

questions by Olivier Cotte, answers by Caroline Leaf

What are for you the great qualities of direct animation?

Direct animation is a very personal way to animate. It is usually a one person job so the animator is in control of both the movement and the look of the animation. If you are working with materials like sand or wet paint (rather than cutouts, say) your presence is felt in the trailings of sand and paint, the smudges of all the little finger pushes you do to make the movement. This breathes the animator's life into the animation.

Since there is no tradition of drawing with sand or wet paint, there's freedom to develop your own unique style.

Working straight ahead lets you focus on the main movement, and express the movement you are imagining in a very direct way. You need to simplify the imagery to make it move. You don't think about separating images into layers that move differently or cycles of movement. Image and movement are one thing.

And, because animation is like poster art, ie.the imagery needs to be simplified to be understood, you the animator can almost live the animated movement you are imagining. I think the spontaneous performance aspect of direct animation is exciting.

What are for you the differences between working with sand and working with oil paint?

The main difference is working with color when I use paint (I don't work with oil paint because it's toxic and I don't want to be in a small hot room with turpentine or any other volatile oil medium. I work with water based paints, gouache or watercolours, repeatedly adding a few drops of glycerine to the paint and stirring it well. If it is well stirred the paint will never dry. It's worth buying good quality paint to be inspired by it's strong color and it's density. You use very little paint so it's not a big expense.)

Sand, even very fine sand, is a cruder material than paint and has more limited possibilities. For example, sand animation relies mostly on silhouettes to give information about an object or character. This inspires the animator to find creative solutions for character design and planning shots.

Sand always gives a surprising strong graphic look.

When I work with sand, because I use my fingers (you can also use a brush to move the sand), my field is large. But with paint, though I also use my fingers, I try to make my field small: the smaller the field, the less material to push around, the faster I can work.

How do you manage to work on the same shoot during several days?

Animating direct is a slow motion performance. I work for several days and even weeks to animate one shot. It's difficult to come to the animation table every day with the same high energy and pick up where I left off the day before. I would psych myself to get into an animation mode each morning.

When working with film, I often animated for several weeks before sending the film to the lab for processing. It would probably be another few days before I saw the rushes. So, since I could not see what I had shot the previously, I kept an ongoing written list of the frames when an action began and when it ended, to let me know how much time every animated action had taken. From that I could re-imagine it's speed. I also made notes outside the filmed frame area to show me where an animated character was at the beginning of a movement and where it should end, as well as the increments of it's movement.

Today with digital recording and onion skin it's easier to keep continuity of an animation shot over several days. You can look back and see what you have just shot, and afterwards you can also tweak and adjust what you have shot to help keep continuity of movement.

How do you know the exact amount of light you have to put under the glass?

Sand requires lighting from underneath. Paint on glass requires top lighting if you are using opaque gouache paints.

The correct lighting is found by making light exposure tests. Draw a typical image with black, white, a range of greys, and color. Shoot several seconds of this sample image at clearly marked half stop f-stop intervals. Then look at the projected film to choose the best exposure.

The important rule to follow is use as little light as possible in order not to strain or even burn your eyes. Looking for many hours at a bright white surface, either top or bottom lit, can hurt your eyes. You want to keep the light level as low as possible. A lower light level will also give more detail in the shadows.

Tell me about your cutting. The long shoots you develop a lot.

I developed long shots and morph scene changes to get from one shot to another because I didn't know how to edit. I was afraid to make a cut that wouldn't work.

Why do you use metamorphosis a lot? And how do you manage to make them?

Metamorphosis or morphing is something unique to animation. I like to exploit what frame by frame thinking and technology lets me do. I only make morphs where they make sense in the story, so often in the kinds of stories I have animated the morphs are my way of getting from one scene to another efficiently (and without a cut). To do a morph, I draw the first frame of the morph and then the last frame which is where I want to get to. Then I figure out what part of the first image will turn into what part of the last image. It takes some courage to do. Think of the animated morph as increments of change starting slowly, going faster, coming into a slow ending.

Is your storyboard precise and do you follow it completely?

I didn't do storyboards for my films. If there was dialogue in the film, I recorded the voices before I started to animate. The voice track was my story guide. Now when I am teaching students in workshops, I tell them to do a storyboard so that they have a plan. But then they can turn over the storyboard and not look at it. However, for a longer film, an animatic is the best planning, because it puts the storyboard into a time line. It is the closest thing to film to test an idea and be the guide for making it.

Do you draw a layout for each shot of your films?

Yes, usually I drew a floor plan and included the 'camera location'.

How do you imagine the lens distortion (wide angle effect)?

Not sure what you mean here, Olivier.

Do you use live action to get a working reference?

No I don't use live action for reference. I try to imagine the movement I want to animate. I act it out and time myself doing it. Then I animate it with confidence and it always ends up believable and/or interesting.

For The Metamorphosis of Mr Samsa:

What kind of sand do you use?

I spent summers on a beach with fine grey sand. This is the sand I use for my films. Sometimes, when I give a sand workshop, we buy playground sand which is clean and fine. Coarser sand is interesting too. Drawings with coarse sand have less detail and the grains of sand show. It is more sandy looking. It might be the look you want. When the sand is underlit and the room is darkened, the sand, which is opaque and blocks the light from below, looks black, and the white is the light table. Black and white are what you have to work with, and of course, pressing the sand thin so that some light comes through, it is possible to make shading.

How large is the working area and how are your lights set-up? (as it is a technical book, it has to be precise: type of bulb, power, angle etc.)

It is important to work on a glass surface not a plastic surface when animating with sand or paint. Sand will pick up static if it is pushed around on plastic, making the tiny particles of sand jump. It will be difficult to control the image and keep a clean line. I use flashed opal glass, sometimes called milk glass, a photographic quality of sheet glass with one side of cloudy white glass. This is the top side I work on. Milk glass is expensive. For workshops we use clear window glass with a sheet of white paper below. If you can raise the glass to make a space between the glass and the paper (15 cm, 6 inches or so) then you can light the paper with 2 side lights and eliminate the shadow cast by the sand onto the paper. A Wacom tablette with a sheet of glass over it works very well.

My field, when animating sand, is approximately 35 cm (14 inches) wide. It's nice to work smaller too, because then there is less sand to push around, which lets you work faster. I back light the sand with 2 lamps on either side of the stand facing down towards the paper, and jiggle their angles until the animating field looks evenly lit. Look at what the camera is showing to judge the lighting and find an evenly lit field. Also, as I said earlier, try to work with the dimmest lights possible, so that you do not hurt your eyes looking into the bright white of your animation surface, and also to get maximum value of shadings. The lights can be simple photo kit stands with daylight balance bulbs (they look like curly fluorescent bulbs for the house). These lights are cool and you can work for a long time in a small space without dying from the heat.

Digital cameras can easily be set for daylight or tungsten and can also perform well with low light levels. In workshops we like to mount a canon digital still camera with a zoom lens for an easy frame set up onto a tripod which sits on a table top at a comfortable height to stand or sit at. Dragonframe has been a good recording program. There is a free version of Dragonframe that allows only 50 frames/shot. – Olivier, this kind of information might be very useful for someone starting out, but might be quickly outdated. I don't know if it is useful to include or not.

What kind of tools do you use?

I mainly animate with my fingers. I like to touch the sand, which becomes softly warm. People often use brushes. I make patterns in the sand using a fork, or a wood block pressed into the sand. I blow on sand with a straw to create an interesting soft look.

Remember that sand can destroy your digital equipment. Shake your hands clean before touching your computer or camera. It's good if you can click a frame by pressing a button on the end of a cable far away from your equipment.

How did you adapt the short story?

All of my animation films have been adaptations from literature or from spoken stories. I learned to eliminate as much as possible the written word and put it's meaning into the imagery and movement. Kafka's story The Metamorphosis attracted me because of the psychology of the man beetle and the family's reaction to his change. However, at the time I was making the film, the English translation was not in the public domain. It was still under copyright, and so I needed to tell this psychological story without words. I hope the film gives the feeling of the isolated and enclosed world of the beetle.

What were the animation difficulties for this film?

The Metamorphosis of Mr. Samsa was my night job. During the day time I was animating The Street at the National Film Board of Canada. I was making The Metamorphosis on my own and it took several years to complete, because I did other work to earn my living. I don't remember that it was a big difficulty.

Please tell me about the sound and the recording

Without having the use of Kafka's words, we made up a suggestive language which the characters speak. We used sound effects. The Film Board gave me finishing costs, including

time for a sound mix and editing. Normand Roger, a great animation sound composer, worked on my film. I think it might have been his first sound track at the Film Board.

For The Street:

What is your oil and adds made of?

I never found a graceful way to work with coloured sand. When I want to work with colour, I use gouache or water colours. A few drops of glycerine stirred well into the paint will keep it from drying. The wet paint can be pushed around like sand and wiped away with a wet cloth. Glycerine can be bought in a pharmacy/drug store. It is cheap.

I don't use oil paints and their toxic mediums when I usually animate in small rooms without good ventilation. I want the safety of water based paints.

Gouache is an opaque water based paint with brilliant colours when it is top lit. Casein tempera also works well. It is worthwhile getting good quality concentrated colours. Animations don't use much paint and the best brands have satisfying bright colours which mix well. There are different qualities of gouache in some brands. The very high end quality isn't necessary, but avoid the student qualities, which have very little pigment in them. A good brand is Pebeo studio version. Pelikan plata tempera which comes in jars and is hard to find is a good brand. Daler Rowney Designers (formerly Lukas) gouache is also good. – again, Olivier, I don't know if this kind of specific detail is long term good information.

What painting tools do you use?

As with sand animation, it is important to work on a glass surface not a plastic one. Plastic scratches easily and absorbs some colours. The colours are opaque, and I light from above with lights on either side of the field. The field size I use for working with paint-on-glass is smaller than the field for sand. It is approximately 23 cm (9 inches) wide.

I work with my fingers. I wipe the wet paint up with a wet cloth. Absorbent old t-shirts or cotton sheets or heavy paper towels, slightly dampened, are useful. I use a sharpened stick to make white lines in the wet paint. Some people work with brushes. A size 12 watercolour brush is a good size to begin with. I use a single sided razor blade to move the paint around on the glass.

Sometimes, you blur parts of the image in order to emulate a motion blur. When do you know to have to use that trick?

I'm not sure what you are referring to, Olivier. A soft edge is made with paint rubbed thin.

I would like to add, as practical suggestions:

Make your work surface a comfortable height to sit or stand at. You need to be comfortable to work well.

The room where you work needs to be darkened. Turn off the overhead lights and black out the windows.

It is useful to have a sink nearby when working with paint-on-glass.

It is a good idea to wear dark clothing when doing direct animation so that light doesn't reflect off your clothes into the camera. For that same reason, to avoid light spill, I put wide black duck tape around the edges of the work frame, so that light from the work table doesn't reflect into the work frame.