they'd just give him some effing Magic Arms so we can wrap and go to sleep.

Anyway, we shot more great material with the AR mounted on both the MK-V harness and the Lenny arm, but boy does that arm need some stabilizing! Our B-camera operator Georgia Packard was shooting with the Reds, grabbing whatever she could that didn't have Howard in shot – and saving our bacon by doing so!

We get constant reminders that we're shooting a very slow stock. We put the first Condor with an 18K in position, and it looked bright – far brighter than I would normally use. But the meter refused to move. I used an LED Litepanel to put a tiny kick in Thomas's eyes, and Howard muttered, "ISO 100, Geoff. Crank it all the way up!" I loved this sequence; it was a major scene in the movie with Thomas and Lauren, very noir. The grade takes it almost to mono, but keeps some skin and lots of red.

Lauren wore a skimpy dress, but was surrounded by crew in duvet jackets, boots with pocket warmers in them, ski gloves and many, many layers. How she managed to work when she must have been on the edge of hypothermia was amazing. Not a whinge at all – and great performance's from her and Thomas. Long long takes with a constantly roving camera.

There's also an interesting dichotomy with the heaters. On a cold/freezing night you want heaters, but you don't want them near the cameras because that means you're too crowded to work. But if you put them a distance away, everyone you need is that distance away. Shoots are never fast enough. "I want the world and I want it NOW!" It's so easy to forget how heavy the kit is, how treacherous the cables are, how reluctant to start old cars are in the cold.

We have an interesting new problem: car headlights. It's a road movie at night, and you get flares from car headlights. That's OK, it happens; it can look cool. Now think two cameras and different flares from each... answers on a postcard please.

SI camera problem

Next day, we had a problem with the SI, where a camera lost power at the end of a take. This caused the laptops to hang/crash. It was a long Steadicam shot at magic hour. At first we thought it was a battery problem, but in fact a switch had been caught on clothing as the rig was handed over and power was cut. The files are apparently there, but we have to recover them now.

Being at the bleeding edge can be a strain at times.

But the Red rig is working well now, and we shot some lovely material with it last night. The pictures are worth the hassle. I've had a lot of private emails from people who have had similar problems with their Reds – they just haven't gone public. But ultimately, we all agree that the pain is worth the gain. For all that there are operational factors that drive me mad about the Red, I know that most are in the process of being fixed – and the pictures are lovely. As soon as we have multiple monitoring outputs working, I'll be happier. Add to that some kind of power buffer so we don't reboot every time we change batteries, and I'll be really happy. I've been grading the pictures from both cameras today and they're remarkably easy to match.

End of week one

We went through a post-mortem of the first week's shoot, and the most important thing to come out of it was no more night moves. Thomas has to fly to the premiere of *The Mist on Monday*, so we're using that day for all the second unit car shots. Just heard that Ron Perlman may be delayed in Prague or Budapest where he's shooting *Hellboy 2*, so our schedule for the third week looks as if it's going to get blown apart.

I'm finally getting a clear glass for one of my 18Ks today. The clear glass is vital for the really hard shadows I want for the next sequence. It's vital to establish the film noir razor edge shadows now. It also helps to keep the shadows dark, and as this is a sequence in the film where Tom and Lauren are naked, I want to control what is seen.

We've finally managed to get the power lines outside the location turned off for three hours while we shoot. People are still worried about how we ensure that they are actually off. I suggested putting the location manager on the end of the crane and lifting him up in to the wires. If he's done his job, then he's OK; if not... well, we won't have to sack him!

We're getting around the need for a Scorpio head by mounting the MK-V-AR directly on to the Power Pod, then instead of using the AR to keep the picture level we'll deliberately throw it off by 180deg. Then we'll switch back to normal mode halfway through the move. It's going to be a really fast start to the day, but as soon as the sun is down we slow down a lot.

So is the power on or off? NM Power say it's off. Art department rig the Motel sign and we then find the power is on! Crane stays down, is the power on or off? NM Power insists it's off... err, no it's on... it'll be off in a couple of minutes... it's on, we've got guys turning it off... it's on. Karri, the unit production manager, goes screaming off to NM Power. I swear there's blood on her hands when she returns. It's off; it'll be off all weekend. Pity we missed the shot as the sun sank behind the horizon.

The rest of the shoot went remarkably well. Until sound decided to wreck a peaceful quiet set. We'd worked really hard to try and create a safe and peaceful environment for Thomas and Lauren to work in; only Howard as operator and Georgia dropping many grades to be 2AC in the room. The first setup was gorgeous, just perfect. Then sound barges in and starts moving mics in a loud obtrusive insensitive manner; bang goes safe quiet environment. Nothing was the same for the rest of the night. We got what we needed, but it was just good; it would have been magical. But the clear glass 18K made my day. Gorgeous shadows that you can cut yourself on.

So, back to the motel and the opening shot of the film – hopefully with the power off – and then on to another night, this time after a car crash. We started the day really well – a small splinter unit, just crane, 3D camera guys, Howard and I – doing the opening shot of the

movie, which we didn't get yesterday because of the power line problems.

We used the MK-V-AR mounted on a Power Pod to give us a three axis head, third axis superbly operated by yours truly. We were in place and had time to rehearse. We then started shooting and, after about 14 takes of a hideously complicate crane move, we had a great take. As it was so good I decided we should push it and go for even better. At exactly 16:24, the time that my SunWheeler sun prediction software had said, we got the ultimate take. I tried to be greedy and go for one more, but clouds blocked the sun during the take and we got the message.

A turn for the worse

I should stop now while we're on a high because it all went down hill from here on. Over four hours to rig two Condors with a 20Kw tungsten and an 18Kw HMI apiece! They were a couple of hundred feet apart with 50ft of spare cable per unit. Of course, they were in the wrong place for the first shot, but I flew in a 4K PAR to get me out of trouble. I was beginning to lose the will to live.

We got some great material with both the SIs on the AR and the Reds on the Fisher 10, but all the time I was having to negotiate – yes, negotiate is the right word – what we were going to shoot the next day! Lauren is having a day off to unfreeze and recover from hyperthermia; she's the other side of the hotel and I swear I can still hear her teeth chattering.

Thomas isn't with us as he has to go to the premier of *The Mist* in New York tonight. It's a contractual PR thing, so we we're going to shoot all kinds of car material with doubles in the shots. So, we have a camera car, we have a Lenny Arm – and we're going to track down the road with the 200lb Red stereo rig on this? Well, not without a crane operator who specializes in this, we're not. You never asked for that. Oh yes I did – on a number of occasions, and there is no way I'm going out there without the right crew. "We'll use —, who has done this before", "OK, you sign off on it! I'm not going to say it's safe". "Oh, he's fine, it'll be great". "OK, you sign off on it." Funny, we don't have a camera car with a crane on it today.

We do have a unit going with the main camera to a location miles away because the police are booked to cover this one shot; it's a camera mounted on the roof of a car showing the hood and the road as it goes under an underpass. To get this we are going to miss magic hour on our main location; we'll not get the opening or end of the film. The majority of the crew will be sitting around doing F—all! I haven't had rushes yet, any rushes that is, and I'm only just starting to get frame grabs. How am I expected to match it all?

Oh, I know we'll make it all work and finish the film on time, and it will be a really great film, one I'll be proud of. We've got terrific material so far and some great stuff to come, but it shouldn't be this hard!

Nevertheless, with the grown-ups away (Patrick, the producer, and Thomas), we can play! So, what shall we do? Well, let's try a shot that could wreck the SI Paracam first.

Damn! Survived! And the pictures look good. Now I'll try crashing it in to a berm while mounted on the hood of the hero car. Nah, survived that, another great shot.

I know, let's drive a semi trailer right at the Red Paracam – that should be fun. The shot looks stunning and the truck swerves at the last moment and misses. Damn and double damn! I've got to get a day off somehow!

Try again. Set the Red Paracam in to the berm and drive the hero car right at it: that'll screw it. No, shot looked great and the camera survived.

I've had it! A bunch of stunning shots, no grown-ups, time to wrap early. Working on a story for Thomas and Patrick about how hard it all was and how we had to shoot until 4am again to get it. In my room by 10pm.

Howard took one look at me tonight and said, "Geoff, I know it's not a day off, and I know that you're not drinking while we shoot, but you really look like you need this," as he handed me a bottle of Rioja. My saviour!

The next two nights are in one location that we have pre-lit and I'm really looking forward to getting in to some drama – you know, actors performing, not just cars whizzing by. We shot the sequences scheduled. The SIs and the Reds were well behaved. We've been sent a fix for our camera disconnection problem by SI, and we're trying it on the C rig. We were using the SIs on the MK-V-AR for wandering wide establishments and then switching to the Reds in the big Paracam on a Fisher 10 for the close-ups. Great performances from Tom and Lauren. All in all a good day.

Sony called to say the dailies were very dark and that they knew I was going noir, but could they have ungraded copies? I said to give them Cineon log files, but then I saw, finally, a copy of the dailies. Ah! OK, something happened in the transfers: Dark! No, black! To solve this issue, I put some frames up on a secret site for Sony and everyone is now happy that the pictures look fine.

Some thoughts on 3D

After two weeks of shooting 3D on a relatively small budget, a number of things occur to me. The biggest issue is speed. People are saying that this time 3D will finally make the breakthrough into mainstream filmmaking. Well, not unless the overhead involved in time gets considerably less.

It may well be fine for large budget movies, but when you get into small and medium budget movies the overhead in time imposed by 3D experts is too much. Most directors I know would reject the loss of shooting time caused by camera tweaking.

I feel I'm in a Jack Cardiff versus Technicolor technicians situation – or in fact, it's like when I started lighting video and the engineers would say, it's too dark, it's too bright, it's clipping, it's crushed. I had to fight to get what I wanted, as did Jack Cardiff. Now I'm no Jack Cardiff, but I do feel the dead hand of experts saying, "no". All my career I've had to fight the experts in so many areas; they all want to say, "no, be safe". My best work has come when I've ignored them all.

If 3D movies are to thrive, we need to simplify things. We need fewer expert tweaking and more shooting. We need to trust people with very basic rules – that they can then break. The experts need to accept that they are part of the camera department and not an outside unit, and as such do what the DP wants, even if it appears 'wrong'. If I tell an AC to focus on something, he does it; I don't get a lecture on how he should be focusing on something else because the eye will be misled if he focuses where I want him to. Maybe I want to mislead the eye.

The main issue once again is time. We need to be able to establish 3D parameters quickly and then hand over to a 'normal' crew and let them do what they do. If we don't do this, then 3D will once again come and go as a fad that people use for a few years and then dump.

Basic rules of thumb: converge where you focus, the closer you get to something the smaller the interaxial distance you need. You can play it safe by keeping the interaxial low, of course, but if you're going to do that, you might as well use the V3 2.5D lens system and keep the camera moving to create the illusion of depth. It would be a hell of a lot faster and cheaper. You have to take chances and push things at times. If we always played it safe we'd still be living in caves.

The dailies

OK. Negative rant over. Back to being positive. I just saw 3D dailies for the first time. Wow! The film looks amazing! I am so happy that this is all working and looking fantastic.

The dailies had the basic look that I'd set before we started shooting. I modified the three looks after the first week's shooting and they're still pretty safe, but they show us exactly where we are going to go.

As the camera tracked at low level over brush and then dropped off a cliff towards a police car, we all knew that this was the way to go. Both the SI and the Red are producing very smooth images now, with around 10 stops of latitude – far more in some shots than I expected. I lit windows to blow out and there's still detail there!

At this point, I haven't seen the Red in 3D yet – the images require an additional processing step before we can see them in 2K; they're being used at 4K in post. However, what I have seen from the camera is wonderful. This is definitely the future of filmmaking. The Paradise guys are doing a great job. It only dawned on me yesterday that they're having to deal with two films' worth of data.

CGI integration

Back on the road tomorrow, lots of day for night. We're starting by shooting background plates for our one CGI sequence, but I'm not going to shoot what's on the animatic. I'm going to get together with the animator and show him what we could shoot for real and make sure the camera moves stay within those parameters. Nothing will make it stand out as CGI more than if we suddenly have capabilities of camera movement that we don't have for the rest of the movie.

He's done a great animatic; we just need to tame a couple of moves, plus I don't know any grips who can move that fast. It was as I expected, CGI guys really need to get out in the world and see how things really move. Real objects have mass and inertia, they take time to start and stop and can be hard to start and stop.

But enough of that. We had a great car stunt and only 17 minutes to shoot it. Magic hour! Ha! 17 minutes in which the cars look perfect. We had all three rigs running, SI Parallel on the Lenny arm with 4.8mms, SI Paracam on the MK-V-AR and the Red Paracam as well. Bit of a rush.

Then on to the night sequence where we meet Ron Perlman for the first time. High top shots from Lenny with MK-V-AR and then down to the ground to cover the meat of the action, low angles with the Red Paracam. Ron said, "this looks like that Orson Welles film – *Touch of Evil*." Hey! He recognized it immediately. Yes, I am stealing. It's very cramped in the back of American police cars, and Howard had a hell of a job getting in with the AR unit.

Off to the desert today: a burial scene. Major crash on the I25 delayed most of the crew. That meant we didn't manage to get the background plates in magic hour, but they were an extra anyway.

Got our *Night of the Lepus* shot. If you haven't seen that movie, you should. Giant killer bunny rabbits – nuclear mutations – coming out of the desert to pick you up and bite your head off. This has to be the funniest image that won't make the movie. We were trying to get a shot of a rabbit bouncing across the road and also one of it stopped in the headlights of an on-coming car. The rabbit was on a fishing line attached to a fishing rod and maneuvered into position. But then it totally freezes. The more people make noises to get it to move the more it's ears go down and it refuses to budge. We remove the line and just throw it into shot. The rabbit rockets off towards freedom, being chased by men with nets. A great way to finish at 4:30am!

We're now swapping between the SIs and the Reds without thinking about it. When we start in the studios next week we'll switch almost entirely to the Reds. We had another hugely ambitious night, with a lot of stunt car action. It was all going really well until the SIs started cutting out during takes. We thought it was the control of the interocular causing interference, but no. Then we thought it could be the extension cables, but it wasn't that either. Interference from the power cables? No. It looks as if it was static generated when we tracked. If we kept the base of the crane static and only swung, we were fine. Another reason to hate the Lenny Arm. Not that we didn't already have enough. We kept shooting until the sun came up. We only lost about half an hour due to the SIs, but on our schedule half an hour is forever.

Three days off next week for Thanksgiving. We have a final night on Saturday and then we go on to the stage and start the greenscreen. Because we start the week shooting nights, union rules mean we have to continue shooting nights all week in the studio. Lunacy!

– More in Dark Country pt5



Geoff Boyle

Reel Show cinematography editor Geoff Boyle's recent feature films as director of photography include *The Mutant Chronicles*, *Dark Country* and, currently, *Street Fighter 2*. He received his first camera, a Brownie 127, when he was eight. From then on the future was clear. After art school in the late 60s, he worked as a stills assistant. One day he was asked if he knew anyone who could film a concert. Of course he did! He moved into film and shot documentaries for TV, 10 years or so of *20/20* for ABC and a lot of music videos. In 1985 he shot a 'making of' about the Pirelli calendar. Terence Donovan liked the way he lit and asked him if he shot commercials. From 1990 to 2005, he has shot almost entirely commercials, with occasional sidetrips into drama, a short he shot – *About A Girl* – winning a BAFTA in 2001. He also shot special effects on *Enemy at the Gates*, won the SMPTE Eastman Gold medal in 2000 and was made a fellow of the BKSTS that year. He started the cinematography mailing list (CML) in 1996 with 60 members. It now has over 3,000 members in 148 countries and is acknowledged as the pre-eminent internet site for cinematography.