# RENCE WESCHLER

# **ERSATION WITH MELBOURNE VIDEO ARTIST DANIEL CROOKS**

JUNE / AUGUST 2013

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# **DANIEL CROOKS**

10 October – 20 December 2013

#### Anne & Gordon Samstag Museum of Art

University of South Australia 55 North Terrace, Adelaide, SA 5000

Daniel Crooks is a Samstag Museum of Art and 2013 Adelaide Film Festival exhibition

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Cover: Pan No.11 (cross-platform transfer) (detail), 2013, 5 channel digital video, colour, stereo sound, custom screen, 18 minutes 23 seconds. A Samstag Museum of Art and 2013 Adelaide Film Festival commission

Opposite: Static No.12 (seek stillness in movement), 2009–10, HD digital video transferred to Blu-ray, 16:9, colour, sound, 5 minutes 23 seconds Courtesy the artist and Anna Schwartz Gallery

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Search 'Daniel Crooks' on the iTunes App store to download your free e-catalogue.



# LAWRENCE WESCHLER

# A CONVERSATION WITH MELBOURNE VIDEO ARTIST DANIEL CROOKS

#### JUNE/AUGUST 2013

LW: So let's start out by getting you born.

DC: Well, I was born in New Zealand in 1973.

LW: And your parents?

DC: My dad was a jack of all sorts of different trades, but when I was growing up, he was a printer with the *New Zealand Herald*. My mother was a high school art teacher, though she went to art school fairly late. I was at primary school when she was at art school. She was a printmaker and I had quite a fetish for those lithography stones: amazing, like big milk biscuits. She really was my art teacher.

LW: Did you stay interested in art into high school?

**DC:** When I was at high school, I was split almost perfectly. I took the maximum number of art subjects, so I did photography and printmaking. And then my other three subjects were chemistry, physics and calculus. It was almost a perfect split between practical art subjects and science.

LW: Would there have been personal computers around when you were growing up?

DC: I had an Apple Ilci. My dad saw the writing on the wall early on.

LW: Which makes sense, him being a printer where automation and digitisation were fast making themselves felt.

**DC:** I hadn't thought about it from that side, but definitely, he saw where computers were going. Actually he sent me on a computer camp, when I was 12, though the most exciting thing for me was building bivouacs in the bush. The computer stuff wasn't really grabbing me at that point, though it definitely gave me an early taste of BASIC.

LW: And when would you have gotten the Apple II?

**DC:** That was '91, my first year of university. My dad and I theoretically went halves (though I never quite paid in full). It was astronomically expensive. With the same dollars I could probably buy five of the computers I use now, which are a million times more powerful. His justification at the time was that I could use the computer to help him with his work. But really I think it was that he wanted me to have access to a computer, because he thought that was where the world was going.

LW: Before we leave high school, though, were you especially drawn to math? You were telling me earlier how besotted you were with sacred geometry.

**DC**: Well geometry is ... It's curious, because in fifth form (year 10), which was our first year of real exams, I had an inspirational maths teacher, and trigonometry was the only exam I ever got 100 per cent for. It's the one and only time in my life where I have just *known* it, inside out. I think it also had something to do with the fact that it was very concrete. The next year things got a lot more abstract, with quadratic equations and the like, and I lost interest. Well, that and a new maths teacher, but at that point, photography was infinitely more interesting. Geometry, though, has always held a deep, deep fascination for me...

LW: The reason I'm asking is, were you already walking through the world, slicing and dicing it, even before there was technology to do so? Would you just look at a wall and do its trigonometry, would you suss out the geometry of a random corner, in the midst of your average day? Or is it the technology that subsequently makes you begin to look at the world that way?

**DC**: That had started already, in primary school. When I was about 11, I had an exceptional teacher by the name of Rex Steele. He was into photography. He had us charging around with our cameras, and took us back to his house where he had a darkroom and we developed the film and printed the photos.

But the absolute killer moment was a Christmas card he'd made. Each year he'd make a bespoke Christmas card that he'd send out, and he had one of them on the dresser in the lounge: a small black and white picture of him and his wife, sitting in various places around their lounge, multiplied. So there were about five of each of them, though it looked like it was a single snapshot.

And I was absolutely spellbound — like, what the hell? I kept drilling him, how had he done that? He explained it all to me, and that just absolutely blew my mind. It wasn't until years later that I thought about that. It definitely planted a seed very early on, about how using this sort of time-recording apparatus could enable one to step outside of the continuum that we're locked into, and offer alternatives.

LW: From early on you were also very into science fiction, and the sort of science fiction conceit of deploying the camera as a kind of time machine.

**DC**: Absolutely. Any time any kind of time travel gets invoked in any narrative, it's always great — that is, up until the point where the holes start appearing.

LW: Holes being contradictions?

**DC:** Yeah, an impossibility or a contradiction. It's one of my aims in life to make that perfectly sealed time-travel movie, that doesn't have any glaring contradiction or holes.

LW: Good luck with that.

**DC:** Well, exactly. But there have been some great books, and actually one that really did blow my mind was Arthur C. Clarke's *The city and the stars*, which is credited with the first-ever virtual reality sequence in literature.

My parents took me to Europe when I was 13, which proved one of the most seismic reality shifts in my life — apart from being completely removed from my peer group, there was also the fact that I could no longer watch TV. We were in a kombi van for almost six months, so I really started reading. I read some fantastic stuff, notably that Arthur C. Clarke. We also went to a lot of great art museums. I can tell you Hieronymus Bosch had a pretty large impact on a 13 year old! As did Dalí and Picasso. But the one that curiously really stuck with me was also at the Prado in Madrid: Goya's *Saturn devouring his children*.

LW: Let's get you to college: what did you think you would be doing with your life when you first went to college?

DC: My applications, in descending order, were to Elam, the fine arts school, where my mum had been and where all the cool kids were going; the graphic design school at the Auckland Technical Institute (ATI), photography; and last of all was architecture — if it all went wrong, I was going to do architecture. But I didn't get into Elam. I got into ATI and I decided to do the design course, because it seemed to sit somewhere between art and science. I probably ultimately wanted to be an industrial designer at that point. I was much more into objects and...

### LW: Bivouacs.

DC: Yeah, and chairs. I designed this very De Stijl chair during my last year of high school, it was uncomfortable as hell, but I was so into it.

LW: So you're doing design, going to be an industrial designer: we may yet get some great chairs out of you, but that's not what happened.

**DC:** ATI was a very hardcore graphic design school, and the dean's only real interest was typography. I went along with that for a while, doing all these design projects. But in my last two years, I was making videos and movies any chance I had. My friend Ben Clarke and I were loyal devotees of the annual animation festival, we'd watch everything: Bill Plympton, Jan Švankmajer and David Anderson. Anderson made a film called *Door*, which you should check out if you haven't. It really captivated me, as a young animation wannabe.

### LW: How so?

**DC:** It's just lots of doors, but in an Eastern European, Švankmajer way. It's all black-and-white stop motion, using lots of photocopies — big, print-out photocopies animated across the surface. There's this amazing planet of opening doors and we're going through the doors, with all these things rattling across the screen. There's object animation, too: big, Platonic solids moving across a landscape. All of which I found amazing.

Video was pretty rough and ready back then, but we got hold of video and super-8 cameras — the first time I had access to a video or super-8 camera — and suddenly computers started to come into the picture as well. And I found that I was infinitely more interested in things that moved than things that lay still on the page.

LW: You were more interested in time than you were in space, or at any rate in the interaction of time and space, as opposed to just space by itself.

DC: Absolutely. And then Ben and I started making our own animated film: Clock.

# LW: 'Clock'! Really? Can you describe it?

**DC:** We needed something constant, because we just wanted to animate, to go crazy. So we started with a clock face, with a moving hand that kept going around and sometimes became an actual hand. Things would melt, water would fill in, things would turn into triangles. We alternately did a second or two each, in a sort of Exquisite Corpse — I take up where you left off, then you take up where I left off, and we'd come back to the straight clock a few times. We were just exploring the joy of animation and *making things move*. It is kind of curious that even back then, time was already a central focus of it all.

LW: So where were you as you were finishing at ATI?

DC: I applied to the film school at the Victorian College of Arts and miraculously got in.

LW: And what year are we there?

DC: 1994. I left New Zealand a few days before I turned 21. I was only ever going to be in Melbourne for a year, I was definitely en route to New York, of course. That was the plan. But somehow Melbourne just lured me in.

LW: So there you are at the Victorian College of Arts in Melbourne.

**DC**: I was there for a year, and I spent seven months working on my major production, a film that proved to be seven and a half minutes long. That works out to a month a minute, which is the joy of animation. And those were *long* days: into the studio at 8:30am, and out by 10:30pm.

LW: And what kind of animation was this going to be?

DC: Pretty much all stop motion, with a little bit of drawing.

LW: So for people who do not know what stop motion is...

### DC: Stop motion is moving objects...

LW: Photographing things that are in the world, and then photographing them again, and then again...

DC: Yes, very, very small movements, and photographing things again and again.

LW: And what sort of film was this?

**DC:** It was called *Food(for)thought: (Three) ingredients from the mass consumer diet.* It was started very intuitively — I think I'd shot about three scenes before I actually had a real understanding of what it was about. It fused the three ideas of food, religion, and television — those were the ingredients. It was a slightly absurd, slightly surreal series of vignettes that combined those three elements.

LW: The paradox of that sort of work is that although you say it was all driven by intuition, mainly it must have been just drudgery — a weird combination of intuition and flights of fancy, followed by incredible amounts of pedestrian drudgery.

### DC: Yeah.

LW: Was it all flights of fancy at the beginning, followed by seven-and-a-half months of drudgery? Or did you keep having intuitive insights as you went along? How does that work?

**DC:** It is definitely flights of fancy and weird unrealistic ambition, to start with. And then you're faced with a mountain of tedium. But only an animator can tell you the sheer joy involved in spending three days in a studio moving things microscopically and then seeing it all come to life. It really is a kind of birth, you feel like you're giving life to something.

LW: And do you find yourself walking around the streets while you're doing that, with a different sense of what the world looks like?

#### DC: Absolutely.

LW: How so?

**DC:** You're working at this glacially slow pace and looking at all the individual static moments that make up any kind of movement. So as soon as you go into the real world, you just start seeing that everywhere. You see those moments when a hand floats for a moment and then stops moving. When you look at people walking, you see the infinitesimal lift of the toe that clears the ground as they're swinging through, and the tenth of a millimetre that it misses by, and it's all just perfect. *Foo-foo-foo.* And no-one's aware...

LW: I love that 'foo-foo-foo', the slice-and-dice of it.

**DC**: There's the classic line that you can always tell animators — whenever they talk about their work, they always have the sound effects to go with it. It's definitely something I've noticed: there's an in-built foley in any descriptions of motion.

In later years, when I really started moving into video work, I was very aware of the work of Eadweard Muybridge (1830–1904). Even when I was studying design we used Muybridge books, as a life drawing reference. I didn't come across the work of Etienne-Jules Marey (also 1830–1904!) until much, much later, but then it was deeply fascinating, since some of the images I was coming up with were almost identical to some of the stuff he had been doing. But we'd reached a point of similarity coming from almost diametrically opposed places.

### LW: How so?

DC: Marey is trying to invent a system whereby he can break down the continuous motion of the universe he perceives, having never seen a movie, having no idea what a moving image is, nor any experience like that at all. He's making these images that he calls 'chrono-photographs', where he's overlaying sequential images one on top of the next.

I'd never seen any of his images, but I'd spent a lot of time watching animations, making animations, breaking down moving images into these discrete units and then reconnecting them to make movies. I'm trying to *make* motion, while he's trying to break it down.

# LW: Right.

**DC**: Then, coming full circle in a sense, having spent so much time trying to make motion, I started to try looking at the results *from the side* — almost to make a movie as a still, or at least to get more time into the still image — thereby coming up with pictures that looked *very* similar to the ones that he'd made (though, in my case, from an intimate knowledge of the moving image and what movies are).

It's fascinating looking at some of his old contraptions: his camera was ginormous, so for purely practical reasons it had to be on rails, on a track. It was like this big camera-train. And the first real movies or images that I started making were shot from a train. I had a big camera-train, as well. There was something quite beautiful in that.

LW: Do you find yourself having time conversations with Muybridge and Marey? 'Hey Etienne-Jules, you would have loved this thing I saw today, and what do you think of this?'

**DC:** Not so much. I've actually only seen a couple of original Marey photographs, but someday I want to make a pilgrimage to his lab in Paris, partly to see more of the originals.

**LW:** So we have you completing *Food(for)thought*. At that point, were you still going to be an animator? Go to work for Pixar if you got lucky? Was that your ambition?

**DC:** The year after I finished at VCA I got to go on the film festival circuit with *Food(for)thought*. I got to go around the world, to international festivals, won some prizes, got a few claps. As part of that I went to a talk by a Karen Ansel from ILM, Industrial Light and Magic — to work for ILM was the ultimate dream. She had some really great advice. She asked me how much I'd loved making my film. And then she told me to just keep making my own films, because at ILM I'd be a tiny cog in a massive machine, and I wouldn't have any of the joy I'd had making my film, and I wouldn't get to make another film like it. It was quite a counterpoint.

### LW: What happened then?

**DC:** I took a break, got a job making CD-ROMs for a telephone company. It was the early '90s. The interactive tech world was just taking off into its massive bubble, we were all hip young things, we had a pinball machine in our tea room, we could wear whatever we wanted and play loud music in our offices. But I had a friend, Dale, who was sure 'this place is the Devil, and it's keeping us here and making it so easy and cosy just to stop us from doing what we're meant to be doing'. There was a lot of drinking and recreational drug use, and somehow the film script I was meant to be writing never quite got written.

At this point, although I'd started off as this animator, my interests were getting more formal and structural, which is to say less and less interesting to any potentially commercial film audience. About this time my friend Cazerine Barry, a choreographer, opened my eyes (to a lot of things but in particular) the fact that you could apply for money from the government to work on art projects. I began to think that maybe I could get money from the Australia Council, the arts funding body in Australia, to work on some experiments. I put in an application, which, in hindsight, was ridiculously ambitious: I was going to invent an entirely new form of four-dimensional filmmaking, with robots and all this stuff. Ah, the joy of youth!

Miraculously, I got that grant, and I went to RMIT — the Royal Institute of Technology in Melbourne — where there was a mechanical engineering department, electrical engineering, computer science … wouldn't everyone be dying to jump on board and build these robots with me?! Of course, it was all very political and no-one wanted any part of it, so I was left to my own devices. I set off on a six-month odyssey to teach myself how to build motion-control devices. That's the steepest learning curve I've ever negotiated in my life.

LW: So at that moment, what did you mean by 'a motion-control device'?

DC: It was basically about moving the camera in very precise increments.

LW: A calculus machine, in some sense: infinitesimal gradations.

DC: Absolutely — ultimately precise, ultimately repeatable. It was really about being able to point the camera at an exact space at an exact time. It would be here now, and there now, and navigate all those bits in between. Of course, I didn't get anywhere near ... I got somewhere, but it was a crazily hard thing to do, especially at that time. Now it's a lot easier, you can just buy stuff off-the-shelf, but back then there really wasn't much you could get at all. So I made these funny little robots. They were cool looking, kind of yellow plastic —

LW: So at that point you're interested in making the robot, rather than the film that you would make with the robot.

**DC:** It did take over a bit. I remember a cautionary tale about a composer who wanted to compose works for piano that required more than ten fingers. He wanted a way to be able to listen to the compositions, and worked on it for two years, until one day he realised that he hadn't actually composed anything for a year or so. He'd been trying to make this machine. It's not just about the tool, what are you making the tool *for*? On the other hand, there's also the fact that in making the tool, you can open up new possibilities. And I do have a problem with the school of thought in which the real artist has the idea and just outsources the making of the tool to a technician.

LW: The Jeff Koons extreme.

DC: Well, yeah, it's hard to articulate, but I find there is a conceptual feedback loop involved in the making.

LW: So what happened after that?

**DC:** I was approached by an amazing woman, Rose Myers, a theatre director who was trying to incorporate video and time-based media into live theatre production. She invited me to work on a show, and I ended up working on three shows with the Arena Theatre Company.

Our great quest was to integrate recorded or projected moments into a live context, which is really hard. It was a great time, though. I'd work on these shows for two or three months, really intensely, almost 20-hour days. I remember me and my friend Pete Circuitt sitting in the theatre in our sleeping bags, because it was freezing, working on our computers. At about two in the morning, still in our cocoon sleeping bags, we'd shuffle up to the green room, take off our shoes, zip up the bottom of the sleeping bag, go to sleep, wake up, put the shoes back on, and shuffle back down to the theatre! So wrong! When I think about evil Rose, how she was allowing this to happen, it was like children in the mines or something. *(laughs)* 

We'd get a big lump sum payment at the end of each show, which meant I could then go travelling for a couple months. I went to South America and to South-east Asia, taking my camera with me. And all the time I was still trying to build these robots. It was '98, '99 — the final peak of my robotics self-development came in '99. I was having a millennial panic, I had to see the world before it ended, so I headed off to Central and South America, lugging robots around Mayan ruins and the Chilean Altiplano. Insane, when I think about it!

I was doing very beautiful, slow pans, but with everything in time-lapse, so it appears to move really fast. It was all about the search for the great unseen time-lapse. But back in Melbourne there came a moment of realisation, when I was moving the camera very slowly, maybe only a twentieth of a degree for each frame, to get a beautiful, smooth pan. I remember grabbing a couple of stills from quite extreme points, realising, 'Oh, it's almost like a panorama, I could stick these together'. Taking three of them, I could stich them together to make a really wide image. Then I thought, 'Wait a second, instead of having three full-frame images that perfectly match up, maybe I could have 300 really little ones, 300 slices, that would probably work, wouldn't it?' It would be an incredibly laborious process, going through, cutting them up, sticking them all together. Sure enough, it worked.

But the really amazing thing was that suddenly I had a very graphic representation of temporal difference. The clouds were these amazing smears. There were bands of colour where people were crossing through. You could actually *see* the time in the image.

LW: To make this clear, this was an image that you could put on the wall?

DC: Yeah, this is a still.

LW: Kind of like your teacher, way back with his Christmas card, showing up in five places, but this is a hundred times more complicated.

DC: I'm sure a lot of people had similar ideas, and had just thought, 'But that'd take a week and a half just to see what it looked like!' Whereas, with my animation background and its veritable embrace of tedium, I was cool with that. I can do that and I really want to see what it looks like, because I know the joy of seeing what the thing is, after you've spent all that time getting to it.

LW: So, that was your Y2K revelation.

### DC: It was, in a way.

LW: And it's funny that it's happening at Y2K, when everybody thought the world was going to end because...

### DC: Because of a time problem. Exactly!

LW: But you're slicing these images up, it's taking you weeks to do, and you end up with a thing that's on the wall...

**DC:** On the computer actually. I didn't even have access to a printer and the images were too chunky in any case. You have to remember this had all been shot on a really low-res video camera, so they were tiny little images. Web-cams look positively cinematic by comparison.

But because they were in time-lapse, they were really slow, which is why the clouds were being smeared, though I wasn't getting any people-smearing at this point. But you could see very clearly when lunchtime was, because there was a density of colour slices — suddenly the pedestrian traffic was a lot denser, you could see it happening, and then it would taper off again almost into an empty landscape. That was just phenomenal. 'There's just so much information here, there's the spatial information, but then there's this whole kind of *temporal* graph going on as well, and I can see it!' It got to be like an Edward Tufte data-graphic. You could see this clump of lunchtime traffic.

That was really the start of it all: the first conscious slicing, which then just opened up a whole cornucopia. Everything I saw: 'I've just got to slice that, I've got to see what that looks like.' I launched into an intense period of charging out with my camera.

LW: You just said something very interesting, by the way. You said 'I want to see what that looks like'. Not what it *would* look like, and not what it could be *made* to look like, but what it actually looks like, even though you can't see it unless you do this operation on it.

DC: Absolutely. One of my central tenets is: this is what it looks like, it's just not how we can see it.

LW: 'If the doors of perception were cleansed, everything would appear to man as it is: infinite.'

# DC: Nice. Who's that?

LW: Blake.

**DC:** If we could open the door a bit wider, as opposed to the tiny little crack we can see through. Sometimes I find myself wondering, in a pseudo-scientific sort of way, whether some of these strategies might someday offer up a practical opportunity, in a post-biological world, say. That is, whether being able to see the world in this way might offer up solutions to problems that we can't get at now.

**LW:** Could be. So we're at the point where you've created a composite image that you can put in a frame, or on a monitor, but it's not yet moving internally. How do we begin to move toward that?

DC: Well, at this point I'm about to become a father and I needed to get a real job. My partner Miri (Miriam Ransom) and I moved to Footscray and I was teaching at a university about an hour away from where we lived. Twice a week I was doing a massive train commute, and I started videotaping these train rides. And I time-lapsed a couple of them just to see what that would look like.

LW: Time-lapse meaning?

**DC**: You speed it up. You take a frame every second or two seconds (instead of the usual 24 or 25 per second), which just speeds up the time when you screen the results. It is a great way, as the Canon Super-8 user manual advises, of capturing 'slow development phenomena'.

LW: For flowers opening.

**DC:** For clouds, for flowers. I love it: slow development phenomena. The results were pretty pedestrian. Everyone's seen that before. But then I had a moment of wondering if I could do that same sort of slice-and-scan thing as with the pans, but with the real-time video of a train ride. It wouldn't be the perfect panning panorama generating an analogue of exactly what was there, but it might be interesting to see what it did make. For instance, was it going to be smeared? I didn't know.

LW: So you have this idea. By the way, I love that it's happening on a train, which seems to be the place where every fresh idea about photography and cinematography ever happens, going back to Muybridge and the subsequent invention of cinema by the Lumière brothers. The idea of train-tracks as frames, and trains themselves as analogues to projectors — that metaphor has been broached a thousand times.

I'm reminded of a great moment that happens in John Berger's screenplay of Alain Tanner's *Jonah who will be 25 in the year 2000*, where a girl is talking to her pal Charley, an old retired train engineer. And Charley says, 'You wouldn't believe the difference between where I used to sit on the train and where you sit. Where you sit, the world streams by horizontally, laterally, as you look out the window. But where I was, you were going *into* the scene, with whole world rushing at you and then flowing by to either side.' But that's just an example. Everyone who has ever thought about time, time travel, cinema, has thought about it by way of trains.

**DC:** As I always say in my talks, when you think of the history of early cinema it's no coincidence that these first experiments came out of trains.

LW: Our current conception of time itself, with time zones and so forth, all derives from the moment when transcontinental train travel was becoming all bollixed as those east-west trains traversed dozens of individual stations, all keeping to their own time regimes, to everyone's consternation.

**DC:** Even before he does his chrono-photography, one of Marey's most famous achievements was that classic, graphical grid-line representation of the time schedules for the trains travelling between Paris and Lyon, which in turn ends up looking uncannily like the stacked piece I would later do of people's feet walking across the video plane. Or the other way around.

LW: For that matter, even Einstein has recourse to train metaphors when he is laying out his theory of relativity. Anyway, so we have you sitting at your desk, reviewing the speeded up results of your train pans, in the midst of the everydayness of your boring life, when suddenly you say to yourself, 'Wait a second!'

**DC:** Again, it was the animator's embrace of tedium: 'Okay, this is probably going to take me about three days just to do this.' There were very few automation tools at that point, so it was Export image, Cut image, Save image, then stick them all together in photoshop. But with the first few that popped out, it was unbelievable. It's like turning the moving train into a massive flatbed scanner. I was driving around the city, scanning all these landscapes, and it was getting more and more exciting.

Then I did a few other things. I started looking for platforms that were moving, to activate the motion, as it were, of the scanner. I was looking for glass elevators so I could point the camera out the side. I was riding trams, I was riding escalators.

LW: And are you doing it in slow motion yet?

DC: I did not have the camera for...

LW: So you're doing it 24 frames per second.

DC: 25, in the Australian/European PAL universe. I was making these very long images, looking at them, and you know when you have that feeling that there's something more there? I'm looking at these pictures and I know that I'm using only a tiny, infinitesimal portion of the data I gathered to make them — There's got to be a video in there'.

At first I was basically making a moving still, taking a single frame slice, offsetting it by one frame and a few pixels and repeating. What you get is essentially a still image moving across the screen. It was interesting, but I was hoping for more. I don't know when I had the thought of opening it up. But now, instead of having the thinnest slice I could — that is one frame — what I did was open up the width of the slice by a few pixels. So it was a slightly chunkier slice, but more importantly I increased the time by a few *frames*. What it does is just open things up a little — and it's only small, most of those early ones were around four frames, you got a tiny loop of four frames and then moved on.

#### LW: Four frames, out of 25, in terms of a second?

DC: It's only a tiny little fraction of time, but it suddenly brought everything to life.

LW: A sixth of a second.

**DC:** Yeah, it gives it this jitter. So if something has an outline, even just injecting a little bit of time into those slices gives it a shimmer, a jitter, a life to it. It was particularly so with that first train video, because the source footage itself is so jittery with all the vertical lines going past, it was just ... I'll never forget seeing that first one. I literally went rocking back on my chair mouthing expletives.

**LW:** There's a great Diderot line where he says that the artist is merely the first witness of the completed painting. And he says that art is best when the artist stops thinking 'what can I do?' and starts thinking 'what can art do?' — when the artist stands slack-jawed before the completed painting.

### DC: Well, I was rocking back on my chair. 'What the #@&\$ is going on?'

What was just amazing is what it did to perspective. It became this polyocular vision. So instead of having one eye that sees a wide field of view, or two eyes (though we really think of it as one eye, and the camera definitely has one wide eye) as in Brunelleschi's perspective, which is from that single point, what I was doing was having multiple viewpoints, but they're a kind of parallel laser vision.

**LW:** David Hockney famously says that photography is alright if you don't mind looking at the world from the perspective of a paralysed Cyclops for a split second. In a way, what you're doing is taking the paralysed Cyclops and putting him on a wheelchair and moving him really fast while keeping both his eyes open, thereby smearing his vision...

### DC: Or maybe it's a fly's eye.

LW: At any rate not paralysed anymore, it's moving.

**DC**: I started getting into the optical science of trying to explain what was going on, trying to explain to myself as much as to anybody. I realised that there's a temporal plane out from the camera, a kind of spatio-temporal focus plane (very much like there's a spatial focus plane when you talk about a depth of field).

LW: There's a point where the camera is focusing, and stuff in front of it and behind it are out of focus, like Vermeer brings out a lot.

**DC**: Yeah. But now it was somehow including *time* in that equation. And on top of that there now occurred another kind of revelation: if I was taking a single or multipixel slice out of the frame and offsetting those across the frame, essentially I was swapping out one dimension of space.

LW: Space is usually thought of as three dimensions on X, Y, and Z axes.

**DC:** And when you take a photo, do a painting or make a video, you're essentially flattening it into a twodimensional space. So I was taking a single-pixel slice out of that two-dimensional frame, either an X or a Y, and then offsetting those in time, recreating a full frame. Essentially, I've swapped one dimension of space for that dimension of time. The variables become the width of the slice you're taking from the video, and the speed with which the camera itself was travelling.

So there's a specific plane out from the camera where the slices will seamlessly stitch together. It's quite measurable. You can actually go X metres, say 15 metres, out from the camera and this 'plane of cohesion', as I call it, will exist. Anything less than 15 metres starts to become noticeably truncated, like you're seeing *less* than you should be; whereas anything beyond 15 metres becomes very smeared, because you start

seeing massive multiples of things. The mountain in the distance doesn't change. It's like my kids in the car saying, 'The moon's chasing us!' No, the moon's so far away, it's not moving at all, it's not chasing us, but it does kind of look like it. As a kid, I was very into that, in a sort of Muybridgian way. But once I had that revelation of this process, I again rushed out, jumped on the tram, jumped on the elevator, escalators, any kind of moving platform I could think of, and just started slicing left, right and centre.

LW: By the way, at this point are you becoming 'an artist', quote unquote? Has Anna Schwartz brought you into her gallery stable? Or what do you think you're creating here?

DC: No, no, at this point I'm just making things and spinning myself out. And showing all my friends, going, 'Check this out! *This is out of control!*'

LW: You're a father at this point, by the way?

**DC:** I have just become a father. Our son Elliot was born in 2001, he's the Kubrickian/Arthur C. Clarke 2001 baby. And maybe I'd gone into the cliché of new fatherhood of just working 80 per cent harder...

LW: That's really funny: because in *Kubrick's* version of the time smear in 2001, you end up with the floating baby as the end point.

**DC:** And Douglas Trumbull, who invents the whole slit-scan for 2001, was very much on my mind all through this. So there are all sorts of cross-overs.

LW: By the way, are you beginning to have to write program at this point, or will you be doing that?

**DC:** Today, now, I heavily automate things. I don't write applications, I just write scripts to control the offthe-shelf software. But back then, no, it was all super-manual at that point. It took me days to set these things up, and then it took the computer days to render three or four seconds. The poor little computer, every frame it drew, it needed to look at three minutes of the video file, which was just a nightmare for it. It had to try and hold all that in its puny little memory.

LW: Robert Irwin talks about people who are involved in pure inquiry or, as he calls it, the dialogue of immanence, where he says that they are working at the edges of their disciplines. In fact, they are beyond the tether of their disciplines, or rather it is they who are extending their disciplines. In this context, you, with your imagination, were thinking of things that the next generation of computers might be able to do, but they couldn't yet, so it was taking forever to do.

DC: Yeah. And now you can just do it on your phone.

**LW:** Right. But at that stage, you're one of those people who's out there just beyond the edge of your discipline. And yet there is a sense that what you're doing isn't discovering something new, but seeing something that was there all along.

DC: That is what I talk about all the time. A lot of the writing on my work focuses on this digital wizardry, or that I'm some kind a computer wunderkind. I am so not a computer wunderkind. I'm a really slow programmer. I wish I was a better programmer but I'm not. *But none of this stuff is inherently digital*. You could do it analogue, with film — if you could hire a Chinese village to labour away for ten years, you could do it. As I was saying to Walter Murch when we visited him — which I feel slightly bad telling an editor — I'm not 'cutting' anything. There's no film grammar in there. It is very much that Lumière moment of simply registering a single take, only in my case I'm just shifting it, turning it on its side, looking at it from another angle. Topologically, as with the doughnut and the teacup...

LW: Topologically a doughnut and a teacup are identical. In other words they both are entities with a single hole, such that if they were made out of silly putty, you could twist and stretch them from the one shape to the other.

**DC:** So what I'm saying is my videos, which sometimes look psychedelic and completely unnatural and areal, are entirely topologically valid, in the same sense that we consider the real world to be. They are the same thing. I've sliced them, but that's really just a means of looking at them from the side. I haven't cut or pasted anything. LW: That 'looking at it from the side' is nice, because in terms of what you said about taking away one dimension of space and replacing it with a dimension of time, now you are clarifying things further by suggesting that you are taking the resultant 'object' and looking at it from the side.

**DC:** A very good way to think of it is if you think of a video as a stack of photos, all those frames stacked on top of each other, you make this solid object, which I call a video volume, an actual volume of video...

LW: Like a flipbook.

DC: Like a flipbook, yeah. And imagine if you then cut that, and looked at it from the side...

LW: That's what you're doing.

DC: That's what I'm doing. That is the basic strategy for a lot of the works. Several are a whole lot more convoluted than that, but that's a strategy I use again and again, to think of the video as a volume, as a three-dimensional object, and how to navigate that: instead of just pushing straight through it with your picture plane, horizontally from the top down, actually tilt your picture plane, or have a curved picture plane. I've even done one experiment where the picture plane was spinning inside that volume, like a revolving door. The trick — and this is the real trick — is maintaining a tether back to the familiar, back to the real world that people know and experience every day. Because if you break that, the final visual product is so hallucinatory that it looks like someone's applied 25 different photoshop filters, and the tether back to the real has been completely broken.

LW: It's funny, you're in the same terrain as the argument about Cubism between Robert Irwin and David Hockney. They each take themselves to be the only true heirs of Cubism, especially vis-à-vis the other, whereas of course you're the one who is. Irwin believes that if you took the marriage of figure and ground, which is the great triumph of Cubism, seriously, over time you'd need to progressively abstract the idea of figuration right out of the work: nothing should stand as figure to the ground's backdrop. And it's not surprising therefore that with his work, at a certain point, you end up with an empty room, and presently no room at all. Whereas David Hockney says that no, the whole point of Cubism was always to maintain the possibility and vitality and necessity of figuration, a passion that goes back 30,000 years to the cave paintings, in the face of the onslaught of photography with all its hegemonic claims for better representing reality. And that the genius of the Cubists was to get more and more and more abstract, but always have the guitar in there, always have the newspaper. Because otherwise you're just in a world of complete abstraction, and that's not a human world.

### DC: Interesting. And what does Robert Irwin say to that?

**LW:** He says that answer is bullshit. That in fact it is always a human world because by the end, the subject of art is perception itself, and the terminus of art is to perceive oneself perceiving in a way that only a human being can, which is the most humanist thing possible, and so forth. It's a wonderful argument they're having.

But you just made the point that unless you have that tether back to the recognisable world, it doesn't work as a viewing experience.

**DC:** It's like a bridge. To be able to maintain a whole new model of the world in your head, you need a bridge to be able to get there. So, to be able to make out a person on a street, even if they are wildly, grotesquely deformed, and the street has just become a few lines, but you can know that that's the kerb, and that's a person walking off the kerb — all of that acts as a bridge.

LW: With one of your works in particular, at first it's pure abstraction, but at a certain point you think, 'Wait a second, that's a person walking across a crossing. *That's what that is!'* 

# DC: Yeah.

**LW:** Which is funny, because in fact it's just pixels on a screen, and a gloriously fun thing to look at in its own right. If it was only people walking across a crossing, that would be boring. It's the intersection of being completely abstract and completely recognisable that vitalises the experience of looking at these pieces.



Intersection No. 5 (horizontal volume), 2008, single-channel High Definition digital video, 16:9, colour, sound, 4 minutes 33 seconds Courtesy the artist and Anna Schwartz Gallery

**DC:** Sure, before it's on the tip of your tongue, it's at the tip of your mind. We can't think of a fourdimensional experience of the world. It's absolutely, physically impossible. A two-dimensional creature cannot imagine a three-dimensional world.

LW: The Flatland problem.

DC: Yeah. And a three-dimensional person cannot imagine a four-dimensional universe. But sometimes *you feel like you almost can*. And I love that idea, I like to think that in looking at some of these videos, people's model of the world, their incredibly concrete model of the world, is slightly destabilised, and they get a little hint of a possibility that something else might exist.

LW: And cut diagonally across the pile...

**DC:** Cut diagonally across but then move forward, just like you were before, but this time you get a temporal spread across the frame — one side of the frame, ends up being about 30 seconds ahead of the other side. And what becomes really interesting is that stationary objects look exactly like they do normally, but things that do move become very smeared — very stretched or very contracted, depending on which direction they were moving.

LW: So, with those train and elevator pieces we have you nullifying spatial information and replacing it with more temporal information.

**DC:** Yeah, taking a big slice out of the middle and then spreading that single slice across the frame. Then the progression was, say, instead of taking one slice out of the video, and then spreading it across the screen, I was taking the slices and leaving them where they were, but still offsetting them *in time*. So again, if we think about the stack of photographs, keeping the slice in the same place would be literally turning the frame 90 degrees, and then moving through it that way; whereas now it's as if you dragged the picture plane through the video block at a 45 degree angle.

You start to get really interesting things about the direction of time. Time always has a spatial direction, although it's arbitrary which one: in our tradition, historically, and even to this day, for example when using the video editing software, the future is always to the right. It comes at you from the right. That may be from the way we read books. But then it is quite interesting when you think of Japanese or Chinese, it's more of an up/down or right/left, and I wonder if their conceptions of time go in opposite directions. Even 'clockwise' is an invention of the northern hemisphere. If Huygens had been in the southern hemisphere, we'd have clocks that go the other way, because the sundial would move in a counterclockwise direction.

These historical things have been locked in. But the direction that someone's travelling is actually not so much the direction they're travelling in space, it's the direction they're travelling in time, which is always forward. In our tradition, everybody is always going to the right, no matter which way they are going. It's hilarious, we're actually all walking in the same direction, temporally, but spatially we're all over the shop.

### LW: Sure. We're all walking 'forward'.

**DC:** Except that, for example, in the culture of my Maori ancestors, (the Indigenous culture of New Zealand) there's a saying that you walk through time backwards. It's more about your ancestors and what they were doing, respecting them, than it is about whatever's coming. It's more about paying attention to the past.

LW: Which reminds me of Walter Benjamin's characterisation of the Angel of History. Do you know it?

# DC: No.

LW: So wait, I'm going to read you a really cool quote here, this is Walter Benjamin talking about the Angel of History. Actually he's talking about a Paul Klee angel image, about which you probably wouldn't have these associations, but you're not Walter Benjamin. Let's see, here, in his 'Theses on a philosophy of history':

His face is turned toward the past. Where we see the appearance of a chain of events, he sees one single catastrophe which increasingly piles rubble on top of rubble and hurls it before his feet. He would like to pause for a moment to awaken the dead and to piece together what has been smashed. But a storm is blowing from Paradise, it has caught itself up in his wings and is so strong that the Angel can no longer close them. The storm drives him irresistibly into the future to which his back is turned while the rubble-heap before him grows sky-high. That which we call progress is this storm.

In other words, his back is to the future, as in the Maori conception, and he can't even close his wings. The wind from Paradise, as Benjamin calls it, has got his wings spread, and everything's piling up on him. That's kind of a similar idea.

# DC: Yeah, very poetic.

LW: Anyway, moving forward, as it were...

**DC:** Well, in 2004, I uprooted the family and we went to Holland for a residency (at the Rijksakademie in Amsterdam), and made an even better machine. That's when I first started playing around with the imaginary objects as well, because I was testing out how to make this machine.

LW: Talk about them for a second: I love those imaginary objects.

**DC:** Well, that was almost an inversion. I'd made this incredibly precise machine with an intent to shoot what would eventually become those panning videos, so I could control absolutely the speed at which the camera was turning. And during that process I was doing a lot of testing and calibrating the device, trying to establish that it was definitely moving smoothly.

I was actually videoing the device itself, turning. So instead of having the camera on the device shooting in a panning motion, I'm shooting, with a stationary camera, things turning on this kind of turntable at an extremely precise rate since this slicing process is actually a perfect visualisation or data-graphic methodology to test these things. And suddenly these images started popping out.

I had one of the kids' Lego pieces on there, just to have an edge to film, so that I could measure it to make sure that it was rotating perfectly. After I stopped looking at it in a purely informational way, I saw these incredible swirling helical images popping out. It was, 'Whoah, that's actually really interesting in and of



Imaginary Object #3, 2007, single-channel digital video, 16:9, colour, silent, 6 minutes 38 seconds Courtesy the artist and Anna Schwartz Gallery

itself'. So then I set about trying to do it properly. I very consciously went with the white object. It was very much about the form.

LW: What was the object you went with?

**DC:** The white objects were just very mundane things that were lying around my studio. A piece of crumpled paper...

LW: And again, to be clear, what do you do with it?

DC: I've built a little rotating platform...

LW: A turntable?

**DC**: It's like a very accurate record player. I've covered that with some black velvet to try and have a void. I've lit it very nicely, and I've got my little crumpled-up piece of paper that's sitting on the turntable. Then I've got my camera.

And the beauty of the turntable, because it's so precise, is that I can actually shoot it three times, so that I can get a higher-resolution view, because I'm still using a pretty low-res camera at this point. But because the rotation is so perfect, I can stitch those together quite easily. So I end up with this quite high-resolution video of this very, very slowly turning object. And again, a single pixel slice out of the middle, spread through the frame, swapping X or Y for T, and I got these swirling helical structures. And they're incredible. Depending on the slice, a piece of paper can turn into milk, or silk, or marble, or just amazing, incredibly organic, flowing images. They look real, but no, it's imaginary — it can only exist as a temporal object, it's not a physical object.

LW: For some reason — I guess the helical rhyme — *Imaginary Object #3*, 2007 sort of reminds me of the mall walkers in London, who come to resemble curtains of swirling DNA...

**DC:** You mean *Static No.9 (a small section of something larger)*, which came shortly thereafter. I originally shot those pedestrians in London around 2005.



Static No.9 (a small section of something larger), 2005, single-channel digital video, 16:9, colour, stereo, 13 minutes 23 seconds Courtesy the artist and Anna Schwartz Gallery

LW: Do you think that may have something to do with where DNA itself comes from? That DNA is a simple program that smears over time, and exudes this twisting thing...

DC: I've definitely thought about that.

LW: An extrusion of a two-dimensional, or a three, whatever, across time.

**DC:** Definitely, in terms of evolutionary time, you can imagine things just starting off, and the instruction list just getting bigger and bigger and bigger. I remember reading something about why it's helical. There was some atomic, molecular reason why. It's a little bit of a conceptual bridge. I too have tried to cross that bridge, and say, 'That's definitely why'.

LW: And somebody says, 'What do you mean?' And you say, 'I don't know, but it must be so!'

DC: It's definitely the spinning forces of the universe. I often think about the idea that rotation isn't movement, in the sense that to spin something is not to actually move it through space at all, you're just rotating it. I do love the idea that you can rotate a single pixel, and it doesn't change. One pixel, flip it around, and it's just the same thing. It quite often happens in the videos. You can flip time, you can make something go forwards or backwards, but that single pixel line doesn't change. There is something there, I'm not sure what it is, about unities, singularities and points in space.

LW: Aye, here we are, two white guys talking: two humanists trying, stumblingly, to spin science. Let's get back to your own actual progress. You develop these better machines so that you can begin doing this new sort of panning...

DC: I shot the helix people in London in '05, and then came back to Melbourne, end of '05.

The next big step was the *Pan* series (2007–12). I was almost going back to the very first stuff with the panning, when I first started getting onto the slices. But the idea was that if I could now get the machine to rotate at exactly one pixel per frame, it might produce this perfect kind of smear. So I set about trying to do that, and had to overcome some interesting complications.

LW: Such as?



Pan No. 2 (one step forwards, one frame backwards), 2007, single-channel digital video, 16:9, colour, stereo, 4 minutes 43 seconds Courtesy the artist and Anna Schwartz Gallery

**DC:** The problem of concavity versus planar senses, in how lenses work. We don't actually see the world as if through a rectangular screen. Our visual field is more like the centre point of a concave sphere. And when one tries to translate the one into the other, you get some pretty weird distortions, with things getting all big and fat here and a bit skinny there.

LW: Would this be like with the sky carousel piece (talk about a turntable!), or would that have been earlier?

DC: No, no, that was old-school, from around the time of the first *Train* pieces (in 2002–03). No, here I'm talking about, for instance, the skateboarders. With each frame you get one slice of space, but over the time, you get those beautiful candy-stripe, liquorice allsorts...

LW: The taffy people, the silly-putty people.

**DC:** The silly-putty people come out and they just *want* to come out, they're coming out of everything. I could watch them for hours.

LW: Explain to me again why we get those taffy people. Why do people on the skateboards start smearing like that?

**DC:** Well, it's the same old thing: you've got the video frame, and I'm slicing it up into individual pixels, and then each pixel of space is being offset from either side by one frame of time.

LW: So they've moved a little bit?

**DC:** They haven't moved spatially, they've just moved temporally. The pixels are exactly where they were before, they haven't moved anywhere over the frame. So that pixel up there stays where it is and the next one over stays where *it* is, but it goes backwards in time one frame. And the next one over goes backwards in frame one time, one, one, one, one. And because the camera's panning at exactly what effectively becomes one pixel per frame, it's almost like walking backwards on an escalator.

LW: Okay, that's a helpful analogy.



Static No.10 (falling as a means of rising), 2007, single-channel digital video, 16:9, colour, stereo sound, 3 minutes 54 seconds Courtesy the artist and Anna Schwartz Gallery

**DC:** You're staying in the same place, even though you're moving through time. You get this kind of suspended moment, like leaning into the wind. It's also a bit like that idea of evolution as an opposing force to entropy. During the mid-90s, I was reading about Emergence, which had a lot of bearing on my thinking. That sense of something that's falling but rising at the same time, so it's kind of suspended. I really loved that idea, and those videos talk a little bit to that, but not directly.

LW: It's interesting that people say that when you're walking, you're constantly almost falling and righting yourself at the last possible moment.

### DC: Isn't it Buzz Lightyear in Toy Story who says he wasn't flying, but rather falling gracefully?

LW: (laughs) By the way, did you ever do a video of a person walking backwards on an escalator?

# DC: Not exactly, though I sort of did — the guy on the treadmill — getting the movement, but staying in the same place.

LW: By the way, a more general question: do you have in your mind an image that you would like to see and then you develop the technology to produce it, or do you develop the technology and then see what it will look like?

**DC:** It has completely morphed from one to the other. In the beginning I had no idea what was happening, I was just playing with these processes and had a hunch that I could do something interesting — then rocking back on the chair, gob-smacked.

LW: There is that famous Forster line: 'How can I know what I think till I see what I say?'

**DC:** Yeah. But these days, I've gotten a better grasp of what's going on, of the mechanics underlying it all. Now when I'm looking at the world, I've got a much better idea of how it's going to translate. For example, the last piece that I made a device for was *A Garden of Parallel Paths*, and I knew exactly what it was going to look like. It was just a matter of making the thing to be able to make the video.

LW: Anyway, we were taking about the treadmill piece...

**DC:** Well, I'd been invited to submit a work for the Sellers Art Prize with the theme of 'art and sport'. For a long time I'd been wanting to get somebody on a treadmill. With a lot of this stuff, you want movement, but you want it contained; moving, but not moving out of the frame. I was also very interested in some of the early experiments in slit-scan photography, the finishing-line photography originally used in horse racing, which then came over into sports.

Marey recurs here as well. Looked at in a particular way, he can be credited with inventing the very idea of exercise. He was commissioned by the French military to do chrono-photographic studies of soldiers, trying to get the most out of them, and in a sense, he invented this pre-sports idea of exercise.

Anyway, it was a great opportunity. One of my best friends, Christopher Brown, is a former sprinter, a very good runner in his youth. He's also been the subject of a lot of my video experiments. I'll say, 'Chris, I need someone to sit in front of the camera for three hours. You up for it?' 'Yeah, yeah.' We've been doing this for years, and we've known each other since we were kids. So I got him on the treadmill. This was also the first time I'd managed to get my hands on a high-speed camera. We were shooting at 600 frames per second, which is outrageously fast, and in turn it slows the resultant footage down to this extraordinarily poetic pace.

Up till then, I'd been hesitant to show people the untreated footage. I didn't want people to see so clearly the link between the original source footage and the alternate vision I was trying to present — that edge where the real crosses the boundary into another dimension, that 90-degree turn into time. But in this case I loved the poetry of the slow motion source and decided, okay, I'm going to risk it. Originally I was going to do a two-channel piece, where one side was him running normally, and the other side was the temporal version. But to determine the exact edge for making the most valid version of the temporal object, to balance those two out, I had to build a system, like a little virtual machine that controlled the video, so I could have checkboxes and sliders to visualise the cause and effect. But as I was doing that, things got really interesting: 'I just want to see it moving like this ... but it's like I'm opening it up ... wait a second, what if I animate that, what if I try animating it opening up? That could be sublime!' Easier said than done — three days later of banging my head against the maths, I could literally feel my head overheating...

#### LW: Talk about opening something up!

DC: It was like, argh!! I'd tell myself, 'Oh, that's it: it's a function of time, and so you write all this code, and then it just breaks straight away ... no, no, it's not time! It's not time! That's space! Those are pixels, they're not frames!' Or the inverse: 'What, it's not matching up! It needs to be at 10 pixels, and it's at 20. Why is that?' Then, 'Oh, because they're not pixels, they're frames!' The number of times that's happened, even when I'm so embedded in it and know I am swapping time for space, I am swapping space for time, even then I'm still saying, 'No, this isn't a spatial thing, this is a temporal thing!' Blah blah blah ... Finally I was able to make a seamless machine with which I could open up this chasm and...

#### LW: Which piece was this?

**DC:** That's *Static No.11 (man running)*. That was a really great moment. One, just embracing the fact that I was going to reveal the source footage; and two, the opening up of this crevasse, this temporal rift.

#### LW: Which brings us to the Tai Chi man.

**DC**: Indeed, that's exactly what I do with the Tai Chi man, a year or so later. I'd originally stumbled upon this beautiful man during a visit to Shanghai in 2009, pretty much as you see him in the work, practising alone in a little secluded alcove.

Back home, and researching Tai Chi I found the phrase 'to seek stillness in movement'. This idea dovetailed perfectly with the treadmill technique, opening up what is essentially a *still* moment, almost like a graph of the motion. But once it was fully opened up, I then started to move the slice very slowly. So the bands in the background start to move like the pans, and then he starts to move as well. And then, with some very fine temporal balancing, and trying to get just the right moment when it happens, I got him to wink out there at the end: a very 'ashes to ashes, dust to dust' kind of moment.

LW: It premiered at the Sydney Biennale, which is where I saw it — it was the first piece of yours I ever saw, and it was screening in a prison cell, which made the presentation all the more memorable.



Static No.12 (seek stillness in movement), 2009–10, HD digital video transferred to Blu-ray, 16:9, colour, sound, 5 minutes 23 seconds Courtesy the artist and Anna Schwartz Gallery

**DC:** In that amazing space, 'the secret room', though not exactly in a cell — some sort of office space. It was pitch black and we could turn the sound right up, it was perfect.

LW: Talk a little bit about sound in your films.

**DC**: The sound is hugely important. Sound is the emotional dictator. I work with a couple of guys: David Franzke, who is a genius, and Byron Scullin, who's also a wizard. We've worked together for years now. A somewhat tense relationship at times — they have an inimitable quality of not doing anything unless I'm sitting there in the studio with them. It drives me fucking crazy. But they have a great sense of how to translate ... I see sound in very visual terms, I try to explain it to them in visual terms, always drawing little graphs and saying, 'That's what it is! Can we make it sound like that?' And they go, 'Well, sound doesn't really work like that. You can't just layer up a whole lot of sounds, it'll just sound like an echo, which is not what you want.' But then they'll come up with another few ideas: 'Well if we do *this*, then that might get, psycho-acoustically, where you want to get to.'

LW: In all these pieces, do you begin with the actual sound that was there? The trains leaving the station, the Tai Chi man in his pavilion, the pedestrians crossing the crosswalk?

**DC**: The interesting thing is that originally it was all from the source footage, because the camera was recording the sound at the same time as recording the image. But with the high-speed stuff, you no longer get the sound in camera, but if possible you've got to bring that into it, a bit like that tether back to reality, that real texture.

I will come to the sound guys with a brief of what I'm hoping to do. It's generally a structural thing, relating to the image, and if there's any narrative, it's in the audio. For example one brief was that it should sound like underwater, like someone's popped in from another dimension in a diving bell, and this would be their experience of our world. We get a suite of sounds from that, a very rough assemblage of how they might work, and I do the final arrangement. Sometimes I'll bring in a few sounds, and they absolutely point-blank refuse to use them. And I'm like, 'It's awesome. It's going in there! I'm putting it back in as soon as you guys are out of the room.' We have those sorts of stand-offs.

LW: Where did you get those eerie number sequences?

**DC:** They're Number Station recordings. Byron put me on to them. They're spy broadcasts recorded by amateur radio enthusiasts, with great names, like The Lincolnshire Poacher, they're fantastic ... German, Russian, Chinese. They're just being put out there like a code that's audible but completely indecipherable to anybody, unless you know what you're listening for. I also really like the analogue texture, the blips and tweets, and the kind of 'functional' quality of the audio.

But *man running* was the work of Mr David Franzke. I threw in a few extras at the end, but that is pretty much his work entirely. For me it was all very much in the lab, it's about analysis, it's about grids, it's about timers. So there's this metronomic ticking in the background, and Dave suggested using a glass harmonica for each footfall. I was like, 'What, are you tripping?', but I took it home that night and it just kept growing on me and now, how can it be anything else? I fully bow down to his genius in that regard, because it was phenomenal. It's a huge part of the work.

LW: So what have you been up to since Tai Chi man?

DC: Well, last year (2012) I worked on a piece called A Garden of Parallel Paths, which is a reference to Borges.

I began with the laneways of Melbourne (they're everywhere in the city — thinking of the laneways themselves as slices out of a city. The challenge was: could I take those slices and stick them together into a seamless whole, like I did with some of those pixel-loop slices on the early videos? It turns out you can, after some unbelievably painful work. You get spaces that conjoin at a kind of meniscus, an infinitesimally small boundary. They're almost like theatre flats — parallels, but with the people colliding on the edges...

And in the meantime, I've also been working on my Hamiltonian paths.

LW: Your what?

**DC**: My big into-it at the moment. It all started because I was doing this series of portraits. I'm now onto robot number 12, or whatever it is, much more sophisticated now, finally approaching what I set out to do 20 years ago. This project was kind of like Chuck Close meets David Hockney meets Google Maps.

LW: How so?

**DC:** I'm using the robot to do very long scans of the portrait sitter, which results in two things. Firstly, it introduces a much longer period of time into the frame and secondly, it creates a lot more resolution, so I can make massive super-highly-detailed images.

I invited several friends to sit for me, with my friend Christopher of course being the first sitter. Another friend, Chris Gill, who runs a record store, did a fantastic sitting holding up a Marvin Gaye record, so it's half him and half Marvin Gaye.

These were very systematic, almost snake-like scans, panning back and forth in a regular pattern (snake-like as in the very early game on Nokia mobile phones). So then I started looking for alternatives to that, which is how I got to the question: how do you cover every point on a grid with a line that doesn't intersect itself? Even with small grids it becomes really hard to even figure out a single path. I started trying to plot them myself, drawing dots on a page and then a single line solution, and I thought, 'Oh man, these are great!' But very challenging, quite a complicated problem. Even with a 6 x 6 grid, it's very hard to do it properly.

I started doodling possible solutions. While I was at the Rijksakademie an advisor told me about a Dutch artist whose whole project was just this kind of problem, tracing all the possibilities across projects, which essentially become phonebooks of possibilities.

LW: Sol LeWitt does a similar thing with his wall drawings — how many possible ways can you arrange a given set of squares.

**DC:** At first I figured there can't be that many: one, two, then  $4 \times 4$  — but very quickly you start to get very big numbers.

LW: Now, you've got a program doing this? Or you're generating everything by hand?



A Garden of Parallel Paths, 2012, single-channel High Definition digital video, 16:9, colour, sound, 9 minutes 33 seconds Courtesy the artist and Anna Schwartz Gallery

### DC: No, this is me drawing them.

LW: So, basically you've gone over the edge here, right? You have started to veer — cue the percussion spangle — into *The Twilight Zone*.

**DC:** (*laughs*) Yeah, I was doing it through sheer brute force, but I knew there had to be a mathematical way of doing this, right? So I rocked into the Mathematics Department of Melbourne University. Literally walked up to the reception desk: 'Hi, I'm working on a little project at the moment and I have a maths problem.' 'Oh, that's graph theory, you should go talk to this guy'.

After a couple of days, I got a response from Jan De Gier, a mathematician at Melbourne Uni. He explained to me: 'This is a Hamiltonian path problem, blah blah blah. It's a notoriously difficult problem, it's an NP complete thing, which is essentially exponentially hard to solve.' I'd been thinking, 'I want to fill a wall with every possibility of a 10 x 10 grid, or put them all in a book or something'. He's saying, 'No that would take a million phonebooks. No-one's even approached that, we don't know how many there are for 10 x 10.' Oh, okay, wow.

LW: Sounds like Borges's Library of Babel. Though at least there, somewhere in the infinite library, Borges assures us, is the catalogue to the library, so the search is not entirely without hope. But how did all this relate to what you were actually going to be doing?

DC: Well I let go of the 'all possibilities' thread, but I still wanted a way to draw single paths. Jan put me onto another of his colleagues, Nathan Clisby, and we ended up talking to a Dutch mathematician, who's the ultimate expert on this stuff. And how fascinating is this? *It actually comes out of research into protein folding!* 

LW: Just like your DNA pedestrian feet, from before!

**DC:** Turns out there's a highly geometric mathematical solution to a very biological problem. I found that pretty interesting. So with his help, we managed to write a little algorithm and ended up with this thing here.

LW: Oh my God, what's that?

DC: It's a Hamiltonian path.

LW: But what is the question that's been asked?

**DC**: It's 123 x 123, and it's been asked to just draw one unbroken line, crossing every point in that grid once without overlapping.

LW: Okay. Well, I'm very happy for you.

DC: (laughs)

LW: To be clear though, that's just one possible solution, right?

DC: Yeah.

LW: And you worked it out lunkheadedly by yourself? Or did a program work that solution out?

**DC:** That was definitely the program. Nathan wrote a little algorithm for me, which is the program that came out of the protein-folding algorithm.

LW: So you've got this crazy thing — not that I don't like it, it's very pretty by the way — but what you going to do with it?

**DC**: This was in my show at Anna's gallery last year, as a print. It's called *A Single Path, A Single Past*, which refers to collapsing everything down to a single historical path. That idea of multiple worlds and a collapsed causal chain.

It is also a labyrinth, in the historical sense of the word 'labyrinth,' as opposed to a maze — that is, it has a single path in, and a single path out, and no-one's tricking you about which way you're going in or out. It's very Daedalus and the Cretan Labyrinth. There are also really interesting associations with circuit diagrams and semi-conductor layouts, because they too have to be on a single plane...

LW: But beyond just drawing it, what could you do with it in terms of your wider practice?

DC: I've begun to think of their potential as a kind of dictator, almost in a choreographic sense, as a very directed kind of motion. I'm working on a couple of different projects that explore them, tying all sorts of things together. Labyrinths, laneways, piano rolls, LCD timers out of old VCR machines ... actually the timers have these beautiful circuit diagrams on their backs. Which ties in with the southern hemisphere clock, as you're seeing the clock from behind. I like that the timers have come out of VCRs as well, which are tape machines and a kind of physical time machine in and of themselves.

LW: Are you planning to deploy any of those ideas in Adelaide?

DC: No. For that commission I'm hoping to use footage I took when I was there with you in New York.

Whenever I travel, I take my camera with me and go out to see what's out there. I had a hunch that the subway would make an interesting site, both as metaphor and subject in itself, and I was right. It was great to get down there. I did have one slight technical fear — fluorescent tubes are notoriously bad for flickering when you shoot at high speed. And I was amazed, to be honest: you guys have some very high quality fluorescent lighting!

LW: (laughs) What do you expect, we're half-assed amateurs?! Come on, we're New York! This isn't Melbourne, for God's sake!

**DC:** Everywhere in Melbourne, if you shoot under fluoro at over about 100 frames a second, it just starts phasing and flickering. It's horrible.

LW: And many of the platforms in Melbourne you shot were outdoors? How else was New York different?

**DC:** For one thing, it's a far different level of pedestrian traffic. Also the massive web of interconnectedness. In Melbourne, we only have one ring that goes through the city. It's just one train line, there's no interconnecting up-down, in-out subway connections. Whereas some of your subway stations are amazing. Union Square and Times Square...

LW: The spaghetti bowl effect.

DC: Absolutely. You can see train lines and people at all different levels, it really was quite impressive.

I'd built another little robot to take with me for panning, much smaller and lighter, which meant I could get into those places easier, for a slightly more guerilla style of shooting, which I really prefer. I got in there and shot a lot of stuff, and was pretty pleased with it. So that's what I've decided to go with for this show.

It will be coming out of some of the earlier *Pan* stuff: the skateboarder video, and also the piece that I did more recently for the MCA, last year, *Pan No.9 (dopplegänger)*, 2012, using a boxer. I'll be returning to that kind of suspended moment that comes from turning that volume of video, or that time/space volume, on its side, and looking at it from the side. The thing is, even though they end up being shown on flat screens, when I'm working on them in the computer, I have them as 3-D models, just so I can wrap my head around what's going on. It makes it a lot easier to think about.

LW: With *Pan No.9*, you have a sense of there being three different screens stretched out in a sort of 'Z' across the flat screen. But you've never actually done it with a stretched-out 'Z' of screens — or have you tried that?

DC: Well, *Pan No.9* was an attempt, but it was somewhat thwarted by the installation parameters, namely a large pillar in the middle of the space. But this time in Adelaide I'm hoping to do it properly, to take the dimensionality of the video and extend it beyond the edges of the frame — extending it, that is, into the means of its display. You'll get a much stronger sense of there being a volume. That's what I'm hoping for, that people will really get the sense of, actually see, the volume of information that is in the video. That by being able to walk around it and navigate it, you'll get a bodily sense of it. By making them physical, real, tangible experiences, the hope is that people will really be able to see it and experience it in a much stronger way.

LW: So you'll have little rivulet of screens, maybe nine or ten screens, kind of angling, zigzagging along the floor of the gallery?

DC: Yeah, five screens, I think it's going to be.

LW: And will the screens be stationary? Or will they too move?

**DC:** No. I tell you what though, that would be the commission times fifty, when we can actually make the screens themselves move!

LW: So that will be for the Adelaide 2020 Festival. But in 2013, it's going to be five screens in a zigzag. And are they going to be projecting one continuous image, or five separate images?

DC: It will be five separate projectors, so five separate images. Though the idea is that it's one continuous, seamless image.

LW: And when it was shot, it was shot as one single continuous image, and you've broken it up into five pieces? I mean, you did hours and hours of filming down there in the subway, are you basically just going to be taking one, say, 20-second fragment, and playing with that fragment, or...?

DC: Well, no. Okay, so there are two things going on.

One, pretty much anything you see on the screen, even the bits peeling off from the edges, will be exactly what was there. So it is uncut in that sense.

But what I'm also trying to do — and this was part of the approach already when I was shooting the stuff there in the subways — is to connect dislocated spaces, and non-contiguous spaces, into a seamless whole. The approach I've taken to that is a little bit like how, in *Russian Ark*, Aleksandr Sokurov took that continuous tracking shot through the Hermitage Museum, and created apparent edit points within that by moving past poles or through doorways, giving us that Walter Murch blink moment, even though there were no cuts: the film was one continuous 90-minute take.

LW: Right, right.

**DC:** That's one of the things that's so fascinating watching that film — there were points where you almost felt like your eyes were being held open, you were just like, 'I want to blink! I want to blink now!' Whereas

here, it's a byproduct of the panning, because there's no parallax movement at all. I've attempted to use those poles as a kind of edit point. So I can stick spaces together that shouldn't normally be stuck together at all, by using the poles.

LW: Is that related to what you were doing with A Garden of Parallel Paths?

DC: Exactly. And the funny thing is that, at the time, I saw A Garden of Parallel Paths as quite a departure from what I'd been doing recently. But I was looking at it the other day and thinking that, while visually it is quite a departure, conceptually, and looking at all the work over the last few years, it's the same thing. It's this idea of trying to connect things that are dislocated into a seamless whole, like an alternate whole that is just as valid and viable and readable as any other. In that sense, those laneways that are so graphic and hard-edged and stuck together are essentially the same as the imaginary objects — those beautiful, swirling-gloopy-liquid white forms. They look totally different, but it's basically the same idea: this attempt to stick together objects or moments that aren't meant to go together — like an illusion of continuity. I guess ultimately I'm thinking that really it's not an illusion. Everything *is* connected, in a way.

LW: If we could but see it. Which brings us once more back to Blake: If we could but cleanse the doors of perception, then we would see the world as it is — infinite.

**DC:** Yeah, absolutely. When I was thinking about that and the subway — why choose the subway as a site and a location — it is quite a nice idea to think of the subways as these invisible connections between spaces that at ground-level you can't see at all. They're completely invisible. This subterranean network that's connecting those points in an equally valid and viable way is invisible from the surface.

LW: Well, they are sub-ways.

DC: Absolutely.

LW: Rather than a garden of parallel paths, it's a Garden of Sub Ways.

**DC:** Yeah, yeah. I've been trying to think of a way to say that, for the title. Hopefully Borges will come to my rescue again.

LW: So, are you using the poles the way you used the meniscus in the garden path? Do you bring things together that were in two different pieces of footage, with the pole?

DC: Kind of.

LW: You do do that? Okay.

**DC:** It has a dual purpose. First, it is a way of connecting these spaces, and trying to make a viable whole that wasn't there. But it also has a compositional purpose. Because I'm shooting panning movements, it's very hard to find a location that works in a full 360. You can have a big chunk of it that looks great, and then all the stuff behind you is just boring. Half your movie, there's nothing happening, it's quite dull.

So this is a way to introduce a kind of editing process, and I really like this idea, because it's not temporal editing in the idea of 'cutting'. It's a spatial editing that equates to a temporal edit. In other words, by using the poles to stick bits together and essentially edit out the bits I don't want, I do two things at once. Yes, I'm spatially editing, because I'm omitting the bits I don't want to see. But it's also a kind of cinema editing — it's all this stuff that's quite often getting tied up in itself. You think, right, this is editing, just like a video. It's essentially a cut, but because I'm making time so visible and physical, it becomes spatial, just by the nature of that approach.

LW: But would it be correct to say that as I'm walking around, looking at this piece, if I see three people in one scene, framed by two poles, they would not have been shot at the same time as the two people in the next part?

**DC:** Well, most of the time, it'll be one scene. It remains to be seen exactly how it's going to play out, but with the models I've currently been deploying, all of those were just one shot, one moment. I'm quite excited because, with the fact that we're going to have the five screens, you will actually get to see beyond

the normal frame. I mean, in the past when something happened and then left the frame, that's it, it was gone. Whereas this time, you get to see it from both sides. You get to see the future and the past, and how that present is played out.

**LW**: So that's a little bit like the class clown who, when they're shooting the panoramic photo of the graduating class, runs from one side of the picture to the other side, so he shows up twice?

# DC: Right.

LW: And for that matter, it's like the Christmas card with the family showing up five times, doing that trick.

**DC:** Exactly, yeah. That would be great to do, the big school photo, and see the person there and there, see them run off and then pop up, or the other way around. Or maybe they'll just disappear! If you flip time the other way, they blew it, they're not in the photo *at all. (laughs)* 

LW: (*laughs*) So will this be a single, say, ten-minute piece, or will there be several different ones that will be projected at different times of day? How will it work when you set it up?

DC: No, it will be one piece. I'm aiming for about ten minutes, maybe a little bit longer. It depends. It won't have a beginning or an end, in the sense of a traditional narrative arc. But there will be little narrative arcs within it — the sense that you will be able to see a train arriving and leaving at the same moment. But then you'll be able to see it arrive again.

**LW:** And people will or will not be able to make it onto the train before its doors close, and they'll constantly not be getting on the train, or maybe they will get on a different train...

By the way, one of the things I like about this is that it will be a piece that can only be experienced in this manner. In other words, if you made a video of it, you could have the video walking around it and so forth, but you wouldn't have the experience that a person walking around will have. It will be a site-specific piece in a certain sense.

# DC: Well yeah. It's something I've been wanting to do for ages. I was hoping to do it with *Pan No.9*, but couldn't, and I had to put it on the wall.

LW: Oddly enough, you couldn't because there was a pillar there at the place you first showed it (at the Museum of Contemporary Art, Sydney).

# DC: There was the damn pillar there.

LW: But now you're taking advantage of the pillars. Once you get the pillars inside the film, you're fine!

DC: Exactly, exactly. And this is one of the real privileges of a commission like this. It's the opportunity to test out an idea and work on an ambitious scale. And I don't know exactly — I mean, my hope and expectation is that it will be a truly embodied experience. Like you said, you can't take a video of it and put it on YouTube. You'll have to be there and experience it as it is, and the aim is that it will have a transformative effect on the way that you read the video. And that where those screens touch, how they connect with each other, how the movement plays out within the moving image, and how that all reads, will be a physical experience.

LW: And, in turn, how that piece will read you. How that set of photons playing across the screen will play into your own sense of your own body moving around, I imagine. That'll be part of it too.

**DC:** Absolutely. That's something we have largely forgotten with YouTube, and with videos just on your computer and on your phone. Especially in the context of an art experience, I think everyone's sort of forgotten what it actually means to experience a moving image in a dark space with good sound. It becomes a much more synesthetic experience than just watching pixels on a small screen.

LW: I was also thinking, by the way, that because of the jagged, zigzaggy screen set-up, as you're walking around it you'll see other viewers walking into the screen and disappearing as if into the train, but they'll just come around the edge. So there'll be that whole thing happening, too.



A Garden of Parallel Paths, 2012, single-channel High Definition digital video, 16:9, colour, sound, 9 minutes 33 seconds Courtesy the artist and Anna Schwartz Gallery

**DC:** I really hope so. I'm really hoping that the scale works on that level as well. You're at that scale — people are almost full size on the screen.

LW: Well, all I can say to you at this point is get to work. Meanwhile, I'll keep on thinking of names for you.

DC: Good, please do!

LW: Subseem, Seamsub...

**DC:** Maybe Sub-perceptual? Basically I'm a geometry nerd when it comes down to it. And it always seems to come down to this basic question: is the universe discrete, or is the universe continuous? Especially whenever any conversation of time comes up — is there ultimately a frame rate, at the bottom of things? Or is there not? I've spent a lot of time pondering that, and reading about it, and trying to work it out myself.

LW: As you know, the answer is: it's turtles all the way down. You know that story about the turtles, don't you?

How the grand vizier can't sleep at night because he can't figure out whether it's discrete or continuous, or more precisely in his terms, 'What is keeping this whole thing up? What is keeping the globe from falling hopelessly through space?' So he calls in the wizards and they confer for a while and then say, 'Well, the whole globe is being held up on the back of a huge elephant'. And the vizier is reassured, 'Oh, okay, that's good'. Only the next night when he goes to bed, he still can't sleep, because what's holding the elephant up? And so he calls the wizards in again the next morning and they again try to reassure him, 'Don't worry, the elephant is on the back of a huge monkey'. And he says, 'Okay, good'. Only of course when he goes to bed that night he still can't sleep, because what's holding the monkey up? Turns out it's on the back of a huge cockroach. Which presently turns out to be on the back of a mammoth hyena, and so forth, till eventually they get to a huge turtle, and after that, the exasperated wizards try to reassure the vizier not to worry once and for all, because, 'Sir, after that, it's turtles all the way down'.

DC: Where is that from? I've definitely heard that!

LW: Isn't that's what the internet is for?

### DC: Exactly.

LW: That could be the title of your piece: Turtles All the Way Down.





Pan No.11 (cross-platform transfer) (detail), 2013, 5 channel digital video, colour, stereo sound, custom screen, 18 minutes 23 seconds. A Samstag Museum of Art and 2013 Adelaide Film Festival commission

DC: It doesn't matter, because it's just about what we can perceive. It looks continuous to us, and...

LW: It's good enough for all practical purposes.

**DC:** Absolutely. And beyond all practical purposes — *far* beyond all practical purposes. It would still be continuous. Even if we're right at the bottom and there are pixels and frames. It doesn't matter.

LW: That in turn reminds me of the story of the two Oxford Dons who are talking to each other, the mathematician and the engineer. Know that one? They're deep into this whole disputation regarding Zeno's paradox, you know the one about the arrow's getting halfway to its target, and then half the remaining distance, and half of that, and so forth such that it can never reach the target — and at that moment a beautiful woman goes walking by. And the mathematician, considering the paradox, despairs of every being able to attain her. But the engineer knows he can get close enough for all practical purposes.

DC: (laughs) Very good.

LW: Okay, enough! Get to work!