Do We Still Need Masks?

Masks, photographic not facial, are still useful whether shooting to silicon or film! For this image (see Image-001) of Santa Claus reading a bedtime story to a couple of sleepless kids cosied up in front of a big roaring fire on a chilly Christmas Eve, I wanted the viewer to feel like they just stepped into this magical glowing fire-lit room. Since the fire is behind the subjects, it was a perfect opportunity to capitalise on the dramatic look of backlighting – I figured that to make this work effectively, I would need to light the scene from the fireplace without my lights being in the photograph. So why artificially light the scene instead of using the fire itself as the backlight source? Well, to create a heavy backlit look as you see here would require a longish exposure to collect enough light from the fire. High ISO was not an option due to quality concerns plus I was capturing the image on sheet film with a large format view camera – for this format there are few high-speed film choices available.

Wait a minute, don't leave, it's not all about film! The techniques I'm about to expound upon work for digital too! And I will include the differences.

As you know, long exposures are dangerous with animated objects such as people, especially children where you run the risk of your subjects appearing blurry due to their inability to sit dead still. In addition to this, the fire would photograph almost completely burned out and there would be lots of lens flare – this is typical when the actual light source is included in the photograph. What I wanted was strong backlighting that looks like it comes from the flames, and to marry this with a nice exposure for the fire – not a flaring nuclear glow. To freeze the subjects sharply and crisply, and to have the perfect fire exposure, it was apparent that two exposures would be needed; one for backlighting the subjects with strobe/flash and one for the fireplace flames. To this end a composite would be necessary and since I was shooting film on a 4x5- or 5x4-inch view camera, I decided to do it 'in-camera,' or more accurately, 'outside in-front of camera.'

To fake the firelight backlighting, I placed two off-camera flashes inside the fireplace and pointed them outwards at the subjects. To block the strobes from showing up in the image and causing lens flare, I decided to use an exterior mask rather than an in-camera mask (internal mask). An internal mask is a piece of material, usually rigid black paper, that is cut to just the right dimensions then suspended inside the bellows of the view camera at just the right spot so as to block or 'mask-out,' in this case, the fireplace. I needed to shoot wide-angle to capture the whole scene as you see it. When you focus your view camera, you do so by moving the film standard (back of camera) closer and farther from the lens standard (front of camera) until that sharp sweet spot is found – the two standards or frames are connected with a light-tight bellows which expands or contracts like an accordion. When you use longer focal-length lenses, the distance or bellows extension between the two standards is greater than with wider focal lengths. The short bellows extension that is common with wide angle (except in extreme close-ups) makes for very tight quarters inside the camera, rendering internal masking awkward. A better way to go is to use an external mask. An external mask is the same concept as the internal mask, however, it is suspended outside the camera, in front of the lens. This second method made sense since the mask would have to be put into position for the first exposure, then removed for the second. Masking outside the camera is less complicated making it possible to work faster and making it easier to keep the double exposures in register since you don't have to touch the camera when uninstalling and reinstalling the mask. Also it is the only type of masking you can do if you are capturing digitally with a mirrorless or DSLR camera.

There were two ways of making the required double exposure for this Christmas image: one is load the film holder into the camera, shoot the first exposure with subjects, lighting, and mask in place, then remove the mask and flash units, turn off the accent lighting strobes, ignite some crumpled newspaper behind the fire logs, then expose the film again for just the fire. To expose the next sheet of film, you need to clear out the fire, put the flashes and mask back in place, then turn on the strobes. As you can imagine, this is very time consuming (about 15 minutes per shot) and is very trying on the patience of the talent, especially the children.

The second method is to shoot the double exposure out-of-sequence. Start by exposing all the sheets of film with the subjects, lighting, and mask in place. Once all the first half of these double exposures are complete on each of the sheets of film (15 sheets in my case to ensure at least one good image of all three subjects), remove the mask, clear away the subjects and flashes, turn off the accent lighting strobes, and then create a roaring fire with some crumpled newspaper behind the fire logs. At this point the humans can leave the building, they are done. With the talent gone, complete the double exposures by reloading and exposing each film for the fire.

This method of splitting up the double exposures is much faster and has a better flow for working with the subjects, however, it is less than optimum in terms of registration – the camera will most likely move a little every time you reload the film holders. With the first method, you only load each film once, no need to touch the camera between exposure 1 and 2 other than re-cocking the shutter. With the second method, the second exposure will be out of register, but only a little if you are gentle, probably no more than a few pixel-equivalents. This small variance doesn't really matter since the second exposure is just the fire against black, there are no lines or ghosting for our eyes to identify that the two exposures are not in perfect register.

If you are using this masking technique with mirrorless or DSLR cameras, you will have to use the second method just discussed since most of these cameras can't capture two exposures in one file. There is a work-around involving a long exposure, but it may cause some noise issues.

It works like this: set your camera shutter to Bulb, darken the room for a long exposure, which needs to be long enough to give you time to prepare the fireplace for the second exposure. It would be prudent to block the front of the lens between exposures with something black like a black card on a boom arm. However, this Bulb shutter method is unnecessary since compositing this image is easier done in Photoshop. Start by taking the two shots separately; one file has the strobe/flash lighting while the second has just the fire flames. Open the file of the strobe-/flash-lit subjects in Photoshop, then add the file of the fire as a second layer. To this top layer add a 'Hide All' Layer Mask so that you can selectively paint in the fire overtop the blank fireplace in the bottom layer. Or, instead of a Layer Mask, try changing the Blend Mode of the top layer from Normal to Lighten mode. This Blend Mode change will make the top layer's bright-blazing-fire pixels over-ride the lower layer's dark fireplace pixels. Lighten Mode tells Photoshop to compare the top layer pixels to the pixels directly below in the bottom layer, and to replace only the pixels below with any pixels from above that are lighter in tone. Since the top layer is mostly black without detail with the exception of the fire, only the fire gets added to the lower image. In the end, whichever way you decide to create this image, whether film or digital, you will need to mask out the fireplace for the flash-in-fireplace exposure – bright light-sources when photographed, flare just as much with digital as with film.

There you have it, that was the Santa shoot in broad strokes. For the finer details, that is if you are still awake and thrive on geeking out, read on – God knows I have a lot of words left in me yet!

The camera was a Sinar P2 4x5 a 5x4-inch large-format view camera fitted with a wide angle, 90 mm lens (25 mm equivalent on 35 mm format cameras). The aperture was set to f16.5 for depth of field (DoF). A Kodak Wratten 81D filter, installed on the back of the lens, was used to warm

up the colour and mood of the shot. Wanting a low angle to add a little more drama to the image, I mounted the camera on a tripod head bolted to a 38.0 by 51.0 cm (15x20 inch) sheet of plywood. This camera rig sat directly on the floor about 2.7 metres (9 feet) in front of the subjects who were positioned one metre (3.3 feet) in front of the fireplace. I used Kodak Ektachrome 100 Plus sheet film rated at 80 ISO.

A 2400-watt strobe fitted with a 1.2 by 1.8 metre (4x6 feet) soft-box was placed to the camera-right side 1.8 metres (6 feet) in front of the subjects (see diagram A in Image 002). I chose a large soft-box to ensure that all shadows created by it would be soft edged. Soft edged shadows draw less attention and this was important to me since this light-source was to be the fill-source – I generally like the effect of my shadow fill to not draw too much attention away from the main-light and accent lights. Since this light was closer to the foreground and further from the background as well as closer to Santa than the kids, it was pointed up to feather light off the near floor area and rotated a little towards the children away from Santa to even out their brightness values. With these adjustments the strobe power was altered to read f8.0 using an incident meter set to 80 ISO. The meter was positioned with its back against the subjects and the dome pointed at the soft-box – this created a -2.5 fill. How was that calculated? Take the f8.0 reading and compare it to the camera exposure setting (f16.5), the difference (-2.5) is the ratio. Perfect!

To accent overly dark areas of importance (see diagram A in Image 002), three 800 WS mono-block strobes fitted 18 cm (7 inch) parabolic reflectors with honey-comb grids installed were brought on set. Two of these accent lights used 20˚ grids and were placed 1.8 metres (6 feet) above the floor. They sat to the left and right sides of the set 1.8 metres (6 feet) in front of the fireplace. They were directed to create pools of light around the candles on the mantle piece. The third accent light, also sitting 1.8 metres (6 feet) above the floor, sported a 30˚ grid and was placed 1.2 metres (4 feet) to the right of Santa – it was in-line with his front arm. This source accented his camera-side as well as the inside of the book. The light striking the book from the accent light reflected off its white pages and back into his face bringing out his features. You may wonder why I didn't just turn up the fill-light if I was so concerned about some of these key frontal areas being too dark. Obviously, this would have been a much easier solution but at the cost of the dark cosy fire-lit look. I prefer to use low level fill-light and then selectively brighten important secondary areas. This light-source measured with an incident meter at the subjects, read f16.0 making it a -1/2 value.

The main-light was created with two 100 WS off-camera flashes mounted to a piece of plywood and placed inside the fireplace. The flashes were rotated so that one was aimed towards Santa and the other towards the girls. With the aid of my incident meter positioned at the subjects and

pointed towards the fireplace flashes, I set these lights to f22.0 which was a half-stop above the camera aperture setting making them a +1/2 value. Notice how the stray light spilling past the subjects bounces back into the scene increasing the shadow-fill brightness – compare images A and B in Image 002.

To stop the fireplace flashes from nuking the image, a piece of black paper was adhered to the centre portion of a 61 cm (24 inch) square piece of clear window glass. To set this up, I first had to figure out where to place the glass – the distance of the glass to the camera would control how fuzzy (in focus or out of focus) the edges of the mask would be. The distance would also dictate the size of glass needed; the glass sheet had to be at least big enough to cover the lens' full field of view otherwise the glass edges would appear in the image. I wanted the mask a little out of focus to aid in making my fire-flame exposure meld nicely into the subject exposure. The closer the mask is to the camera, the more out of focus it becomes and the smaller the sheet of glass can be. The further the mask is from the camera, the more in focus it becomes and the bigger the glass needs to be. So, finding that distance had to be judged while looking through the camera with the lens stopped down to shooting aperture in order to take into account the DoF created by my f16.5 setting. I settled upon positioning the mask at 61 cm (24 inches) in front of the lens – check out the slightly soft-edged black rectangle over the fireplace in Image 002 B, this masked area photographed pure black making it the perfect canvas to set the fire upon!

With the sheet of glass in place it was time to prepare and install the actual mask. To create the perfect mask I taped a sheet of clear acetate over the ground viewing glass on the back of the camera. Having already confirmed that the framing and focus was to my liking, I traced out the fireplace rectangle on the acetate using an indelible ink pen; once you create and place the mask you cannot move anything, to do so will render the mask useless. Next, two registration slugs were hot-glued to the camera-side face at the top of the glass (see diagram A in Image 003). A large sheet of black paper was hole punched so that it could be held in position with the registration slugs (see diagram B in Image 003). A bright light was shone through the ground-glass/acetate tracing on the back of the camera. This projected the tracing onto the black paper covering the sheet of glass in front of the camera. Essentially, I had turned the view camera into a projector. The projected image on the sheet of glass was the perfect size and dimension to block the fireplace flashes – no measuring, no maths, no problem! Using a white ink pen, I traced out the projected rectangle on the paper covering the glass, then cut it out (see diagram C in Image 003). This black rectangular mask was placed back into the rectangular hole it was cut from and was held in place with double sided tape. The large outer black paper was then removed which left the floating black mask in place ready to go (see diagram D in Image 003).

For the second exposure, this mask was removed to allow the flames to be photographed. If the mask needed to be used again, it was a simple matter to put back the large piece of black paper over the registration slugs, pop the mask back into the hole, then remove the big sheet of black paper while leaving the mask in place – now the fireplace flashes are perfectly hidden once again!

The above procedure needs to be modified for mirrorless and DSLR cameras or any camera that does not have a large optical preview ground glass or any direct way to access it. Start by viewing the fireplace using LiveView on the back of your camera or wifi-ed to your smart phone. Let this image direct you in placing strips of tape onto glass to map out the mask rectangle. Using the registration slugs again, place a sheet of white paper over the camera side of the sheet of glass. Backlight the glass so you can see the tape show through the white paper. Trace out the tape rectangle onto the white paper and then cut it out. Remove the white paper and tape. Install the black paper back onto the glass then place the white paper top of the black – obviously both the black paper and white paper are hung correctly in place from the registration slugs. Trace out the hole in the white paper onto the black paper, then cut it out. Now you have your black mask as well as the hole in the larger outer black paper to place the mask correctly!

Word of warning, nothing but a black cloth or black flat should sit behind the camera, otherwise you and/or lighter room objects will show up as reflections on the sheet of glass and will create ghosted images in the final capture.

The fire in the fireplace for the second part of the composite was created with crumpled newspaper and a little liquid fire-starter. Obviously, the flashes were removed before adding and igniting the newspaper inside the fireplace! I settled on an exposure of 1 second to go with my f16.5 aperture. This made the brightest flames three stops brighter than the camera setting. This is a +3 ratio and was read with a 1° reflective spot meter. This is where digital really excels over film, you can shoot, chimp (look), and adjust until it looks right. Also, with film you don't really know when you have captured the best flame pattern since you have no instant preview. This and the two young girls created a lot of variables to overcome, making me burn through lots of expensive sheet film to get the shot.

So, there's all the principles and procedures to create a 'fire-lit' look. A project like this can be pricey to execute if you don't use your imagination a little: I sourced the living-room/fireplace by asking friends and family. A friend of a friend agreed to let me take over half her house for a day in exchange for a portrait of her aging father. From my favourite acting agency, I found my Santa Claus in a white-haired actor named Noel – how's that for living up to your name. Noel was a professional Santa Claus and was absolutely perfect! He even showed up with his own Santa outfit, sack, and white whiskers! I did the shot with him as a collaborative business Christmas card promotion, so no actual fee was required. The children were provided by my sister in exchange for prints and some of the Christmas cards. As it turned out, the best image was a version we did at the end of the shoot on a whim; I swapped out the brunette child with my sister's younger daughter (compare girls in Image 002 A and B). It was a fortuitous occasion that she had been dragged along to the shoot rather than left at home with a babysitter. I hadn't thought to use her; I figured that sitting so long is pretty hard for such a young child. As it turned out she was absolutely enthralled by Santa – she was convinced that he was the real thing and so sat there on the floor for a long time starring at this 'God of Gifts' in complete wonder! Snap!

2

A

B

C

3

Registration Slugs

A

Black Paper Positioned With Slugs

B

Cut Out Centre Retangle

C

Small Paper Rectangle Placed Back In Hole, Large Paper Removed

Fireplace Is Masked!

D

dave MONTIZAMBERT'S
creating with light