

# Vive La Difference

By Alexander Mustard

In the last issue of UWP I wrote a first impressions review of the new Nikon D2X and said I'd report in my field experience in this issue. In short, the camera is superb and its image quality exceeds that of all other Nikon digitals and also the best slide film, and by quite a margin once that film has been scanned. On a personal level, the D2X means I no longer have a reason to expose film. For me the digital debate, the question of whether digital is as good as film, is concluded.

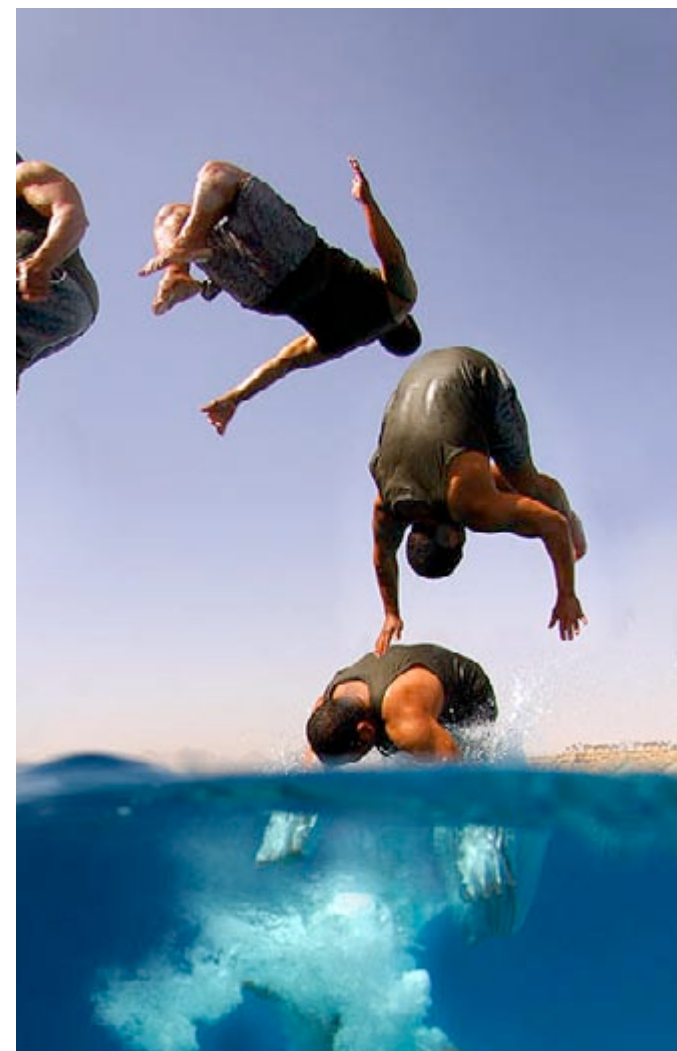
That said, I always thought that the digital debate was barking up the wrong tree. People seemed far too concerned about taking exactly the same shot on film and digital and seeing how each performed. Instead we should accept both are now capable of producing excellent quality results. More importantly we must learn that digital IS different from film. Understanding and then exploiting the differences offered by this new technology is the big issue of digital. The key to exploiting digital is NOT just to repeat the images we took on film. What is exciting about digital is the ability to shoot in new ways and create types of images that were impossible before. Vive la difference!

So instead of going on about how great the D2X is. Its arrival makes it timely to review a couple of the ways the techniques of underwater photography have evolved in this digital world. I'd like to give more examples, but I only have space to touch on two areas of digital imaging and discuss how they have changed the way we shoot. These are post processing and first the LCD screen.

The simple LCD screen on the back of a digital camera offers a variety of examples of how the techniques of underwater photography have evolved. With a compact camera we no longer have to hold the camera to our eye, we can shoot with the camera out in front of us, reducing the critical camera to subject distance, or place the camera level or below subjects when there isn't room for us to fit.

Far more importantly the LCD is crucial to the technique of digital photography because it allows us to critically review our images while we are in the water. Image review has two main benefits to the quality of our pictures. First we can adjust our settings until we produce increasingly polished results – this constant review and optimisation during shooting is key to the technique of digital photography. To exploit the technology to the full we should examine focus, depth of field, exposure, lighting and composition, refining each until we nail the shot. Then second, armed with the knowledge that we have bagged the classic shot it is time to experiment. Success in the LCD screen should encourage us to try different camera angles, different combinations of aperture and shutter speed, different compositions – basically looking for images that offer something new.

One of many possible examples is refining the classic theory of complementary colours. This theory states that for the greatest impact a subject should be set against a background colour of contrasting hue (a colour from the opposite side of a colour wheel). Complementary colour theory is nothing new; Vincent Van Gogh once wrote "I am thinking of decorating my studio with half a dozen pictures of sunflowers, a decoration in which the raw or broken chrome yellows will blaze forth on



*When we are aware of what can be achieved in post processing it can change the way that we take images. This image would be impossible to produce in camera, but I was able to show the model the finished picture later on during the same afternoon. Nikon D2X + 10.5mm, Subal Housing, f4.5 @ 1/640th.*

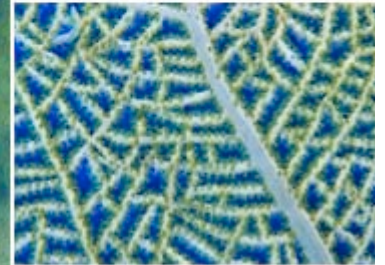
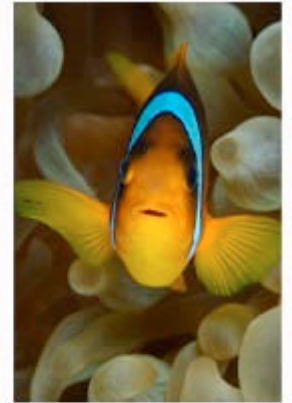
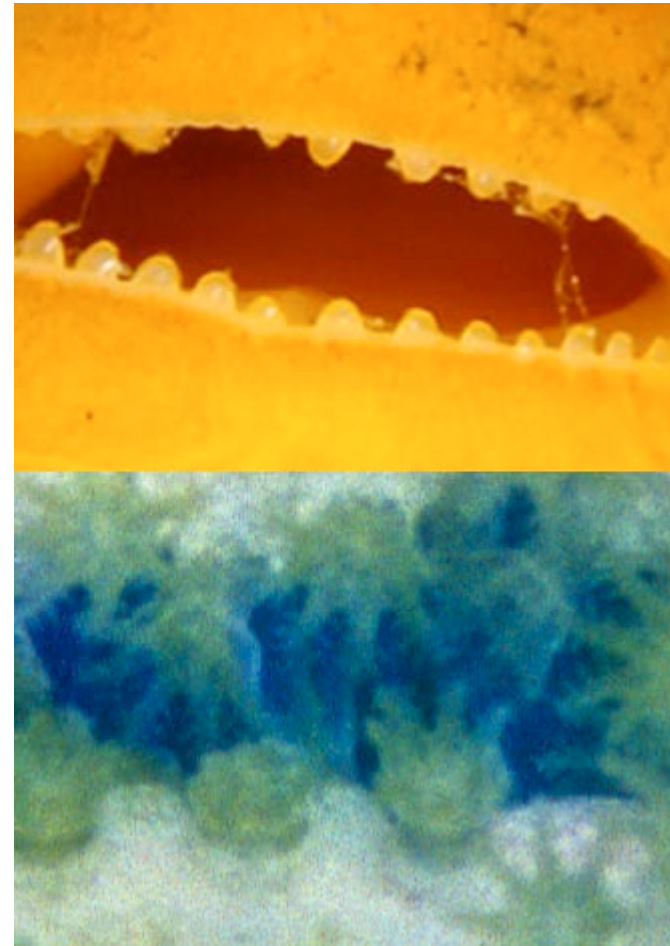


*The LCD screen should encourage you to experiment once you have the standard shot. Once I had taken the standard left hand image of the pygmy seahorse I chose to extend my exposure to create a blue background version, right. Nikon D100, Subal Housing. 105mm +4 dioptre. Left f32 @ 1/180th, right f32 @ 1/15th. Subtronic Alpha and Inon Z220. This shot was hand held.*

various backgrounds of blue, from the palest malachite green to royal blue”. And underwater photographers have followed suit, setting warm coloured subjects (red soft coral, orange sponge, yellow seafan etc) against cool blue water. The LCD screen simply allows us to assess how these colours are working together and adjust them until we get the perfect match. Foreground colours are hard

to change, but we can control the hue of blue water with our shutter speed – an underexposure gives us a deep blue and an overexposure and vibrant cyan – until it becomes the ideal compliment.

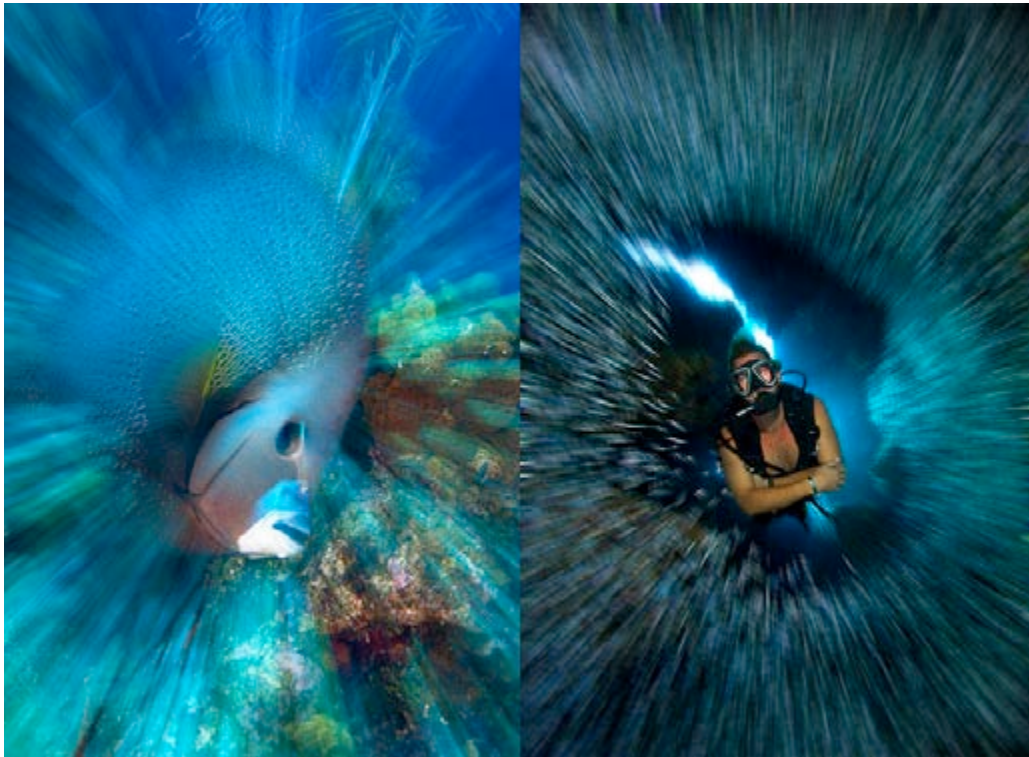
Furthermore we are not the only ones who can benefit from the LCD screen. When working with models the LCD screen is a massive benefit allowing the model to see exactly



*Comparing the resolution of the D2X and scanned Velvia shot with the same lens. The Velvia has been scanned with a Nikon Coolscan 5000, the resulting file (55MB TIFF) is about 20 megapixels. The D2X file is smaller 12 megapixels, but I have uprezzed it in Photoshop using Image Size to 20 megapixels. Then crops of the images are presented at 100%. It is clear that the digital camera captures more and shows it more cleanly than the slide/scanner combination.*

how they appear in the final image. I don't usually have the chance/finances to travel with a dedicated model and often end up working with the dive

staff at the places I visit. I cannot overstate how useful I have found the LCD screen in turning first time underwater posers, into the perfect



*The LCD screen helped me get just the right amount of zoom blur on the picture of the angelfish (Nikon D100, 28-70mm, f13 @ 1/10th, Subtronic Alphas). But in this digital age we must question whether my precious time underwater might have better spent adding the zoom blur in Photoshop as in the diver picture (Nikon D100 + 10.5mm, f8 @ 1/90th, Subtronic Alphas).*



*The challenge with digital is not to master the new methodologies of digital, but to try and exploit them to create images that could not be created with conventional techniques. In this image I have tried to utilise the characteristics of filter photography to achieve an image with colour penetration that would not be possible in a flash lit image. Nikon D100 + 12-24mm, UR Pro CY filter. Subal housing. F4.8 @ 1/40th.*

models. The LCD also includes them in the process, and makes the whole experience much more fun.

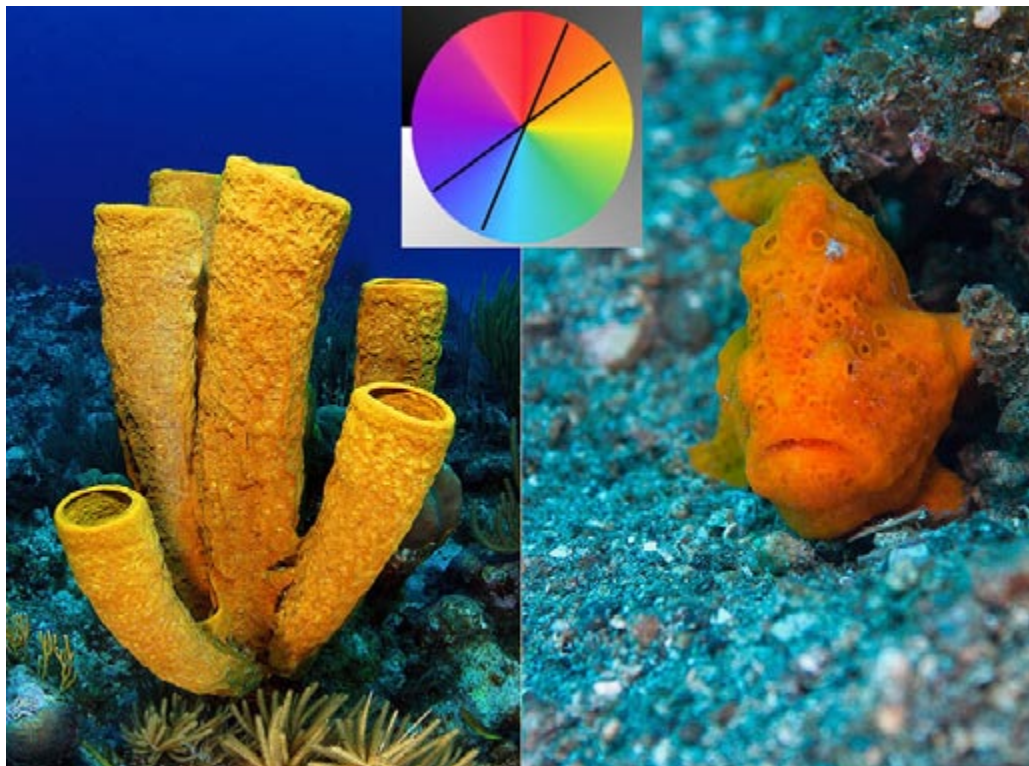
Post processing can obviously be used to correct the mistakes we make when taking pictures. But it is far more powerful tool when we are inspired to change the way we shoot underwater knowing what is capable in post processing. This is important

because it allows us to create images than cannot be produced in camera. Peter Rowlands' panorama article in this issue is a perfect example of this approach. Creating a final image that combines a thought that encompasses several presses of the shutter.

It is not by whim that David Doubilet's great book is called "Water, Light, Time". For the

underwater photographer is always running out of time. Time with our subjects is perhaps our most precious commodity. To fully exploit digital we should be aware of what can and cannot be achieved more easily in post processing, and manage our time underwater appropriately. For example perfecting an exploding zoom image may take 10 minutes

out of a dive – so why not achieve the effect in Photoshop? Integral to this approach are the ethics of digital manipulation. Personally I get far more pleasure from an image I created in camera, but we must be careful not to stick our heads in the sand as the world changes around us. I must add that I find digital manipulation far more palatable when it is used, such



***Complimentary colours. With reference to the colour wheel I selected a dark blue water colour (underexposed) to accompany the yellow sponge and a cyan water to go with the orange frogfish. Both Nikon D100, Subal Housing.***

as in compositing, to create an image that is clearly impossible to produce in camera.

The easy mistake to make with post processing is to think it is a cure for all woes. Dave Lloyd, the art editor of DIVE magazine who regularly coaches on Photoshop, refers to Adobe's finest as "Photoshop The Destroyer" since all manipulations act to remove data (and to some degree degrade final image

quality). Significant colour correction and manipulation as well as cropping etc all reduce your final image quality and should be done in moderation.

Probably the best area for exploiting post processing software lies in the flexibility of RAW files. Many people shoot RAW because it allows them to optimise exposure after taking an image, but what really gets the creative juices flowing is being able to adjust your film's colour

balance and contrast after shooting (with minimal loss of image quality). Armed with the knowledge of what RAW can achieve we can get back into the water and shoot photographs that weren't possible or practical on slide film.

Traditionally, telephoto lenses have been considered unsuitable for underwater photography because shooting through too much water means the resulting images lack contrast, clarity and colour (except for blue that is). RAW files and good RAW conversion software is an effective way to overcome these problems allowing us to adjust the colour balance and inherent contrast of our "film stock" to compensate. From an ethics point of view I find this acceptable because all we are doing when manipulating RAW is taking decisions away from the camera (or its programming) and giving them to the photographer. Now we can exploit the different perspective that these lenses offer.

A second example is available light photography with filters, which can produce stunning results when the colour balance is fine tuned with the appropriate RAW conversion software (as has been discussed in several articles in UWP). Remember that the advantage of RAW is that if such significant manipulations are made on JPG or TIFF files in Photoshop it

introduces unacceptable noise levels.

I'm afraid I have only had space in this article to scratch the surface of life in this new digital world. The real challenge to the photographer is not grasping the methodologies, but in coming up with images that exploit the new technical possibilities in creative ways. Filter photography, for example, allows us to add colour to our images in a completely different way to shooting with flash. No longer is colour limited by strobe aiming and the inverse square law. It is our job to devise new types of underwater images that exploit this colour penetration away from the camera.

After years of being limited to the same handful of classic techniques, suddenly the world of underwater photography has changed. Of course digital cannot break the laws of the physics (of light underwater), but we are certainly empowered to bend the classic rules of underwater photography. These are exciting times with novel techniques and new ways of shooting waiting to be discovered. Surely there has never been a better time to be an underwater photographer.

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