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JUNE 2021

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EXCLUSIVE INTERVIEW

Helen Trust

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There can be few greater visual symbols of human ingenuity than architecture. It's where art and engineering come together for ostensibly practical purposes – to provide shelter and places to gather for work or pleasure – but at its best it can inspire us and stir the soul like almost nothing else made by mankind. In short it's a perfect subject for photography and most of us are surrounded by it

every day. This issue is dedicated to the various creative ways of exploring the built environment in all its wondrous myriad forms, old and new, both inside and out, and even underground. We offer tips on lens and perspective corrections in camera and in post production; we round up a selection of tilt-shift lenses, and test the world's widest-angle shift lens. Don't forget to enter your best architecture photos into APOY 2021 – the details are on page 64. **Nigel Atherton, Editor**

If you'd like to see your words or pictures published in Amateur Photographer, here's how:

SOMETHING TO SAY? Write to us at ap.ed@kelsey.co.uk with your letters, opinion columns (max 500 words) or article suggestions.

PICTURES Send us a link to your website or gallery, or attach a set of low-res sample images (up to a total of 5MB) to ap.ed@kelsey.co.uk.

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amateurphotographer magazine



Our cover shot

This staircase is in the Brahms Kontor building in Hamburg and was shot by Helen Trust – see page 14

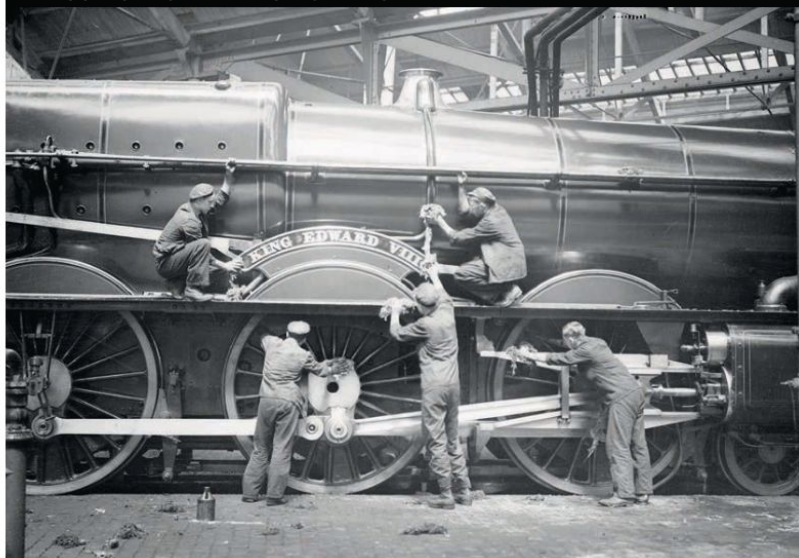
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This week in 1936

gettyimages

TREASURES FROM THE HULTON ARCHIVE



GWR Spring Clean by M McNeill

Workmen prepare the King Edward VIII Great Western Railway engine for service. Originally built as King Stephen, this engine was renamed in May 1936 after the new king who had recently come to the throne. One of GWR 6000 Class (or King class) 4-6-0 steam locomotives, they were the largest locomotives

routinely built by the company and were named after kings of the United Kingdom, starting with the reigning monarch at the time (George V) and going back through time. Following the abdication of Edward VIII later that same year, another engine – 'King Henry II' – was renamed as King George VI.

The Getty Images Hulton Archive is one of the world's great cultural resources. Tracing its origins to the founding of the London Stereoscopic Company in 1854, today it houses over 80 million images spanning the birth of photography to the digital age. Explore it at www.gettyimages.com.



**It's good
to share**

Our favourite photos posted by readers
on our social media channels this week

AP picture of

The Baths of Real Alcázar by Mary Maynard

Nikon D800, Nikon 18-35mm lens,
1/20sec f/3.5 ISO 6400

'These are the baths used in the 14th century by Maria de Padilla in Real Alcázar, Seville,' explains Mary, who lives in Bradford-on-Avon in Wiltshire. 'I didn't realise when I visited that this palace was a location for the *Game of Thrones* TV series and so huge throngs of fans

www.amateurphotographer.co.uk



the week

were everywhere, taking selfies. As you're not permitted to take tripods and it was very dark, I balanced my camera on a ledge in front of the water and only just stopped it from falling in as crowds of excited Thronies rushed in for their pics.' Mary has perfectly captured the atmosphere of this beautiful piece of architecture – and her achievement is even more impressive given the circumstances and restrictions that she was working under. Instagram @marymaynardphotography.

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**It's good
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We also liked...



Riverside Museum by Yaopey Yong

Canon EOS 5D Mark II, Canon 16-35mm
f/2.8 lens at 35mm, 1/320sec at f/8, ISO 500

'I'm a surgeon and a photographer with an interest in landscape and architectural photography,' says Yaopey. 'I like to use light and colour to highlight my subject. This was taken on a gloomy, rainy day during my first visit to Glasgow's Riverside Museum. I really enjoyed the architecture, particularly this side, facing the river. I photographed it with a black & white conversion in mind as the light was poor. I wanted to highlight the shape of the building, which supposedly resembles the hull of a ship. I gave scale to the structure by including a visitor who was casually sitting there.' Instagram @yaopey.

Spring Walk by Kaylea Braund

Canon EOS RP, Samyang RF 85mm lens,
1/250sec at f/2.8, ISO 100

'I love exploring different cities and taking in the beauty of each location,' says Kaylea, from Bristol. 'Lockdown has allowed me to explore my local area a lot more and see it with fresh eyes. This was taken in Bristol city centre next to the Exchange. I saw how the light was hitting the buildings and creating this lovely glow. I wanted to create something different in an area that is well photographed, so I shot through a flower bed of tulips to create the mottled light effect. I was lucky that someone walked into my shot at the right time.' Instagram @Bristolexplorer.



Resurgam by Andrew Dare

Fujifilm GFX100, 45-100mm lens at 66mm,
1/250sec at f/11, ISO 100

'I've always been fascinated with modern architecture, and living so close to London it kind of all fell into place as to what my main interest was going to be,' says Andrew, who lives in Brentwood, Essex.

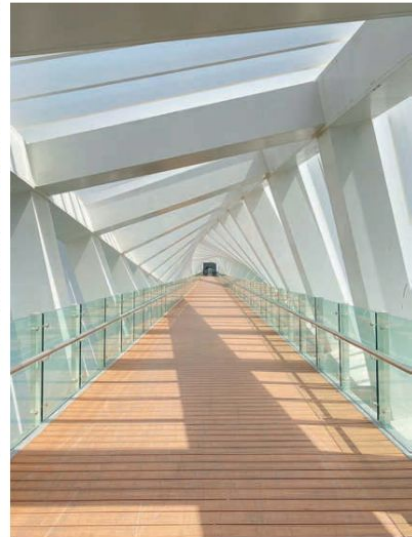
'I was always into art as a schoolboy but it seems to have got lost as I grew up and had a family. Just recently that all came back around after a chance encounter with another artist on Instagram.

'I taught myself similar techniques so that I could create my own body of work, and from that came "Resurgam"... It represents the natural decay and urban regeneration that happens in the daily rhythm of the city.' Instagram @darkside_ov_photography.

Dubai Water Canal Bridge by James Ward

Apple iPhone 11 Pro, 1/1500sec at f/1.8, ISO 32

'I have wanted to capture the Dubai Water Canal Bridge for some time and recently spent the morning walking along the canal with my newly acquired Canon AE-1 35mm film camera,' recalls James, a pilot who has lived in Dubai for the last five years. 'Obviously the analog nature of film leaves you unable to review, edit and share your images instantly, so I snapped a shot on my phone camera for good measure at the same time, and this is it. I find Dubai's architecture fascinating and this bridge is no exception. The kaleidoscopic design evokes both the futuristic and dynamic vision of Dubai as a city, but also the subtle movement and motion of the water over which it spans.' Instagram @ward_jr.



Want to see your pictures here? Share them with our Flickr, Instagram, Twitter, or Facebook communities using the hashtag #appticoftheweek. Or email your best shot to us at ap.ed@kelsey.co.uk. See page 3 for how to find us.



© PRESIDENT VISHWANATH / ANTHONY VISWANATH FOR ASP

Climate change images sought

FROM 1-30 June, amateurs and pros are invited to submit climate-change related imagery to an organisation called Climate Outreach. One hundred images will then be selected which best fulfil the brief, and a \$100,000 licensing fund issued direct to the successful photographers. 'The aim is for the 100 images to be part of a global editorial media campaign, to be exhibited at the Countdown and COP26 summits in October and November 2021, and to make the images available free of charge to non-profit climate change organisations, campaigners and educators,' say the organisers. See climatevisuals.org.

L-bracket for Canon EOS R5 and 6

TRIPOD maker 3 Legged Thing has worked with Canon to produce a dedicated L-bracket for the EOS R5 and R6. The Roxie is an Arca-Swiss compatible bracket, made from magnesium alloy, that's engineered with a cut-out to allow use of the camera's articulated LCD screen.



It also features two threads for attaching lights or monitors. Available in copper and metallic slate grey for £89.99. See www.3leggedthing.com.

Roxie, 3 Legged Thing's new L-bracket, is available now



Panasonic has revealed details of its upcoming high-end Lumix GH6

Panasonic adds wireless live streaming to GH5 II

PANASONIC has updated its flagship stills/video hybrid Micro Four Thirds camera, to offer the Lumix GH5 II. In many respects the new model is very similar to its predecessor, with the same dimensions and physical design. Its main photographic specifications are also mostly unchanged, with a 20.3MP sensor that offers a sensitivity range of ISO 100-25,600, and up to 12 frames per second shooting. Its electronic viewfinder offers 3.68m-dot resolution and 0.72x magnification, as before, but the fully articulated rear screen gains a higher resolution of 1.84m dots, increased brightness and a broader colour gamut compared to the GH5's.

In typical Panasonic fashion, the major updates are to do with video. The headline addition is live streaming over Wi-Fi, either to a router or a smartphone via Panasonic's free Lumix Sync app. The camera can also now record C4K 60p 4:2:0 10-bit footage internally whilst simultaneously outputting 4K 4:2:2 10-bit over HDMI, while V-log L comes pre-installed.

Some goodies are promised for stills shooters too. The sensor forgoes an optical low-pass filter for improved detail and features a new anti-reflective coating to reduce flare and ghosting. The Dual IS system has also been updated to provide 6.5 stops benefit. Last but not least, the GH5 II also gains the improved colour science that



The Lumix GH5 II gains improved colour rendition

the firm debuted in the stills-focused G9.

The Lumix GH5 II is due at the end of June for £1,499 body only, £1,699 with the Lumix 12-60mm f/3.5-5.6 lens, or £1,999 with the Leica DG 12-60mm f/2.8-4.

High-end GH6 and 25-50mm coming

To re-affirm its commitment to Micro Four Thirds, Panasonic has also announced that it's developing two further high-end products. The Lumix GH6 will be an advanced video flagship model positioned above the GH5 II in the range, with a new image sensor and processing engine. The firm is promising unlimited DCI 4K recording with 4:2:2 1-bit colour, along with 10-bit 5.7K 60p video; this implies that the sensor will require at least 24MP resolution, which is higher than any existing MFT model. The GH6 is expected to be released before the end of 2021.

Second is a premium Leica DG 25-50mm F1.7 short-telephoto zoom. This is designed to complement the firm's existing 10-25mm f/1.7, with the same design and control layout. It will therefore sport a physical aperture ring along with zoom and focus rings. There's no word as yet on when the lens will be released.



On the way: The Leica DG 25-50mm F1.7



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Research conducted by Opinium on behalf of MPB between 17-21st December 2020, among a sample of 4,000 professional camera kit owners in the UK, US and EU.



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Paul Williams, an AP reader, is taking part in the BBC TV show

7days
A week in photography



AP reader in new BBC photo challenge

CELEBRITY and portrait shooter Rankin, is hosting a new photography show on BBC Four and iPlayer called *The Great British Photography Challenge*, as we reported last week. The show started on 24 May, with six contestants undertaking a range of themed weekly challenges across the UK (although an eventual winner will be chosen, none will be eliminated).

One of the contestants is Paul Williams, a keen nature photographer and AP reader for over 30 years. 'I want

my message that there's hope after a major mental illness to reach as many people as possible,' said Paul, when discussing his appearance on the show. 'My own experiences, including trying to kill myself three times are, I hope, capable of informing people enduring their own mental health problems that their quality of life can improve, and I'm determined to use what I've learnt in my decade of mental illness to help others.' See our interviews with Paul and Rankin at www.amateurphotographer.co.uk.



Photography Show set for September

THIS year's Photography Show is scheduled to go ahead from 18-21 September at the National Exhibition Centre in Birmingham if there are no further Covid restrictions, according to the organisers. Rankin and fine art photographer Brooke Shaden are already confirmed to speak on the Super Stage.

Other highlights will include the new Shutter Street stages, plus the Photo Live and Video Live stages, and the Editing & Post-Production, Behind the

Lens and The Studio theatres. There will also be a wide range of masterclasses. Hundreds of brands are signed up, according to the organisers, including Canon, Nikon, Sony, Fujifilm, Olympus and Epson, along with major retailers. AP will also have a stand – details to follow. 'We've planned for measures such as staggered entry and enhanced sanitisation, wider aisles and improved crowd control, as a minimum,' explained event manager, Ruth Folkard.

Books & exhibitions

The latest and best books and exhibitions from the world of photography



London Collection (Model Meredith), Vogue Studio, image © Lee Miller Archives

Lee Miller: Fashion in Wartime Britain

Until 8 August 2021, Farleys House and Gallery, Chiddingfold, East Sussex. farleyshouseandgallery.co.uk

Lee Miller is perhaps better known for her World War Two reportage. Arguably less known is her fashion work for *Vogue* during the same period. The work on display at Farleys House, where she lived, spans the period from when she joined Roland Penrose in London in 1939, until just after D-Day, when she left Britain to cover the Allies' advance in Europe.

Produced by the Lee Miller Archives following the archiving of 3,500 fashion negatives last year, many of the works on display have not been seen since they were published by *British Vogue* almost 80 years ago. Not only is the exhibition well worth a visit, but you can also see the beautiful house, which became a meeting place for some of the leading figures in 20th century modern art. Opening times are restricted: check the Farleys website for full details.

Shoot, Eat & Leave: Essential Food Photography by Jason Wain

£5.99, self-published, eBook, 144 pages, bit.ly/shooteatleave



Available to download for a variety of platforms, this is an ideal book for anybody with an interest in food photography.

With over a decade's experience of shooting professionally, *Shoot, Eat & Leave* provides a concise guide to shooting food. It's aimed at a range of people including restaurateurs, influencers, nutritionists and of course photographers, but it is primarily for beginners or those just starting out with food photography.

Fifty per cent of profits from sales of the book will be donated to the Trussell Trust, the charity which is working to stop UK hunger and poverty and operates a network of foodbanks across the country.

From the archive

Nigel Atherton looks back at past AP issues



8 June 1996

GUEST Editors are common on some publications but only twice in the last 40 years has AP allowed someone else to sit in the big chair and decide what was going to be in the issue: our 110th anniversary issue, when Lord Snowdon was guest editor, and this one, AP's 1996 Erotica Special, when the reins were handed over to the legendary Bob Carlos Clarke. In the 1990s AP phased out the cheesy, artless glamour photography of the '70s and '80s that had earned it the unwelcome nickname 'Amateur Pornographer' in favour of a more artistic approach to photographing the female form. By the mid '90s this genre of photography was presented all in one hit, in an annual 'Erotica' special. But what did 'Erotica' actually mean? Bob offered a definition in his leader column. 'Erotica is a genteel term for something sexy dressed up as art, and is concerned with aesthetics more than arousal,' he explained. Buyers of this issue seeking the latter were disappointed to find AP sourcing its visual inspiration from fashion and art photographers rather than top shelf men's mags. 'At one end of the spectrum lies the "reader's wife",' he continued, 'spatchcock on the shagpile between the Sony and the Parker Knoll, while at the other stands the stilettoed courtesan of Helmut Newton, flawless beneath the chandeliers of the Villa d'Este.' Newton did not feature in this issue, but some of the greats Bob selected included Jeanloup Sieff, Bettina Rheims and Horst P Horst. The Erotica Specials didn't last long into the new millennium.



Bob Carlos Clarke curated the content and wrote the leader for this issue of AP



Fashion legend Jeanloup Sieff is regarded as one of France's greatest photographers



Vogue regular Jean-Francois Jonvelle was Richard Avedon's assistant in the 1960s



Rheims was awarded the Commander of the French Legion of Honour in 2013

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KIT LIST

16-35mm

'For almost everything, my Canon EF 16-35mm f/2.8L III is my favourite lens,' says Helen. Her love of big skies and minimalism call for such an exceptional, ultra wideangle lens as it enables her to utilise negative space. Its extensive depth of field and fast f/2.8 aperture helps with handholding, low-light photography and frame-filling cityscapes.

70-300mm

It's not the fastest telephoto zoom but Helen's 70-300mm f/4.5-5.6 IS II USM lens gives the reach and magnification she needs to isolate details and shapes. Its three-stop Image Stabilisation helps her to shoot handheld without incurring camera shake.

The North Face backpack

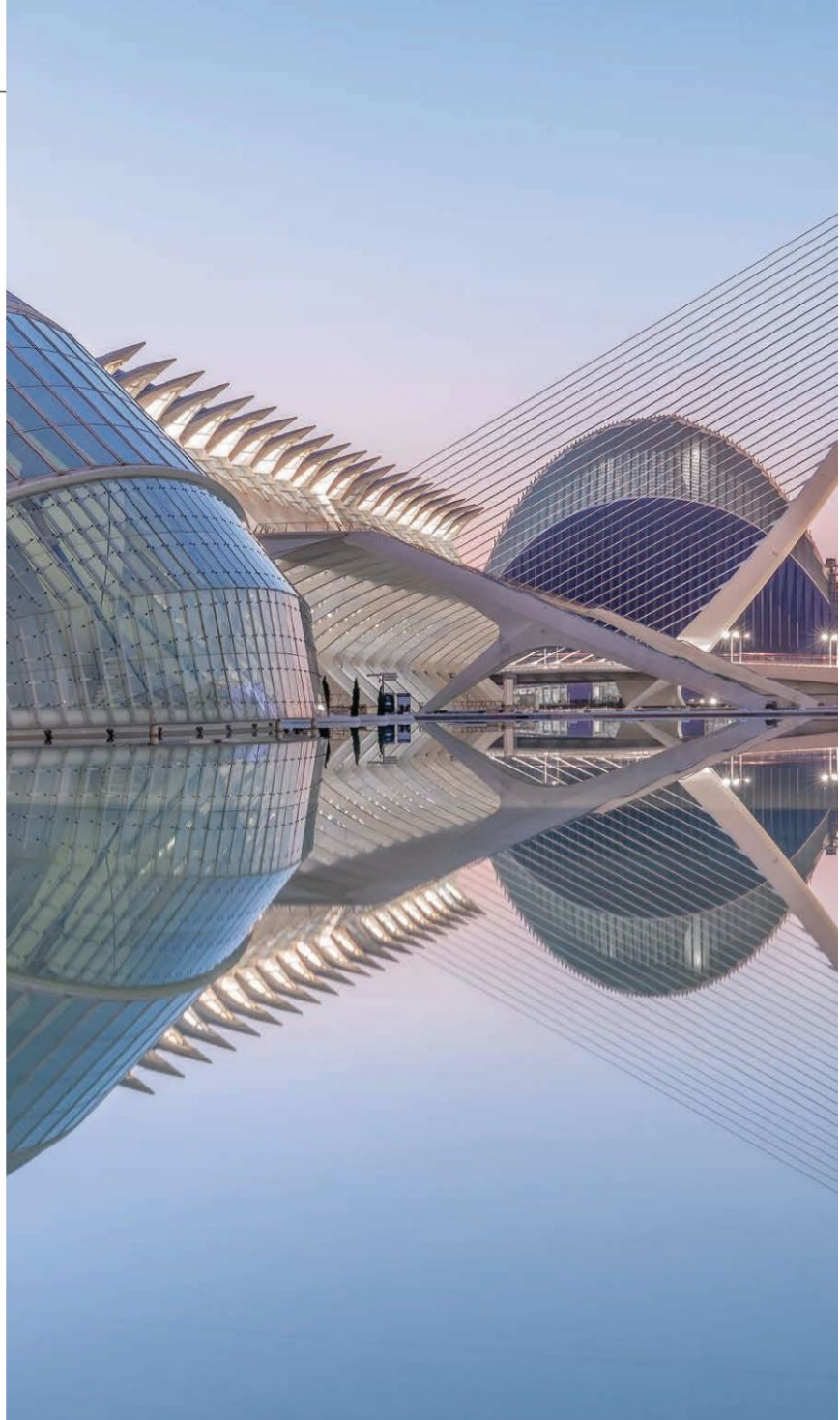
When travelling, Helen relies on her trusty Lowepro Trekker backpack to protect all her gear. For city shoots she transfers the essentials into a smaller and more discreet bag. The North Face backpack adorns a padded Tenba camera bag insert for added protection.

Grads

Helen's go-to combination is usually a 0.9 ND Grad for the sky with a 3.0 ND to soften any water and to extend the overall exposure time. She also hails Formatt-Hitech's reverse grad, which places the darkest gradient across the horizon, as it's 'fantastic for controlling the sun as it dips below the horizon'.

Bag for Life

Helen always has a Bag for Life stashed in her kit bag to not only use as an impromptu raincover for her camera but also to protect herself when she's lying down in a bid for that ultimate viewpoint. Helen often finds herself on the floor of subways and train stations.





Helen Trust

An award-winning amateur photographer, Helen has a passion for architectural photography that takes her around the world. She is an ambassador for Formatt-Hitech filters with a penchant for long exposures and minimalism. See @Helen_Trust on Instagram or www.helentrustphotography.com.

Calm amongst the chaos

Award-winning photographer Helen Trust talks to **Caroline Schmidt** about redefining the rules and explores her unique eye for finding minimalism in maximalist cities

There's no place busier than a city. No place more complex, cosmopolitan or contrasting in terms of people, culture and architecture. These architectural hubs are living history, remnants of past rulers and eras, as well as reflections of the most modern society. Most of us pass by the enormous masterpieces with just an appreciative glance, but amateur photographer Helen Trust has a unique talent for minimalising without diminishing the beauty of a city's structure, lines and colour by using techniques to highlight the best parts for a clearer, detailed picture of the whole.

'It is quite easy to get overwhelmed,' says Helen. 'I often find myself standing in a street or looking up at an amazing piece of architecture wondering where to begin – sometimes there's just too much and it usually ends up with me in a cafe giving myself a pep talk.' Although she'll say her approach is to 'shoot and hope', she has an innate ability to simplify the complicated and composes like a pro.

Bending the rules

Throughout our interview, Helen can be heard saying 'don't print that' as she admits to the



Valencia, City of Arts & Sciences
Canon EOS 5D Mark IV, 16-35mm, 10sec at f/10, ISO 100

unorthodox ways she sometimes creates her images. Do you use a tripod? 'No, too restrictive.' Do you use a polariser when working with glass buildings or reflections? 'No, the polarisation is hard to control when shooting handheld.' What about tilt-shift lenses? 'Nope, never used one.' Whilst we all respect getting it right in camera, Helen proves that the right workaround in post-production can allow more freedom and flexibility on location – and, judging by her images, the approach hasn't left them lacking.

'If I know converging verticals or alignments will be a problem, which is often the case with a wideangle lens like my Canon EF 16-35mm, I'll shoot with space to spare. Lightroom is efficient at correcting distortions but it can come at the cost of harsh cropping so that needs to be factored in,' she explains.

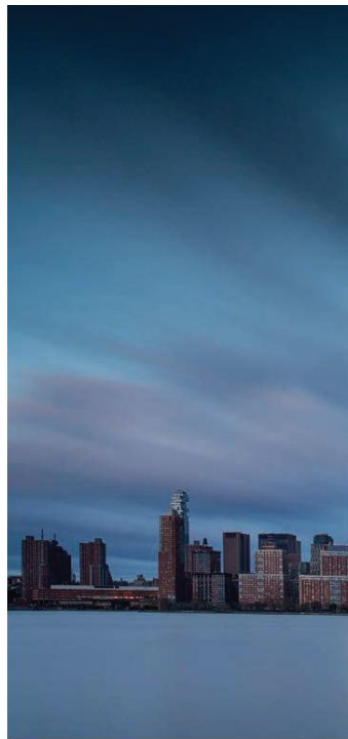
Helen often 'sees' images as they might look in post-production, too. Clear blue skies, for instance, sometimes look dull so she'll shoot with monochrome in mind knowing she can convert it to a perfect black and look for concrete, glass or white buildings for contrast. It's also not uncommon of her to find and crop multiple images from one frame: 'One of my award-winning images of a street cleaner in Valencia was originally one of three images cropped to a square from a single exposure – there was a dog walker and a cyclist in the original. I love squares – their balance, simplicity and uniformity.

By cropping the shots square the images instantly became more impactful by dwarfing each person within the expansive negative space created by the towering white museum behind them – the one of the street cleaner proved quite an apt image, too, given the pandemic,' she adds.

Understandably, not all images can be recomposed in post and Helen has been known to count paving slabs in order to ensure she's standing central to a scene. 'For balance and symmetry, it's vital that you stand centrally to your shot – it makes a difference and is not something that you can correct well enough with a crop,' she advises.

Keeping it minimal

Minimalism and long exposures – 'I love them,' she acclaims. Helen is known to spend hours looking for shapes, colours and lines in a building or skyline to combine with negative space, whether that's using walls, clear blue skies or ceilings. 'I try to fill the frame with lines, place a colourful key feature off-centre against white negative space or a high-rise to the right against a clear blue sky,' she says. Working with negative space helps Helen control viewers' focus and interest, to keep lines clean and shapes graphic – every choice is deliberate and with purpose. When working against bright, expansive negative space, Helen overexposes the scene by up to two stops to compensate for the camera's metering,



HELEN'S TOP TIPS FOR SHOOTING ARCHITECTURE



Stay safe

'Travel with a friend, especially if you're a woman, and do your research,' advises Helen. 'Know the dangers, whether that's being a blonde, lone female in Dubai or avoid a base hotel in the risky part of Chicago. Knowing cultural restrictions is as important as what you want to photograph, as your safety is paramount.'



Access

Avoid using a tripod whenever possible and ask permission from security staff before shooting indoors or around privately owned buildings. 'I'll often have a line prepared to explain what I'm doing, such as shooting specific architecture for a college project, and have a business card on me so I'm less threatening.'



Change your perspective

'Look up, look down. Get on the floor. Look across from an opposite building. Look for reflections not just in water but by leaning against glass buildings to see,' says Helen. At difficult angles, Helen suggests using live view to help with focusing and composition such as including lines on a pavement prominent in the foreground.



Why it works

IT'S THIS image of Manhattan's skyline that has provided Helen with much acclaim, multiple awards and the gateway to becoming an ambassador for Formatt-Hitech. For most people visiting New York wanting to see the city's skyline, a ride on the Staten Island Ferry is the go-to move but Helen was smarter than that. 'It's impossible to get a decent image through all the crowds and movement of the ferry,' she explains, 'so we took the subway to the New Jersey shore instead in time for sunset.' Knowing she wanted a long exposure to capture the quickly fading light of the blue hour, she set up her shot using a 3.0ND and then utterly mistimed the exposure, accidentally releasing the shutter too early. It's a lesson to everyone who dares to delete images in camera, as despite knowing her mistake she quickly set another shot up and tried again, not reviewing or realising her happy accident until she got back from her trip. 'It proved to be my strongest shot. By underexposing the image, the blues in the sky were stronger and the light on the buildings was incredible. The correctly exposed images looked simply ordinary, with too much light, in comparison.' You might say it was a perfect mistake,' says Helen.



Play with movement

'I enjoy ICM [Intentional Camera Movement] – it works well if your exposure is too long to shoot handheld,' says Helen who often uses a starburst effect in tunnels or a zoom burst on spiral staircases. 'Underground there's a lot of colour and interest but often it's too dark to shoot handheld and you'll get moved on if seen using a tripod.'



Take an insider's view

Staircases are one of Helen's favourite subjects, and she often goes to the extent of choosing hotels that have them so she can shoot around the clock. 'Using my wideangle lens, I select f/2.8 and shoot at an angle so the window light is working with me. I use a bannister for support and live view for straight-down shots.'



Become an early riser

Let's face it, no one other than a photographer is out strolling the city streets at 5am. 'Catching a sunrise means you not only get glorious, soft light and sculpting shadows but you'll probably have the place to yourself – aside from the odd local dog walker, which makes a good shot,' says Helen.

but still says 'getting pure white seems impossible' and uses Photoshop to reduce any yellows.

Long exposure is another way Helen creates minimalism as blurring skies, water and people movement helps to highlight still architectural forms, soften light and colours. As an ambassador for filter brand Formatt-Hitech, Helen has a plethora of filters at her disposal but she adores the effects of combining a 0.9 ND Grad with a 3.0 ND filter whenever possible.

Architecture is nothing without people so whilst Helen doesn't seek out people to include in her images, she doesn't shy away from them either for added scale and interest. 'The Oculus, for instance, is entirely white with lots of avenues that people are moving between, the people are the shot. By resting on a banister, I blurred all the busy people with an exposure of one or two seconds. In the Elbe Tunnel, as it was really busy, I used a much longer exposure to get rid of the people entirely – I'll often try it both ways.'

Helen's camera setting is quite simple too, allowing her to focus on her all-important composition. She uses aperture-priority mode so she can incrementally assess depth of field as she stops her aperture up, aiming to shoot as wide as possible to allow for shutter speeds suitable for shooting handheld. 'Whilst the Canon EOS 5D Mark IV handles noise well and I use Topaz Labs DeNoise, I'm still very cautious with ISOs above 400. Depth of field is rarely an issue with the 16-35mm wide open and at the distance I'm shooting from. I may stop down to f/11 if I'm including foreground interest, like lines on a path, that I want sharp front to back but otherwise I shoot as wide as I can to maximise on the available light.'

Unsuspecting sites

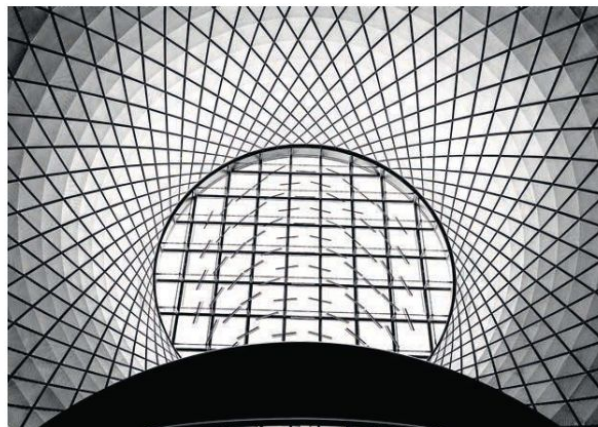
Most amateur photographers self-funding trips around the world for the sole purpose of photography would, most likely, choose popular landmarks, monuments and the most iconic of modern architecture to photograph – maybe even to sell. Whilst Helen doesn't discount these attractions, you'll most likely find her in a subway station, shooting spiral staircases or filling the frame with balconies or the texture from ventilation shafts – there's some colourful varieties in Berlin.

'Call me a geek, but when I went to Berlin I spent days in the underground. The colours and lines are incredible. I used to ride the subway and get off at every stop. When I got shouted at, I'd apologise and get back on the train only to get off at the next stop,' confesses Helen. 'I'm a bit of a fruit loop in my friends' and family's eyes, they don't get it.'

Planning trips

Before the pandemic, Helen would pick up a ten-month consultant's contract in the travel and retail industry and then travel for the remaining two months. She'd do 'couch-research' for her trips by street-walking on Google Maps pinning skyline views and areas where she could apply her minimalist style. 'I choose cities based on their contrast between old and very new for diversity and I'll research the architects and building types – I love the work of Santiago Calatrava, his work in New York, Chicago and bridges all over Europe but most of all the City of Arts and Sciences in Valencia. I've been there twice and cannot get back there soon enough,' she adds.

Helen also uses The Photographer's Ephemeris app (TPE) to tell her where and when the sun rises and sets at a location, but



Left: Fulton St Subway, NYC Canon EOS 5D Mark III, 24-70mm, 1/320sec at f/5.6, ISO 125

Right: Grand Union Station, Chicago Canon EOS 5D Mark III, 70-300mm, 1/30sec at f/4, ISO 100



she says it's not always that helpful. 'I love working with sunrises and shadows but it's really tricky as you have to know where the light's coming from. During the day, avenues of pillars can look quite boring but if they have light passing through them it can be transforming. Unfortunately, TPE tells you where the sun's going to be but not what the shadows will do – you can't know that until you're there. It's another reason why it's important to spend days observing locations as surrounding buildings influence the amount, and the quality, of the light you have to work with.'

Finding inspiration

Having travel restricted for over a year, Helen has been looking closer to home for inspiration with pleasant surprises. 'We all too often walk by architecture, appreciating it on the fly, but if you sit down and look, it's amazing what you can find. For 17

years, I walked over the same cranky, blue and white station bridge – it's beautiful, with amazing symmetry – this year was the first time I'd photographed it.' A trip to her home town revived interest in the old Georgian buildings and UK research has put redeveloped Liverpool and Glasgow on her radar.

Often when she researches an area, Helen tries to find places not regularly photographed and then sits and analyses the building. 'I look for colours, lines, curves. I stand underneath and shoot up with a wideangle lens to include a good amount of sky and use a long exposure if a tripod is permitted. I will find a way to look down on it, shoot across from it and to isolate details with a telephoto zoom. Photography is my saviour – it protects my sanity; I'm not a professional but if I can make an image out of something then I'll try to do it.'



Helen's top 6 locations

Berlin, Germany

'The city is rugged with a rich history – you might call it a concrete "hell" – but it's beautiful with a medley of architectural flavours,' says Helen. Her favourite places include the Tempodrom, the old parliamentary buildings and the modern architecture that's full of geometric shapes and unusual windows.

London, UK

The contrast of heritage and modern architecture in the capital is hard to beat. Although there's plenty of architecture to be inspired by, many photographers gravitate to the Southbank for buildings such as Tate Modern. 'The light and shadows cast through the gallery's Turbine Hall is incredible.'

Hamburg, Germany

It's not a city many people associate with tourism but it has everything, including a harbour. Colourful town buildings and a historic city centre with Romanic churches and Jugendstil mansions as well as sleek modern masterpieces. Helen loves it for the old rusty boats, white-walled Elbe Tunnel and U-Bahn (the station's evening lightshow is impressive, too).

Valencia, Spain

Despite having been twice, the city of Valencia is still on Helen's bucket list. Its modern architectural complex, the City of Arts and Sciences, is a major draw but so is its historic Old Town full of traditional balconies and Gothic architecture. During the summer, Helen advises being on location from sunrise when it's quietest and coolest.

New York, USA

It's the city that never sleeps and neither do its visiting photographers. From the 19th century Brooklyn Bridge and Tribeca buildings to the more contemporary The Oculus and Guggenheim Museum, with plenty in between such as Grand Central Station and the Woolworth Building – it's home to works by the world's most incredible architects, Frank Gehry alone has 31 buildings!

Chicago, USA

Chicago is a centre for architectural innovation and features a huge range of styles from Art Deco, Beaux Arts, Gothic Revival, Greek Revival and Mid-Century Modernism. 'Not many people realise either,' says Helen, 'that the city is on Lake Michigan and surrounded by beautiful beaches.'

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51 issues of Amateur Photographer are published per annum.
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USA annual subscription price: \$199
Rest of World annual subscription price: £225
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Printed by William Gibbons

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LETTER OF THE WEEK

Art therapy

I read the letters pages (Inbox, 3 April) with interest and surprised myself with my involvement in two of the subjects discussed. I served in the armed forces for a number of years as both soldier and photographer, in peacetime and in two periods of conflict. My experience in the conflicts created what is now known as PTSD. This, in common with most other sufferers, became a stone that grew heavier as the years passed. I also watched with growing sadness and frustration how this foul mental condition was responsible for taking more military veterans' lives than any enemy had.

Being someone who has always sought to understand what ails me and looked for my own solutions to life's problems, I left the military and chose to study psychology and psychological therapies at graduate and postgraduate levels. As a result, I've worked with comrades who also suffered from PTSD equal and much worse than my own.

One thing I always had with me was my photography. A photographer since my school days in 1973, I gained much solace from the amazing peace one gains from going out for a wander, a hike, an exploration or a

project with my camera. I would give myself a project and seek to fulfil it over a 12-month or more period. This would allow me to investigate and record issues that troubled me or inspired me.

When I was a member of our armed forces, my camera was as vital to my daily duties as my rifle. Now, my camera is as vital to my recovery and life as a walking stick, a crutch and in some cases, medication. It gives me a reason, in fact, a need, to go out and pursue my interests, my goals and projects. I share my images on my Facebook pages, on my website and in competitions. Art has always been an excellent form of therapy, and photography provides this and much more.

The second string to this response? I was the first forces photographer to request and use an Olympus camera (at that time an OM-1) in my duties and over 40 years later, I still happily use Olympus equipment and would advise anyone experiencing any difficulties in understanding the functions and controls to just try YouTube. It has become my source of enlightenment for a few years now in both hardware and software issues.

Roy Cullen

pretty much anything we want to. I understand why this is unnatural in the eyes of some of the more seasoned photographers but it is also a great evolution to the art, and let's face it, it's not really a new thing any more and it isn't going away.

Having said all this, I have recently been snapping up film cameras. I had become so trigger-happy with the ability to shoot countless frames without a care that my photography has been rather complacent over the past year or two and I feel the need to retrain myself to take more care. I now have two fun 35mm Lomography cameras with which I have shot a couple of rolls, a 1950/60s Carl Zeiss Werra 35mm and have also just received a nifty little 110 film Pentax SLR – currently in my 'to be used next' corner. It certainly is a culture shock and an education going backwards, possibly more so than going forwards.

Stuart Green

My Weston

Your recent *The Archive* (in AP 17 April) featured pages from the magazine published 60 years ago. It certainly stirred some memories, and I noticed in particular the advert for a Weston Master IV exposure meter. Back in 1964, in response to an advert in AP for some bankrupt stock, I purchased a brand new Weston Master IV for the discounted price of just £6 (approximately £140 today). The full price would have been £9.18s 6d (£230 in today's money). I still own the meter and, having been occasionally

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Culture shock

After reading recent letters, and heard the common debate about 'back in the day' I thought that I'd offer my relatively inexperienced opinion. Being relatively new to

photography (about seven years in now) I came to it well into the digital age, as have a lot of other people. Because of this, many of us are used to digital post-processing and the ease with which it

can be done. I think that it has made more recent photographers a bit more 'spoiled' because when shooting raw, as long as we have captured all the data, we can rescue, adapt and manipulate

LETTER OF THE WEEK WINS A SAMSUNG EVO PLUS MICROSD CARD. NOTE: PRIZE APPLIES TO UK AND IE RESIDENTS ONLY

Final Analysis

Damien Demolder considers...
 'Hair of the Dog' by Paul Fievez, 1968

Do you remember state night days? When there wasn't much to going out, we messages to remind us to study business and the funny places washed in the back of the driver's the picture editor's desk. They

The period when it took seven weeks appeared in the pages while M's book then back has been known as the "Silly Season" since the early Thirties, but any week in which not much else was happening might prompt a flurry of humorous, if unimpeached, reader responses.

There's not much to laugh at in *Indignities* at the moment, and very often it seems there is far more bad news to be looked than some considerably less-acknowledged in a newspaper or a 30-minute slot on TV. So many pressing and immediate issues threaten to have a

devastating impact on our lives that very little more for him is to be feared. What we see in his papers, in news magazines and on TV has been so dramatized in recent years by Brecht, Turgenev, Gorki, Hemingway, Paine, Tolstoy, race relations, poverty, nationalism, immigration and the deep internal divisions that have been a part of all countries.

The world is not more
even than it was before I'm
sure, but the difference in be-
tween our modern times shows
for readers of the world much
closer, so naturally we in the U
are concerned in it. Many more

In 1969 'soft stores' was booming and a young Paul

he called them up and arranged to visit with his family in Los Angeles—chosen for its fast-food synchronization. The owner arranged for a restaurant with a dog to be available, and the rest was down to pattern: a box of exposed film, some simple lighting and hoping that the dog might cooperate in another

"I'm not sure if I'm really doing it right," said Robinson. Somewhere along the lines he hoped to value what they had to offer. "I'm trying not to be frustrated, but it is a shame. They're never reading a newspaper again, not exactly as deep as when more than we do right now."

Paul's last has a new one. He's not

Of course who is running the country is important for us
 and who isn't running the country is important for us
 and who isn't running the country is important for us

types of photographs that he said he wanted.

As I closed my portfolio I thought he was sick, his paper was sick and his readers were sick, and what a sick world he existed in. I felt sorry for all those impressionable young photographers risking their lives documenting wars just to impress the picture editor in order to sell advertising. I rarely bought another newspaper and only watch the news headlines then turn over to enjoy a comedy.

Thank you, Damien, for expressing your exasperation at the depressing trash that generally fills the mainstream media daily. I'll stick with *Amateur Photographer*, which never fails to bring me cheer.

John Heywood

Pano technique

I was most interested in John Wade's article about panoramic cameras and photography. I have a few of those tight rolls of school panoramic photos from the early '50s done by Panora Ltd of London. My technique with my digital cameras involves using my index finger as a support under the front of the lens, as a 'fixed' support, and then I pivot the camera about that fixed support. It does require a bit of physical contortion to do it and can only be done using a monitor screen rather than a viewfinder. But this technique, rather than holding the camera and turning myself, practically eliminates the parallax errors between the shots, especially where there are near objects in view. I use the horizon level in my camera to help with keeping it straight and level. And to help overlap images I use the thirds grid on my display.

Andrew Herbert

Damien's column struck a chord with John Heywood

served by Sangamo Weston and its successors it remains fully functional. A truly vintage piece of kit.
Malcolm Gee

Depressing

Damien Demolder's *Final Analysis* (AP 27 March) resounded with me loud and clear. Being constantly bombarded with negative content in the media made me paranoid of being abnormal with my general positive outlook. Having been a photographer in the RAF, in 1980, armed with what I considered a wonderful portfolio of documentary

photographs of everyday life I secured an interview with the picture editor of a leading Sunday newspaper. I was sure he would be impressed with my more positive eye on life than the depressing doom and gloom generally published, but after a quick flip through he told me that my work was too soft and to bin it. He wanted demonstrations, strikes, riots, murders, war – and when my local mayor got murdered to 'be there and get the shot'. Those were the

**Malcolm Gee
bought his Weston
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California Sea Lion Plays with Mask

By Ralph Pace

When presented with a scene that sums up a huge environmental issue you don't want to mess it up.

Tracy Calder gets the story behind this image

According to environmental photojournalist Ralph Pace, scientists have a tendency to get caught up in 'the curse of knowledge' whereby they assume everyone has the same level of understanding as they do about a subject or situation. 'They tend to start at a much higher level of communication than most non-science folk understand,' he argues. Pace is keen to use imagery to deliver conservation messages and science in a simpler way, drawing viewers in on their own terms. 'Information should be shared, and not just in scientific publications,' he stresses. 'Ultimately, we are all in this together and it will take a tribe to address the problems we have caused.'

For Pace, his passion for diving came before photography. His undergraduate studies were in pre-med/public health and he had every intention of becoming a doctor. At university he was a keen sportsman and continued to play soccer for a few years after leaving college. 'I was training with a team in Australia when I

got hurt – again – so I decided to hang up my boots and go travelling,' he explains. Pace began diving (although he wasn't certified at the time) and developed an interest in conservation. 'At the heart of most conservation issues there is generally a human issue,' he says, 'so marine conservation is like helping people, but in a cooler office!' Following this realisation, Pace returned to California where he enrolled at Scripps Institution of Oceanography to study Marine Conservation. 'I finally got a SCUBA certificate, and the camera came many years later,' he reveals.

As part of his graduate work, Pace became interested in how recreational communities might be used as lobbying organisations for the protection of the environment. 'I was looking for a case study where a project was going to cause environmental degradation, then I would try to come up with a tool that would allow this community to fight the project,' he explains. Pace found exactly what he was looking for in Oaxaca, Mexico. 'I heard of a marine project that

California sea lion playing with mask
Nikon D850 with 28-70mm lens in a conversion port optically corrected for water. The port is a Nauticam WACP that yields 140° field-of-view at 28mm, ISO 640, 1/80sec at f/14, two strobes

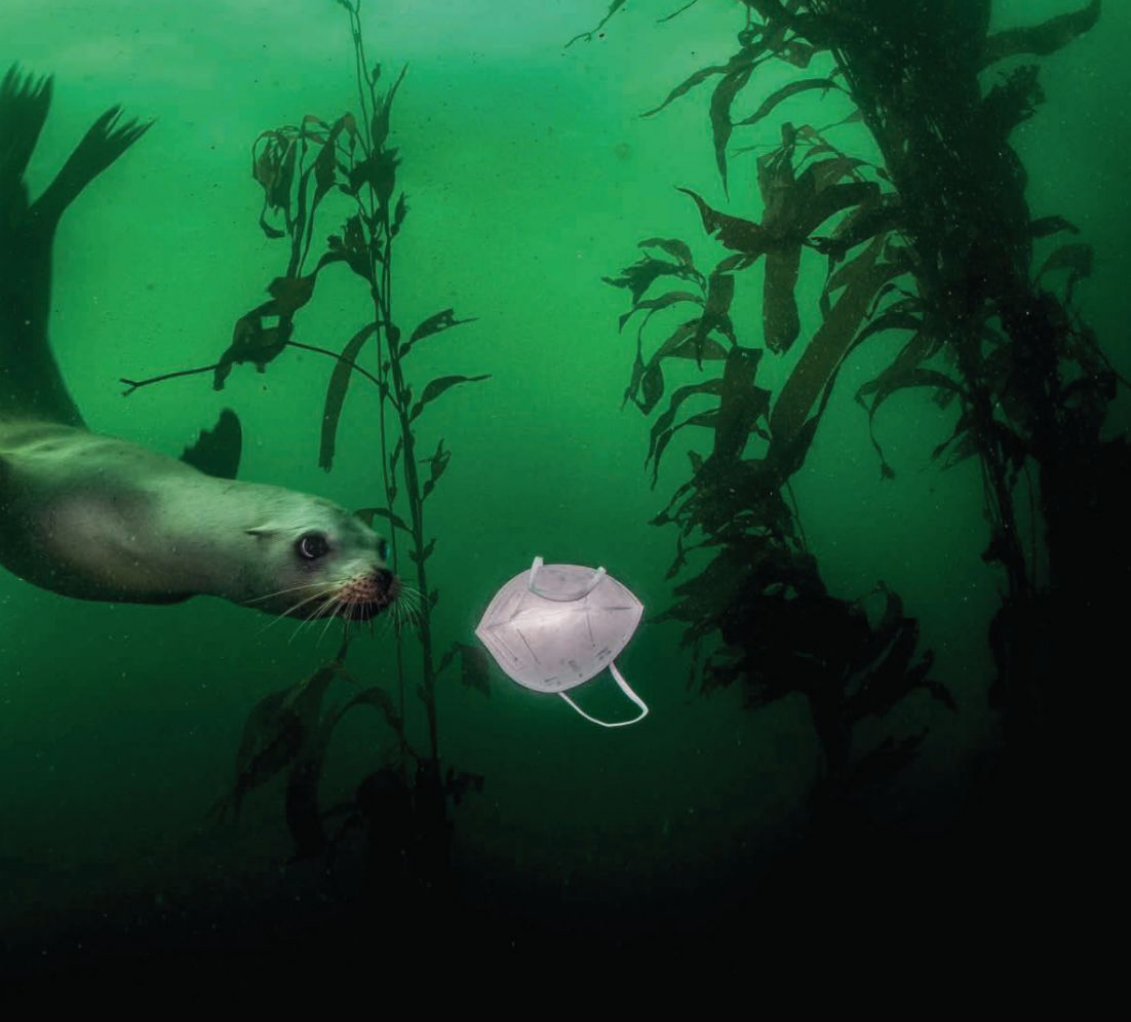
would ruin a world-class surfing break and negatively impact the environment,' he recalls. 'The locals were against it and they were looking for help.'

The first step was to emphasise the economic value of the wave through surf tourism. Having set to work, Pace began chatting to locals. 'I was a bit surprised when not everyone was as alarmed by the potential impact of the project as me,' he admits. But then a friend pointed out that nobody really knew what was there, hidden beneath the waves. As luck would have it, Pace had recently been gifted a camera and so he began to use it to document the area. The images he took were then used to reach large surf organisations and NGOs. 'It allowed the story to be visual and that's when it gained a lot more traction,' he says. 'Photography really is a tool that can be used in the conservation battle.'

Ralph Pace

Ralph Pace is a freelance underwater and environmental photojournalist living in Monterey, California. He has a degree in Marine Conservation from Scripps Institution of Oceanography and uses his science education to tell stories that aid conservation efforts. Ralph's work has been published by National Geographic, Smithsonian and GEO, among others. To see more visit www.ralphpace.com.





Pace's shot of a sea lion playing with a face mask is a prime example of how a conservation issue can be communicated in a single image. 'Sometimes you need a series of images, but in this case, it just needed one,' he concurs. The photographer came across the sea lion at The Breakwater dive site in Monterey, California. 'The area is home to around 1,200 sea lions and attracts swarms of tourists, fishermen and divers,' he explains. 'I had heard that the day before the area was packed with jellyfish and I was hoping they were still around.' Not only had the jellyfish gone, but the conditions in the water were seriously bad. 'With all of the sea lions out, I figured I would give it a go, but it was one of the worst dives I've had in my life,' admits Pace. 'It had rained the night before and the water was really green with tonnes of particulate.'

Pace was running out of air and had decided to call it quits when he spotted a small group of sea lions diving down and playing with something white. 'It wasn't until I got a bit closer that I realised it was a mask,' he admits. Despite the challenging conditions he had to act quickly to get what he was looking for. 'When you're presented with a moment that helps sum up a huge environmental issue you really don't want to mess it up!' he explains. Visibility was low and a wider shot was not possible as Pace's strobes were illuminating all the particulate, causing backscatter. 'I just had to get close and pump the water with a ton of light so that there was enough on the sea lions,' he reveals.

Fortunately, several animals made dives to play with the mask giving Pace a few opportunities to sort out his settings, but his problems didn't end there. 'Anytime

you have something super white and something super dark you have to be careful about how much light you introduce because the white is going to be super lit up, hence the little halo around the mask,' he explains. While he was struggling to get the picture, there wasn't time to feel emotional, but driving home, and reviewing the images later, Pace began to feel sad. 'Obviously the pandemic has been extremely hard on people across the world, and we are encouraging people to wear masks, but at the same time we have created another problem – another environmental externality,' he admits.



Pace's image 'Californian Sea Lion Plays with Mask' was awarded first place in the Environment, Singles, category of the World Press Photo 2021 Contest. To find out more visit www.worldpressphoto.org.

APOY
2021

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Amateur Photographer of the Year

Here are the top 10 images uploaded to Photocrowd from Round Three, Home, with comments by the AP team and our guest judge

Round Three Home

Although this category did once make an appearance in APOY in the dim and distant past, it was a new one to most entrants. Encouraging readers to get creative within their own four walls, the shortlist featured an enormous range of images, from still-life set-ups to portraits to composites and documentary-style shots. Those who challenged themselves saw their hard work rewarded. To see more images, including the commended shortlist, visit www.photocrowd.com/apoy.

1 Emma Phipps UK 100pts

Nikon D780, 35mm, 1/250sec at f/1.4, ISO 1000

This is a beautifully conceived, visualised and controlled set-up. It's evident that Emma had a very clear idea of what she wanted from the image, and she has achieved it to an exceptional standard. The young girl's simple pose and pensive expression are what we see first, before taking in the toy stuffed under her arm and the atmospheric moonlight coming through the window. Emma has created a clever composite, using a separate image of the moon that she had taken previously, and has placed it in just the right part of the window frame. Her processing has resulted in a fairytale-like result that is deceptively simple and extremely well executed.



2

2 Tuule Mürsepp Estonia 90pts

Canon EOS 6D, 16-35mm at 17mm, 3.2sec at f/6.3, ISO 160

It takes a bold photographer to reduce an image to one as minimalist as this, but it's precisely this bravery that made Tuule score so highly. It would have been easy for her to include a pile of papers, or more of the person's face, but none of that was necessary, because the rear of the computer screen, the top of the model's head and their earphones was enough to tell the story of how so many of us passed our time during the lockdown of 2020. She calls this shot 'Just Another Evening', which sums up a superb image that is very much of its time. Well done.



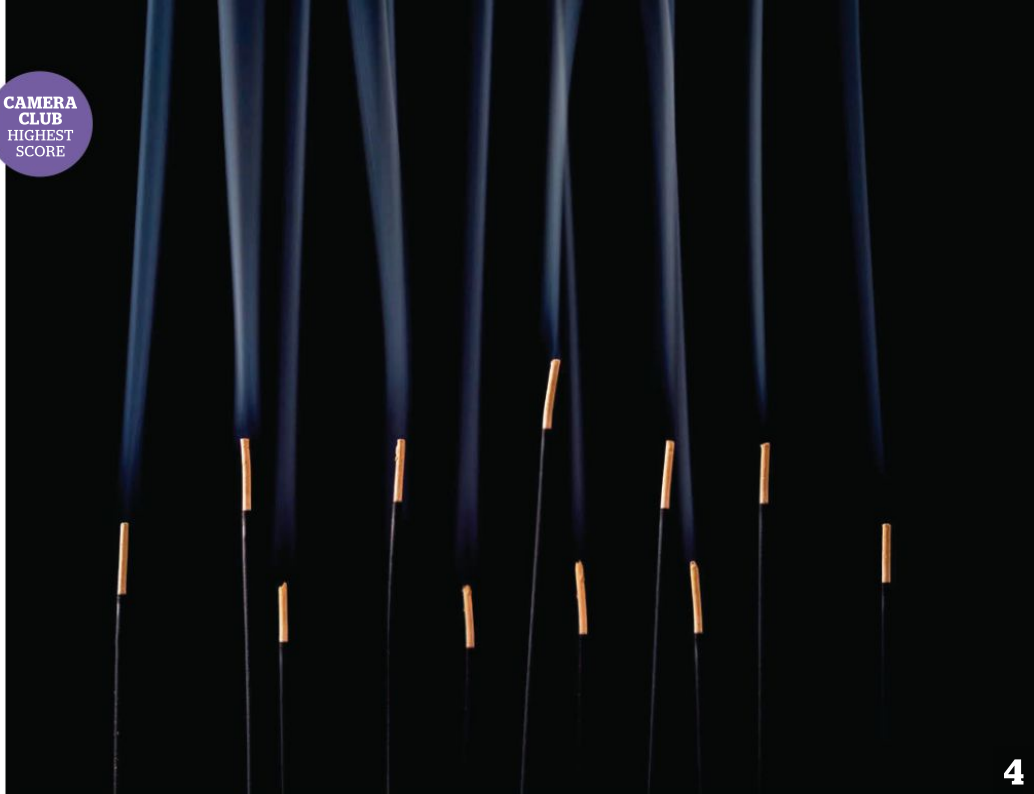
3



3 Simon Tipping UK 80pts

Canon EOS 80D, 18-55mm, 1/500sec at f/3.5, ISO 640

This round was characterised by wonderfully imaginative interpretations of the theme of 'Home', and here we have another by Simon. Instead of taking just one picture of his daughter dancing, he decided to take 16, with each one demonstrating her love for the discipline, as well as her ability. He has carefully chosen where to place each image within the composite, with the four corner images creating a strong frame. The three different costumes help to hold the interest, as do the positions she is striking. A charming and very well thought out shoot.



4

ROUND THREE WINNER, YOUNG APOY



Muhammad Hossain Bangladesh 100pts

Canon EOS 5D Mark II, 24mm, 1/125sec at f/4, ISO 800

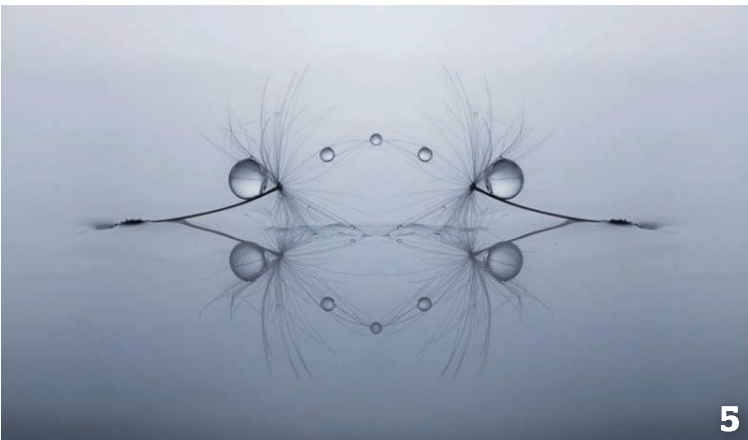
As with so many of the entries into this round, this image is hugely symbolic of the times in which we find ourselves. Many of us will be able to relate to the idea of spending weeks and weeks stuck inside, looking out and wondering when things might return to some sort of normality. We loved the multi-layered approach to the composition, while converting the image to black & white ensures our attention goes straight to the girl's eyes.

4 Pete Baker UK 70pts

Canon EOS 80D, 50mm, 1/125sec at f/5, ISO 200

There's something about this still life that is reminiscent of musical notes on a staff. The lack of information in the composition means it plays a bit of a trick on us, and until our eye settles and realises we are looking at burning incense sticks, we can't quite tell if they are large scale or miniature. It's rare for an image that's made up entirely of nothing but straight (or almost straight) lines to be so successful, but it has certainly worked here. Our eye moves across the image, taking in the detail and the negative space in exactly the same way as it would if the set-up were more complex. It's a success thanks to its simplicity.





5

5 Mike Martin UK 60pts

Olympus OM-D E-M1 Mark III, 30mm macro, 1/20sec at f/10, ISO 100



Guest judge Caroline Schmidt says:

'Anyone who has tried to work with dandelion seeds will know how tough a shot like this can be to create. The inherently shallow depth of field, even at small apertures, that comes with using a macro lens is made even trickier when working with spherical subjects such as droplets. Mike would have also had to focus at close range using a 30mm lens to get adequate magnification on such miniature subjects, which would have made depth of field even shallower and restricted the light – there was no room for error. These technical challenges, however, aren't half as troublesome as getting the droplets to stay poised on the seed. Its delicate strands cannot hold much weight so the size of the droplets is important and hard to control. Mike has used water, but often the viscosity of saline solution can help droplets keep their form for longer. Despite the great deal of patience and challenges Mike faced, he's created a water-based still-life with soft lighting, no messy reflections and just the right balance between sharpness and bokeh. Well done.'



6

6 Angi Wallace UK 50pts

Sony A7 Mark II, 50mm, 1/200sec at f/14, ISO 100

There are certainly worse things you can do during lockdown than study Renaissance still-life paintings, and that's obviously what Angi has done here. Her choice of the pink and purple colour palette brings a real sumptuousness to the scene, while the soft lighting is gorgeous and picks out the detail and texture in the items that are so carefully selected and placed. This is something many of us could attempt in our own homes, using ornaments from the mantelpiece, flowers from the garden and vegetables from the fridge. Seems simple when it's broken down like that, but her eye for detail and composition is what makes the result shine.



Winning kit from MPB

The gear our winners used can be found at MPB

Emma Phipps wins Round Three and takes away a £500 voucher to spend at MPB. Her beautifully composed portrait of her daughter was shot using a Sigma F1.4 DG HSM | Art lens. This superb wide-aperture prime features Hypersonic Motor focusing, exceptional sharpness, and produces gorgeous bokeh – ideal for a wide range of subjects. You can pick up a used example of this lens at MPB from between £479 and £559.

Simon Tipping fitted his Canon EOS 80D with a Canon EF-S 18-55mm f/4-5.6 IS STM lens in order to create his engaging composite of his young daughter, which achieved third place. This versatile lens is lightweight and portable, and features four-stop Image Stabilisation. It can be found on MPB's website for the bargain price of £72 for a like-new example.

In fifth place, Mike Martin achieved his painstaking close-up of dandelion seeds using an Olympus M.Zuiko Digital ED 30mm f3.5 Macro lens. With its 1.25x lifesize magnification and 9.5cm minimum focusing distance, it's perfect for the macro photographer, and is available at MPB for £194.

To browse the extensive range of stock at MPB, visit www.mpb.com



7

7 Paul Nash UK 45pts

Sony A7R Mark III, 16-35mm, 1.5sec at f/4.5, ISO 50

Flat-lay photography has become hugely popular in recent years, and it's a wonderfully contemplative way of making an image. Paul has created a very nice example here. Restricting the main colour palette to green on black ensures the mug of tea in the middle of the frame really pops out. He's done an excellent job of arranging the leaves around the cup, taking into consideration their shape and scale, and their position within the confines of the frame. With an image such as this, it's also important to work with negative space (that is, the spaces between the leaves rather than the leaves themselves) and he's done that well, too.



9

9 Gavin Forrest UK 35pts

Nikon D500, 8mm, 1/250sec at f/4.5, ISO 1000

It might look like a composite, but this is actually an ingeniously created image. Gavin set up a fisheye lens inside the fridge, before carefully placing the fish he'd bought especially for the shot. A remote trigger and a hungry cat did the rest. It's no gimmick, though. He's still thought through the balance of his composition – which isn't easy with a fisheye – and the contrasting colours of silvery-blue and orange work well together. Top marks for ingenuity, and for making the judges laugh.

10 Paul Steele Canada 30pts

Canon EOS 90D, 60mm macro, 15sec at f/16, ISO 200

Achieving an effective still life is all about balance – balance in scale, light and composition. It's tricky to get everything right in one frame, but Paul has done very well here. The lighting is soft enough to bring out the delicacy of the seed heads, but intense enough to ensure the droplets really ping. The variation in the size of the droplets works well, as does the rise and fall of the seed heads' heights.

10



To see more images from APOY Round Three and Young APOY visit amateurphotographer.co.uk/APOY2021

8 Graeme Youngson UK 40pts

Canon EOS 70D, 18-55mm at 18mm,
1/250sec at f/4, ISO 400

The subject of 'Home' lends itself beautifully to documentary-style images, and Graeme has captured such a moment extremely well. You don't even need to be a dog lover to know exactly what's going on here – it's a familiar scene to many of us. Even within its spontaneity, Graeme has composed carefully, being sure to include the vases on the left without cropping them, and making sure Molly's perky ears don't 'clash' with the letterbox. He's shown exceptional control of the tones, too, and overall has made a very pleasing monochrome image.



CAMERA CLUB COMPETITION



Christine Johnson UK 10pts

Nikon D4S, 15-30mm at 20mm, 1/250sec at f/6.3, ISO 100

As regular entrants to APOY will know, this year you can accumulate points for your camera club by selecting it from the dropdown menu when you upload your images. Whatever points your image is awarded, your camera club is awarded, too. The competition is certainly hotting up, as our leaderboard demonstrates. Christine Johnson's excellent portrait of two collies was Commended in this round, and therefore receives 10 points – both for her and for Warrington Photographic Society, which currently sits in 16th place overall. At the end of APOY 2021, the camera club with the most points wins a £500 voucher to spend at www.mpb.com. The highest-placed entry from a camera club member in this round was Pete Baker's incense still life, which earned 70 points for Royston Photographic Society and put them into first place overall.

The 2021 leaderboards

Emma Phipps's charming portrait of her daughter has put her on the leaderboard for the first time, in fifth place, but it's Pete Baker who jumps into first, with his still-life shot adding 70 points to his overall tally. Once again, Muhammad Hossain has walked away with top points in Young APOY, giving him a total of 200 points so far, and putting him into first place. Lucy Monckton in second has it all to play for, but as we know, everything can change from round to round.

APOY		
1	Pete Baker	130
2	Jayne Bond	120
3=	Ian Bramham	110
3=	Tuule Mütsepp	110
5	Emma Phipps	100
6=	Jim Cumming	90
6=	Juraj Bencik	90
6=	Simon Tipping	90
9=	Jenny Hibbert	80
9=	June Fox	80
9=	Mike Martin	80
9=	Ron Tear	80

YOUNG APOY		
1	Muhammad Hossain	200
2	Lucy Monckton	170
3	Jake Kneale	105
4=	Benjamin Tiso	100
4=	Shubhodeep Roy	100
6	Katy Read	90
7	Stefan Bratl	80
8=	Enran Hossain	70
8=	Jacob Rheams	70
8=	Shashank Bhat	70

CAMERA CLUBS		
1	Royston Photographic Society	130
2=	Bridgend Camera Club	80
2=	Bristol Photographic Society	80
2=	Loughton Camera Club	80
5	Truro Camera Club	75

Behind the print

David Clapp shares his processing knowledge and how he got his colourful image print-ready

- 1 Watch the saturation of architecture shots with strong primary colours. It's easy to clip the colours with limited gamut
- 2 Let the whites go, with architectural images like this. You cannot pull back whites from strong artificial lighting



- 3 Symmetry is integral to this image. Ensure it is exact or you will get that 'something is not quite right' feeling
- 4 Ensure the image is sharp where it counts. Do not worry about the image coming into sharpness at the bottom



David Clapp



Visit www.patreon.com/davidclapp for video-based lessons, Zoom talks and more. David Clapp FRPS has been a full-time professional photographer for the last 15 years and leads global workshops. An RPS judge for Applied and Travel, he undertakes commissions worldwide, works for Canon UK and is represented by Getty Images.

PREPARING FOR PRINTING



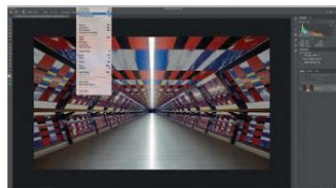
1 Dust spots

I use the 'dust' layer in Luminaria (an amazing luminosity masking extension) to highlight any potential dust spots. It highlights dust, much of which I cannot see. It is an intense high contrast layer that highlights dust and allows you to heal the spots on a separate layer.



2 Proof Setup

The next step is to simulate the paper type, so you can see how the colours are going to look. Choose View>Proof Setup>Custom and tick the paper type in the list. You need to do this as papers have different ink absorbency, matt and gloss being two examples.



3 Gamut Warning

Make sure you've unchecked Preserve RGB in the Proof Setup window. Gamut Warning can now be selected. Areas that are out of the range of the printer profile will have a 'grey' overlay. Use a Hue/Saturation adjustment layer to reduce the colour's saturation.



I have been a long-time advocate of Canon printers and I have been lucky enough to see my huge panoramas printed at trade shows, some of them over 12ft long, using their large-format printers. This is where the craving began! As printing is a rather expensive addiction, I minimised my

habit with a Canon Pro-1 A3+ printer a few years back and it has been exceptionally easy to use. With profiles and Canon papers to match, the process is simple and seamless.

Whenever I am working to print architecture images from my Canon DSLRs, I use a combination of Photoshop

proofing and my own processing knowledge to guide to a successful result. A common mistake is comparing the print to a backlit monitor. Although it is important to treat the print as containing its own luminosity, colour accuracy should be in harmony with the computer at all times.

David's top tips

1 Plan first

Think about what you are printing! It is very important to think about the environment where the print is going to be displayed. Choose the right subject for the space.

2 Pick the right image

Choose harmonious colours and pastel-shade architecture images with simple compositions – rather than shrieking attention-seeking images that demand you notice them. You will soon tire of them.

3 Take advice on papers

Learn your papers. Although it is easy to return to the same formula, take advice from printing companies and photographers to expand your knowledge of the subject.

4 Think about inks

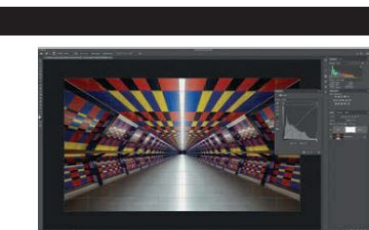
Not all printer ink is the same. Make sure that you buy branded ink for the best results, or good-quality third-party ink manufacturers if you need to save money.

5 Make several prints

Keep it running. Make a block of prints at the same time. It is easy to lose momentum as printing can be infrequent and time-consuming.

6 Experiment with crops

Get a good guillotine. Experiment with cropping and image sizes, crop these at home but ensure they will fit standard frames and mounts for the least headaches.



4 Contrast

Add contrast and lift your blacks. It is best to proof print a smaller section of the print, especially if you'll be printing large. Ensure the shadows aren't too dark. Switch the gamut warning on and off, as contrast adjustments could push the colours out of gamut.

WhiteWall recommends



'This impressive architecture photograph captivates viewers with its colours and the symmetrical designs. The colour contrasts really emphasise the wide view into the room. This colourful

picture needs a statement frame, and I recommend our Original Photo Print under Acrylic Glass, in the Aluminium ArtBox in silver. The silver frame complements the colour of the floor very well. For extreme sharpness and the highest resolution, I would choose the WhiteWall ultraHD photo print.'

Jan-Ole Schmidt, Product Manager, WhiteWall.com



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Amateur Photographer Mini Guide



Shooting advice

Architecture pros offer
their tips for success

Distortion correction

How to correct verticals
and fix lens distortion with
the most popular software

Tilt-Shift lenses

How to use
them for
architecture,
plus a round-
up of what's
on the market



Abstracts

How Frank Machalowski
uses multi-exposures in his
b&w compositions

AP's guide to architecture

32 pages of **advice, tips and inspiration** on
photographing buildings to pull out and keep



PLUS

Keep it simple

Approaches to minimalism
in architecture

Go underground

Arvind Jayashankar
shoots the Munich subway

Winning ways

Debbie Smyth talks about
her BPA winning photo

The art of architect

Claire Gillo speaks to the pros to find out their top tips for photographing architecture and interiors from different eras, angles and perspectives

Modern exteriors



Dug Wilders

Dug started specialising in architecture and interior photography eight years ago. He shoots mainly for architects, interior designers and building manufacturers in the UK and NZ. See him on Instagram @dug_wilders or www.dugwilders.co.uk.

Low light

Shooting when it's dark or at dusk can create some fantastic effects. It shows off the lighting which the client may have spent thousands of pounds on. Shooting at night will nearly always require some post production work to create a professional finish. Often the difference in light levels need tweaking, and this takes time to get right but the effects are worth the effort. Bracketing your shots (taking various exposures) is something I do for all my shots, but for night photography you need to really extend that range to make sure everything is covered, from the dark foreground to the bright internal lights.



Symmetry is your friend

I love finding the central point of a building and trying to create the most symmetrical shot possible, as it's pleasing to the eye and impactful. With symmetrical shots I often have to take several shots and stitch them together because usually you can't stand far enough back. Often there will be another building or detracting item in the way. Take your time with this kind of shot as just being slightly off-centre can sometimes be horribly obvious.

Add another element

By adding a human or animal to a shot you add life to the scene. It's a quick and easy way to transform what otherwise may have been a lifeless shot, especially when the building itself doesn't excite you. Unfortunately you don't always get to shoot stand-out buildings! Often it takes a bit of patience to get the right moment but a crowd or individual crossing in the right place really can make a difference.



ture photography

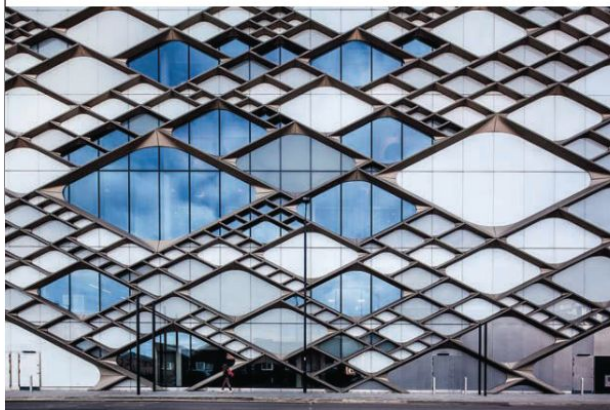


Dark and light

Don't be afraid to let the shadows be dark and the highlights be bright. It's very easy now especially with an HDR technique (which I personally don't use any more after dabbling with it when it was first created years ago) to make the whole image too bright and visible. However by keeping areas in shade it helps to show off the bright, reflecting parts of the building, which is especially effective on bright sunny days.

Keep your vertical lines vertical

Nothing shouts amateur architectural photography more than converging lines (with the odd exception when it has been intentional). There are a few ways to do this, but keeping your camera level (preferably on a tripod) using either the built-in spirit level or one that fits to your camera's hot shoe is the first step. I always work with a Canon 17mm Tilt-Shift lens that allows for the horizon to be raised or lowered whilst keeping the camera horizontal, however these lenses are not cheap. Until I could afford one I used a super-wideangle lens and cropped it, creating the same effect but with a smaller res image. At the post production stage I nearly always tweak my images with the lens correction tool to make sure all the lines in an image are both horizontal and vertical.



Go long(ish)

Long(ish) lenses are great for architectural photography. When I first started shooting I always wanted a wideangle lens on a full-frame body, however now I'm moving back to longer lenses, and getting further back from the subject to shoot either part or the whole building. The effect is more subtle, more proportioned and shows the property in its surroundings. On a typical shoot I'll capture the shots half wide and half long. Usually the wide is for the essential shots the client requires of the whole property, and the fun stuff is done with a 24-105mm.

BEST KIT

27in 5K iMac

Architectural photography requires a lot of editing, with mixing levels of different exposures, correcting lens barrel distortion and removing any unsightly skips/cars/people. Having a large high-resolution screen to do these edits can help.

Canon 17mm Tilt-Shift lens

My go to architectural lens creates stunning images with almost no distortion, and with the shift function offers views of buildings otherwise impossible. Although it has no autofocus, this inconvenience is outweighed by the end results that this stunning lens can achieve.

A big breakfast

I spend hours lugging my big tripod, full-frame camera and heavy lenses around buildings and I love it, but it can be tiring so I need a good breakfast to keep me going.

Historic buildings



Duncan Shields

Duncan is a heritage and museum photographer and photographic historian. He uses a variety of digital and historic processes within the heritage industry and gained his PhD in photographic history in 2017. See www.duncanshields.co.uk.

Steady as she goes

Use a variety of tripods and stabilisation devices such as mini tripods, flexi-legged tripods, a monopod and bean bags. Keeping your camera steady in the dark, and often tight places is a must to get sharp and usable results. Old buildings in particular are often small and difficult to manoeuvre around, but by having a couple of size options you can get into angles that show the less-seen aspects. Also, balancing the light without creating terribly over-produced HDR imagery means balancing the light in camera, so filters and portable LED lights or speedlights are the order of the day.



Strip it down

Try to carry only the most vital pieces of equipment. Smaller and lighter mirrorless cameras and wideangle zooms make getting the shot you want easier than lugging around massive DSLRs and all the lenses you own. Wideangle lenses between 10-24mm are a go-to for both interior and exterior work, but a standard zoom or 35-50mm prime lenses are also vital to cover every eventuality and opens more photographic possibilities.

Stack 'em high!

Learn to use focus stacking and in-camera bracketing for various situations. Focus stacking can be extremely useful to capture the minutiae of a place's history. Getting everything in sharp focus allows the viewer to experience the photograph in great detail, however never underestimate the value of a narrow depth of field to focus attention on specific areas of the image. It depends on your aesthetic choices and the story you are trying to impart as to which techniques are relevant for which place.





Remember your composition

Slow down and consider your compositional elements for every shot. Try looking for interesting symmetrical positions or try to challenge your usual compositional angles; but make sure you pause and consider what each shot is adding to your story of the place. For example, aspects of a building's use, or even parts of the building's fabric itself, may have changed throughout its history – find the view less seen, perhaps one that is more in keeping with the history of the building and thereby tell the story of its use.

Research

Learn the history of the place and aim to tell that story in your images. It's also vital to know any restrictions and rules pertaining to photography and access before turning up, especially places that might be derelict and potentially dangerous. Visit the site before the day of the shoot, look for the hidden details that show why this building or place is special as well as the wider context shots. Old buildings in particular have been photographed throughout the history of photography; find those photographs and think about how you want to show this history.



Tread lightly

Remember these places are special. They have existed for a long time, sometimes thousands of years, and as such require a modicum of respect. Pay attention to listing and conservation advice at all times; never try to adjust or alter the nature of the place you are photographing and never, never, never do any harm. The fabric of the building or the safety of the site is more important than your shot. If in doubt, check on the advice for photography issued by governing bodies such as Historic England or the National Trust, and always follow information provided by staff.

BEST KIT

Laser measurer

Useful to locate the exact same viewpoint over long periods of time when documenting images such as before and after changes to buildings during restoration. Just make sure to measure your position in all dimensions from features that won't change during repair.

Portable LED lights

It's rare to find a historic building or open-air heritage site that doesn't need some form of lighting and many will not have power available. Remember to take plenty of spare batteries.

Colour checker

To accurately reproduce colours I use a colour checker for each viewpoint or change in light. A grey card also comes in handy for white balance adjustments on the fly.



Trendy interiors



Hanna Polczyńska from kroniki.studio

Hanna works in the field of travel, interior, and architecture photography. She creates aesthetic visual stories (also called *kroniki*) for designers, interior-oriented brands, restaurants and hotels. See her on Instagram @kroniki or www.kroniki.studio.

Ghost pictures

An interesting effect in interior photography is the use of the so-called 'ghost', that is a silhouette of a person captured in motion. A person clearly visible in the photo will always focus the viewer's attention and therefore distract them from the interior design. However, sometimes it's good to capture someone in the picture to show functionality of the space. If you photograph a model with a long exposure time it will appear in the photo as a blurry figure. That is how you can emphasise the presence of a human in a more discreet way and not distract the viewer's eye.

Details

Wide frames are considered to be the basis of interior photography but it is also the detail shots that build the atmosphere of the entire photoshoot. It is worth showing close-ups of finishing materials, textures and characteristic elements of the interior arrangement to attract the attention of the viewer. When taking these shots work with wide aperture values (eg $f/2.8$, $f/3.2$) so that the depth of field is as shallow as possible.



Natural light

I believe that natural light creates the best conditions for interior photography and for the most part there is no need to enhance the space with artificial lighting. Any good architect, whilst creating and designing a project, will have taken into account how natural light illuminates a space. Focus on emphasising how these features are lit and not falsely tweaking them. In this case, flash or studio lamps can easily spoil this and flatten the whole interior design. Therefore, instead of investing in professional lighting, I recommend a simple photographic reflector and use the existing natural and ambient light during your photoshoot.



Elements of life

The role of an interior photographer is not only to present a spatial design and its features but also, if not primarily, to reflect the spirit of a place and thus also its hidden story. After all, interiors are created for people – they are homes, places of work or leisure. Given this, it is worth showing in your images traces of someone living, working or resting within the space. For example, it could be a coffee mug on the kitchen counter, a book lying wide open on a nightstand or a table set ready for a meal. However this is only one side of the styling process, as you also have to hide less-desirable elements, such as cables, clothes or excess decorations. The key is to get a natural effect without overloading the frame with unnecessary distractions.



Keeping the lines straight

Just as you would in exterior architectural photography, in the case of interiors it is also necessary to keep the lines straight. It is crucial to use a tripod and I personally feel if you want to take quality images you should invest in a professional tripod system instead of using cheaper ones. When you are taking your shots straight on you need to remember the lines and levels. This is where an auxiliary grid through the viewfinder or LCD screen comes in handy, and some also have a built-in levelling option, which can be useful.

Using Wi-Fi

Some of the more recent technical innovations can significantly improve the quality of your photos. In the case of interiors, the absolute blockbuster is the Wi-Fi connection option which allows you to control the camera from a tablet or smartphone. After setting the camera on a tripod and selecting the frame, you have a live view in front of you and can freely move around the entire set, constantly controlling the arrangement of furniture and objects visible in the photo. This way you are able to precisely compose the perfect shot!

BEST KIT

Wide lens and standard

I use at least two different lenses – one wideangle lens to capture overall shots (e.g. 16-35mm) and one standard lens for close-ups (e.g. 50mm or 85mm).

Tripod

This is needed to keep the lines straight and save yourself time fixing the photos in post-production.

Tablet

This is useful for shooting remotely and using live view mode while composing the scene.

Magic man

Peter Dench talks to Arvind Jayashankar about his architecture project on the Munich Underground

I confess I'm a little disappointed when Arvind Jayashankar comes into view on Skype. His T-shirt is plain and the room he is sitting in grey. I was expecting more, well, sparkle. Arvind is a consultant, adventurer, photographer and magician. I try not to dwell on my disappointment too much as he is also a mentalist and mind reader. I've not interviewed this combination before and keen to know, does his interest in magic influence his photography?

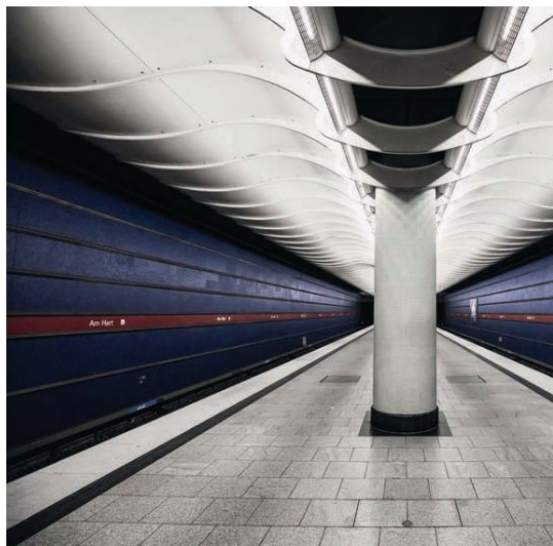
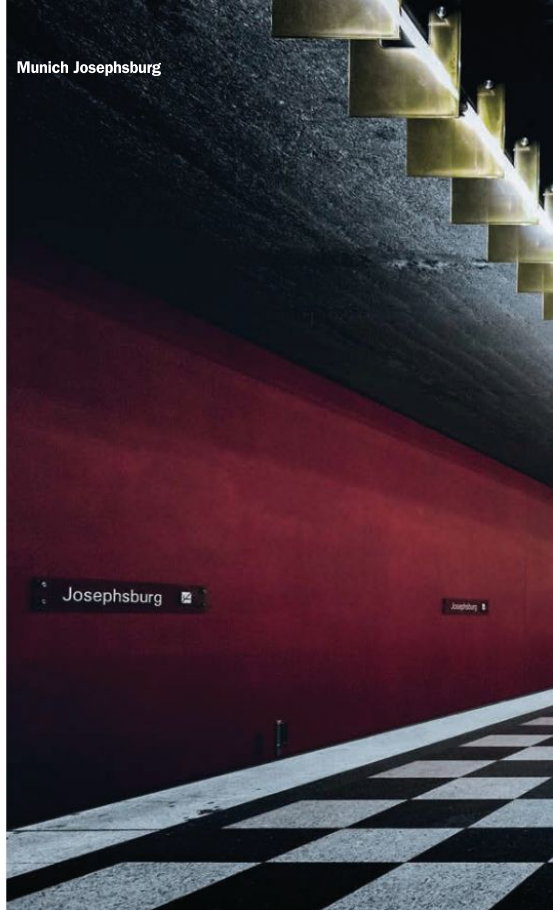
'I used to travel to a lot of places to perform and take my camera and it afforded me the opportunity to take more photos. Magic has definitely helped in that. My show is also quite minimal, there's not many props. The element of design and show, stagecraft, the simplicity and clarity of performing can translate to photography. The way you place objects, the ways your eyes want to direct the person, having leading lines – on stage it's a bit different, you want to direct attention with gestures or placement of objects. The synergy works really well, in both art forms, you see a bit of both,' explains Arvind.

You see a different perspective

when you look straight into his images of Munich's U-Bahn (Shortlisted in the Professional Architecture & Design category at the 2021 Sony World Photography Awards) – spaces of bustle and transit lay bare in beautiful detail.

'Most people don't spend a lot of time underground looking at these things. It's very rare that it's empty. If you just wait a few minutes, you get a completely different picture of where you are. The challenge technically is really just waiting, the low light is sometimes a problem. I take my fastest lens when I'm going underground. Occasionally I try to keep one person in the frame for some kind of story.'

For Munich Underground, Arvind's go-to method was to handhold his Canon EOS 5D Mark IV and EF16-35mm f/4L IS USM lens with image stabilisation engaged. He buys a day travel pass, looks up a route and plans a time of day when there's not too many people, official permissions aren't necessary. 'Sometimes on the underground you only have a two- or three-second clearing between trains. At the beginning there was some awkwardness: waiting around and not getting on





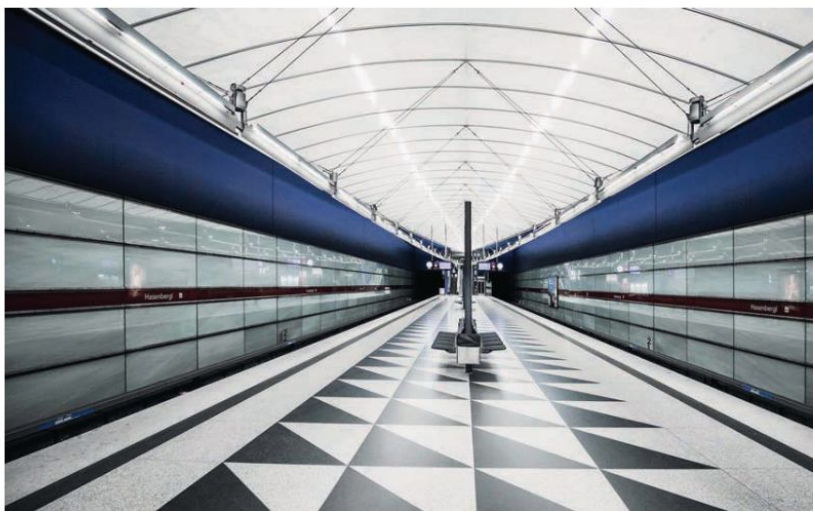
➤ a train might seem suspicious to people. At some point you have to take out your camera so it's clear to them. In other cases it might be dangerous so you might not want to take your camera out!

Since first being advised to mind the gap, underground and metro systems have lured generations of photographers to their depths. For Arvind, who has some background in design, his interest for the underground system came from his love of symmetry and his wider joy for the clean lines and style of Scandinavian architecture. He can often be found wandering off the street, into a hotel or office lobby to photograph grand and spiral staircases.

The right moment

Arvind has cut down from the very vibrant, oversaturated style photographers often go through when they start – the post production more considered. 'A lot of people ask me how I manage to shoot such empty stations. While some things can be removed in post-production, the patterns and lines make this difficult. I prefer to wait patiently for the right moment and try to get the shot right in camera. I didn't need to work on it too much because they're already quite colourful. The majority was just tone adjustments, maybe making it a bit more vibrant, and noise reduction was needed in some of the pictures. Sometimes the images need a little bit of straightening, perspective correction.'

Arvind is of Indian heritage and he normally enjoys being around lots of people – in his other jobs, he's around people all the time. For his photography, though, he turns his back on the crowd and his lens towards more empty, expansive spaces. When the world finally fully reopens, he hopes to be up in the air conjuring pictures of the ocean and deserts of Namibia. He has plans to visit Norway and New Zealand and return to photograph bears in the Finnish/Russian forest. Now that sounds magic.





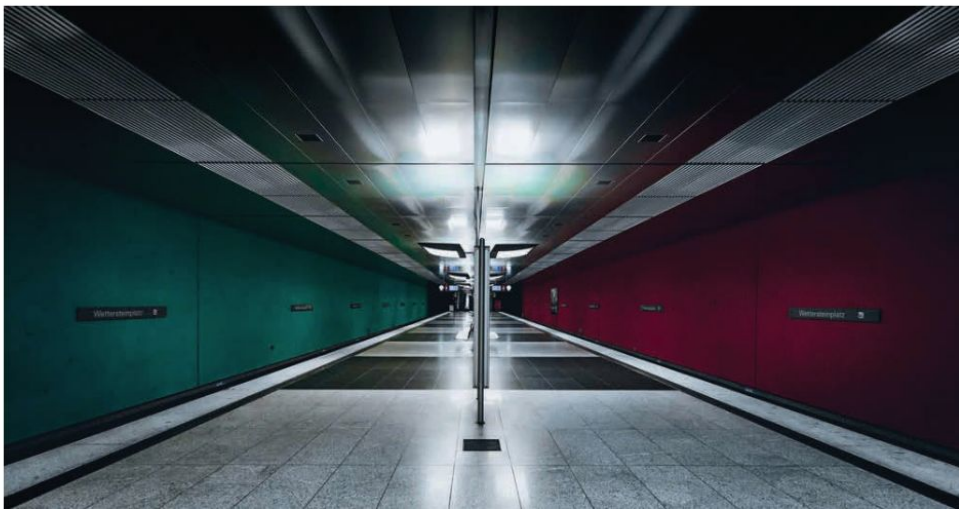
Arvind Jayashankar

Arvind is a photographer, magician and consultant based in Belgium. His work has taken him all over the world. He has won awards and been featured in various magazines and media outlets including *National Geographic*, *The Telegraph*, *The Guardian* and the BBC.

Left: Munich Down Under

Below left: Munich Hasenberg

Below: Munich Wettersteinplatz





Modaser

Based in the Netherlands, Modaser studied political science at Leiden University. His interest in photography started in 2010 with his Instagram account **@meau**. In 2018 he started using the account actively for architectural photography adopting a politically inspired minimalist approach.

Minimalist architecture

Personal style and keeping it simple are key ingredients to these striking architectural images. **Benedict Brain** talks to two photographers to find out more

For Dutch photographer Modaser, it was a trip to Russia in 2011 that sparked an interest in photographing architecture. Soviet architecture, to be specific. 'I mostly like to shoot architecture in Eastern Europe and the post-Soviet republics,' explains Modaser. However, it's not just the buildings that interest him, it's also the relationship between former Soviet Union architecture and politics, another of his keen interests. 'You can tell a lot about the period in which a building was constructed by reading its architectural style,' he explains.

He continues, 'For example, the euphoria about a "new Soviet society" that existed before and after the Second World War can also found in the socialist classicism or Stalinist style of that era. Many of the buildings in this style were quite impressive and were extensively decorated with a lot of ornaments. After Stalin's death, Khrushchev came to power and he ordered an end to "architectural excesses".

'He needed to solve the housing problem in the USSR and saw the use of concrete and prefabricated housing as the solution. After Khrushchev there was Brezhnev, and he

too left his mark on Soviet architecture. And so, one can easily distinguish between a "Stalinka", "Khrushchevka" and a "Brezhnevka".'

Modaser uses minimalism as a tool to isolate his subject, the building, or to focus attention on the architectural style. 'The popular opinion about Soviet architecture is that it's grey and boring,' observes Modaser. 'Nowadays it doesn't look so good any more because the buildings and their surroundings are not taken care of and the people living in these buildings make alterations to the exterior that deviate from the original design. A good example of the latter would be that a lot of people in post-Soviet countries chose to close up the balcony of their apartment. They did it with their own design in mind and with different materials. The result is that it looks horrible. That's why I try to clean up a building in post processing in order to show a bit more of the original design. And when I isolate the building, I can put more emphasis on this design.'

There is a certain amount of pre-planning and Modaser uses maps to figure out what the best point of view is and how the light will fall on a building. However, he also loves to wander

around and shoot whatever he comes across. 'If I see an interesting building, I pin the location down on my phone so that I can revisit it at a later time,' he says. 'In general, I like buildings with strong symmetry, clear use of geometric shapes and an interesting pattern because these work the best with my minimalist approach. I also like to shoot historical buildings that have their own story.'

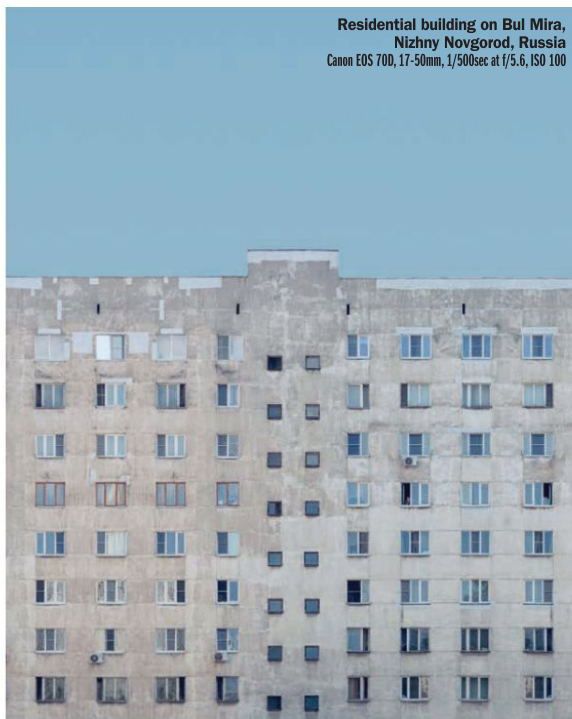
The subtle colour palette and tonality in Modaser's images are artfully controlled in post. 'For the background, I use two hues of blue,' explains Modaser, who continues, 'A slightly more vibrant background makes the photo pop more without being too distracting. Also blue is a calming colour so it's a good way to make the background disappear because I want to emphasise the architecture.'

'For the building itself, I try to make the colours pop a bit more but mostly it's just some small tweaks together with my own LUT in Affinity Photo. I try to use mostly white, black, reds and yellows because I like the combination of these colours with a blue sky. For photos on Instagram, I add just a bit more contrast and saturation because I feel that it gets more attention on the platform that way.'





Courtyard of Schlesische Str 30,
Berlin, Germany
Canon EOS 70D, 17-50mm, 1/250sec at f/6.3, ISO 200



Residential building on Bul Mira,
Nizhny Novgorod, Russia
Canon EOS 70D, 17-50mm, 1/500sec at f/5.6, ISO 100

Pink house on Groen hazengracht,
Leiden, Netherlands
Canon EOS 70D, 17-50mm, 1/640sec at f/4.5, ISO 100



Top tips

- 1** Find a topic or an aspect of architecture that you yourself find interesting instead of what you think others might find interesting and the creativity will flow more freely.
- 2** Practice, practice and practice. Try shooting the same image or scene multiple times over long periods of time to see how you can improve yourself and your photography.
- 3** Preparation is key. Try to visualise the photo, find out what time of the day works best for the photo you want to make and make sure you bring the correct gear.



Jeanette Hägglund

Jeanette is a Swedish photographer and artist based near Stockholm. She studied aesthetics, the philosophy of art and language, art, media, film and photography at universities in Sweden and abroad. She works as a commercial photographer and as an artist. See more at www.jeanettehagglund.se Instagram @etna_11.

Swedish-based pro photographer Jeanette Hägglund started taking photographs and making short films at the age of eight. She went on to study photography and then continued to explore the language of photography, experimenting with different films and developing techniques.

'I try to think outside the box to play with different styles and to stretch the boundaries of photography,' explains Jeanette, who continues, 'at one early exhibition in my career, a photography teacher said that my work was not photography but art. So, "good" I said to myself, art-photography it is then!'

Jeanette doesn't limit herself to photography though and

is equally happy drawing and painting. However, the quick pace and immediacy of the photographic process suits the speed with which creative ideas come to her.

As a professional photographer, Jeanette's main subjects are architecture, branding and portraits. Her architectural photography is a mixture of commissioned work and personal practice. Jeanette's approach to photographing buildings is relatively straightforward. 'I want to create my own style where I am concentrating on the essence of a building,' she says.

While there is a strong element of abstraction and minimalism in her architectural work Jeanette strives to capture and highlight a structure's unique character. 'I have always been interested in geometry

and how it appears in architecture,' she comments, and continues, 'I think minimalism highlights what I want to capture. When I make an abstraction, I want to highlight the unique, in a kind of semantic way I'm interpreting the building.'

For Jeanette, the minimalist approach, the use of abstract light and colour all come together to form her unique style. 'Colours, light, textures,

tones and so on are all part of all the image,' she remarks, and adds, 'Colours are interesting and have a strong meaning and effect on us. I love colours, but I simply use what I have in front of me.'

Planning plays a vital role in her workflow. 'I do a lot of research and check the orientation of the building so I know how and when the light will fall on it during the day,' notes Jeanette. 'I often have



morning and in the evening, to take advantage of the magic hour, the blue hour and so on; Jeanette embraces this too but also works throughout the day to take advantage of the hard, harsh shadows on the midday light which can further enhance strong, graphic architectural shapes and lines.

If possible, Jeanette will return to a building many times to find her favourite light. 'I'm always full of ideas and have a great imagination but I want to stay open for changes in my plan,' she explains. 'I want to let reality mix with my preconceived ideas, letting the architecture affect me at the same time and mixing it with my ideas. I see my work as interpretations.'

Jeanette works with tilt-shift lenses to correct verticals and keep lines straight. 'I have many different lenses, depending on whether I'm capturing the whole, parts or making close-ups of a building.'

It's perhaps surprising that despite the very formal approach to Jeanette's style she rarely uses a tripod. She concludes, 'I'm very stable and have my own technique to be as still as possible. Although I will use a tripod in a very low-light situation.'

Top tips

1 Have an idea of what kind of buildings you want to shoot and why you want to shoot them. Once you've developed a style, try to stay within it and look for buildings that fit into this mode of thinking.

2 Light is vital and it's good to choose a day with the right light. If you can, return to a building multiple times over a long period of time to see how the light changes and affects the building in different conditions and from different angles and times of the day.

3 Look for lines and shapes, shadows, patterns, tones, textures and colours and make a note of how they interact with each other and try to capture the spirit of this.

more than one building to shoot. It all depends, there is no typical procedure of which buildings. Depends on the work, or if it's a project with a special subject.'

Unlike Modaser (see previous pages) Jeanette never uses image editing software to alter her composition and the images are as she framed them in the camera at the point of capture. Many architecture photographers work in the early



Fun cubed

By Debbie Smyth

This intriguing shot recently won the Architecture category in the British Photography Awards.

Amey Davies spoke to the photographer to find out more

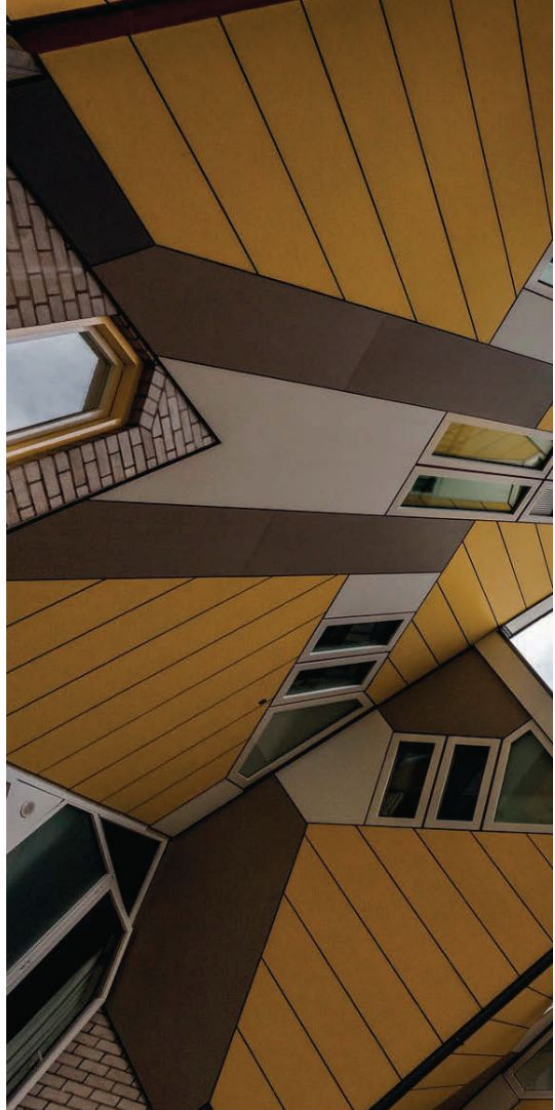
These yellow cubic houses may be familiar to anyone who has found themselves in Rotterdam over the past 40 years, but it's the unusual angle that Debbie shot them from which clearly impressed the judges at this year's British Photography Awards.

Debbie Smyth, who works as a financial advisor for her day job, was lucky enough to find herself in the Dutch city in February 2020 and captured this shot on the last day of her trip. A day which was bright and sunny, following several days of overcast skies.

Both a keen writer and photographer, up until recently Debbie has been fortunate enough to travel for her work, using it as an opportunity to create content for her popular blog travelwithintent.com. It

has also taken her to places she might not necessarily have thought to go to otherwise, such as Azerbaijan and South Korea. She doesn't generally set out with a specific intention to capture certain shots however.

She explains, 'I don't really like preparing my photos before I go somewhere. I know some people when they're travelling are armed with the idea that they want a photo of this or that, but I find that this approach spoils my travel. I like to wander and stumble across things. Arguably, this is a bit of a clichéd shot, but it has been shot from an unusual angle. Others tend to photograph it so you end up with a perfect star in the middle. However, with that point of view, you don't get to see the sloping angle of the roofs behind, or the windows quite so well, so I deliberately



took it at a slightly wonky angle so you can see more.'

Debbie took this shot with a Sony A9 and one of her most oft-used lenses, a 16-35mm zoom. She also has a Sony A7R III in her kit bag, and is currently dreaming of upgrading to the recently announced Sony A1. 'Sony is all I've known because I've only been taking pictures seriously for about six or seven years,' she says. 'I think I've gradually moved through the whole Sony range over the years. Now, I

always have two bodies with me – particularly when I'm travelling.'

A tripod is not something she tends to use too often though. 'It's quite difficult when you're surrounded by people, and particularly with architecture photography, somebody can come out and say they own the building and you can't take a picture of it and so on. So, I don't very often use a tripod, and this picture was shot handheld,' she explains.

Despite the fact that she's



Debbie Smyth

An amateur photographer based near London, Debbie runs the blog Travel With Intent. She has won a number of prizes for her photography, including at the British Photography Awards and the Monochrome Photography Awards. See travelwithintent.com.



using arguably professional-level kit, Debbie is very much an amateur, with her photography going hand in hand with her love of travel. It's something which was sparked by the creation of her blog, and has quickly grown to take over as her main hobby, and even changed the way she thinks. 'I had a travel blog, and a travel blog without pictures is pretty useless, so I started taking some. Now, it's more about the photographs than the words, but I'm always

looking for something that will intrigue and amuse my readers, and make them want to go there.'

With more than 7,000 subscribers to Travel With Intent, she finds herself posting several times a day, and has built up a friendly community – some of whom she will meet up with when on her travels. She remarks, 'That said, I think I travel more slowly now. I'm more inclined to go back to places, too, so I can get a better photograph. Rotterdam

was specifically for the architecture as I'd read about the changing architectural landscape. Having been out there in the '80s, although the cubes were there, not a lot else was. Even in the past ten years it has developed phenomenally so I will be going back just as soon as we're allowed.'

Entering competitions is important to Debbie, regardless of whether she is successful like she was with Fun Cubed. She enjoys the feedback and critique offered by judges on

her work, with it helping her to improve for the next shot. For others considering entering competitions – such as the current round of APOY 2021 – she has one particularly handy tip: 'I have to say I think that architecture sections of competitions are probably one of the easier ones to win, as it often has fewer entries than other topics. So, just go for it – it's not about being absolutely perfect, it's about having found a different shot.'



Frankly mindblowing

Damien Demolder speaks to an abstract photographer who emphasises structure and form with multiple exposures

I am firmly of the school that believes when you find a good subject you should photograph the hell out of it. So too, it seems, is German photographer Frank Machalowski. However, while I might fill a memory card, or shoot a few rolls of film, Frank is a bit cleverer than that. He saves a lot of money by taking all his pictures on a single frame of film and makes fantastic art at the same time.

Machalowski has made a career of showing us the world from a slightly different angle, and his highly unusual approach creates images stunning enough that this year he came second in the Professional Architecture & Design category of the Sony World Photography Awards. His subject on this occasion was the Bauhaus Master's Houses designed by Bauhaus founder Walter Gropius, and built in Dessau, Germany. Machalowski not only shows us these houses from a different angle, he also shows each of them from a collection of different angles all at the same time on a single frame of film.

'The idea behind this series, and a lot of my photography, is to present familiar subjects in new and unusual ways. I want the viewer to look at my pictures and only understand what the subject is on the second or third look.'

Machalowski says that by shooting the key elements in his multiple exposures again and again he can intensify their significance in the frame. He does this by including them in the shot many times in the same place, building up their impression, while allowing other elements to take secondary and reduced importance.

'Sometimes it's the angle of the light which will make a certain shape stand out more than the others, but I can also do this by including it in more of the exposures. Light objects stand out more than dark ones in a multiple exposure, so I can use that to emphasise the parts I want to show most. I will put a prominent element – an edge, a window or some such – and keep it in the cross-hairs of the viewfinder for all the shots. This part of the scene will then appear sharper in the final frame than anything else around it,' he tells me.

'Round objects are particularly suitable, for example a cylindrical tower or a spherical sculpture, as you can circle the object 360 degrees and it looks the same in every exposure. But striking, straight structures and shapes are also suitable, as in the Bauhaus Master Houses in Dessau. Here I was able to use the large windows in the concrete facade to create beautiful graphic images.

'I often watch other visitors approaching the subject and see from where they are taking their pictures of it. I choose one of these points and check the lighting conditions – too much contrast isn't good. If I like the view and think it will work, I decide on a centre point and take pictures from there to about 20 to 50 metres on the left and right, depending on whether there is space and how big the object is. I usually make about ten to 20 exposures. If the structures and shapes will work, I might also turn the camera on its side and shoot upright views as well.

'The final processing usually is done in Photoshop, but the process of creation is always in-camera on film, with all the exposures made on a single frame of film. I also have a series called Multiexpo100. In this series I take five pictures with 20 exposures each. Later on the computer I overlay these five pictures, so that in principle one picture is created that has been exposed 100 times.'

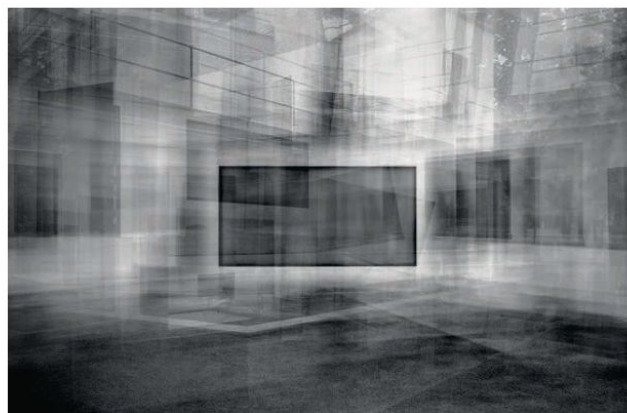
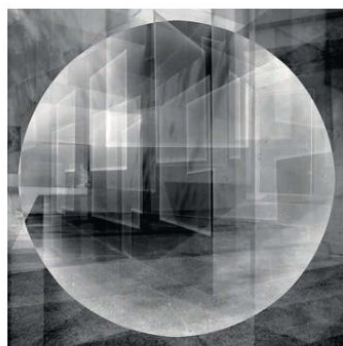
After some experimentation, Machalowski shoots on Rollei Retro 80s film for its low speed – which makes multiple exposures easier. And for this series he shot with a Nikon F80 and a Hasselblad 500C/M with the Distagon 50mm, though he often uses an Aadox Golf camera for other projects.

I really like the way Machalowski takes the themes of the houses and emphasises those within the multitude of shapes, lines and angles of his images. By clever use of framing and exposure he projects the pictures' key graphic elements for us to grasp hold of, giving each image a strong theme supported by a chorus of sub-themes that harmoniously get his point across. His images are a feat of technical and creative mastery, and highly inspirational.



Machalowski shoots key elements in his multiple exposures again and again





Frank Machalowski

Frank is a German photographic artist. Since 2014 he has been a member of the 'Berlin-Photography' project, a collective of 32 photographers. See more of his work at www.machalowski.de.



A step closer to optical perfection

Discover the best editing software for correcting lens and image distortions. **James Abbott** shows you how you can achieve better image quality in just a few clicks

Getting the best from your photography is a careful balancing act of multiple variables.

While many of these are out of our control, some are easily taken care of and can be considered a part of your editing workflow.

Distortion is one of those things all photographers have to live with. It can occur as a result of lens imperfections, or due to whether you've shot square on to a subject or not. But the great thing about distortion is that both lens and perspective distortion can be easily fixed during post-processing.

To cover everything in detail, we've focused on using architecture images because distortion is most visible in scenes with strong straight lines, but the adjustments we'll cover can be applied to any subject. Before we get started with distortion removal, let's take a look at the types of distortion you're most likely to experience.



Chromatic aberration

Chromatic aberration occurs when a lens is unable to capture all colour wavelengths at the same point which results in colour fringes, typically along high-contrast subject edges. It's also more prevalent at the edges of the frame and often more noticeable when shooting with the aperture wide open.

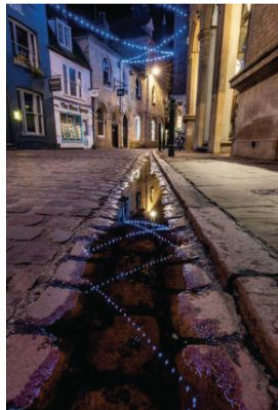
Most software provides a simple checkbox that allows you to remove chromatic aberration with a single mouse click, but for more stubborn chromatic aberration you'll need to remove it manually.

Perspective distortion

Perspective distortion is simply when the camera is tipped backwards or forwards to get all of a tall or small subject in the frame, or the camera was turned slightly to left or right, rather than pointing straight at it. This results in converging

verticals, which are straight lines that appear to get closer together, and this can occur on both the vertical and horizontal axis.

Unlike lens corrections, which can be applied using lens profiles or manually, all distortion can be removed, it's worth noting that perspective distortions have a finite amount of adjustment that can be applied while maintaining a natural result.





LENS DISTORTION

Many, but not all, lenses produce some kind of distortion, and most commonly this is barrel or pincushion distortion. This often simply comes down to cost: the more you pay for 'pro' lenses, the greater the chance that they'll be optically brilliant. Conversely, the less you pay, the more likely the lens is to suffer from distortion, although

there is the odd gem that performs beyond expectation.

Another characteristic of lenses, and one that occurs regardless of cost, is vignetting. This is most prominent when shooting with the aperture wide open and can, in some situations, complement the image, but this alongside lens distortion can be easily fixed if desired.



Pincushion

Pincushion distortion is where the image appears to be sucked inwards towards the centre along each of the four sides. This is more common with the longer end of zoom lenses and telephotos.



Normal

In this image, the distortion has been corrected to show how straight lines in the scene should look. Pincushion and barrel distortion are most noticeable in images featuring strong lines.



Barrel

Barrel distortion is where the image appears to be blown outwards and away from the centre along each of the four sides. This is more common with the shorter end of zoom lenses and wideangles.

Adobe Lightroom Classic and ACR

● £119 PA ● www.adobe.com

FOR USERS of Lightroom and Adobe Camera Raw, lens corrections are incredibly simple, and in most cases simply require that the Remove Chromatic Aberration and Enable Profile Corrections options in the Lens Corrections panel are checked.

In the vast majority of cases, these two checkboxes will take care of all lens distortions automatically, with the software identifying the lens used through the EXIF data in the image and then applying the appropriate Lens Profile; this will remove any vignetting, as well as distortion.

You could, if you prefer, remove any distortions manually, using the self-explanatory sliders to remove Distortion, chromatic aberration/colour fringing and vignetting. However, the most common way of working is to apply Remove Chromatic Aberration and Enable Profile and if further adjustments are required, these are then applied manually. The Lens Profiles are so effective, this is rarely necessary, although strong and stubborn chromatic aberration does sometimes require both approaches.

When it comes to perspective distortion this can be fixed using the controls in the Transform panel. There are five 'preset' options namely Auto, Guided, Level, Vertical and Full, but there are also seven self-explanatory sliders that can be used alone or alongside one of the automated presets. JPEG shooters can apply these corrections through the Camera Raw Filter in Photoshop.



APPLYING CORRECTIONS IN LIGHTROOM AND ACR



1 Lens corrections

In Lightroom, on the right-hand panel in the Develop Module, go down to Lens Corrections, and in ACR expand the Optics panel. Now simply click on Remove Chromatic Aberration and Enable Profile to remove any lens distortions. If the lens profile isn't picked up automatically, select the lens manufacturer using the Make dropdown, and most often this will pull the correct profile through if one is available. Apply manual corrections if necessary.



2 Perspective corrections

In Lightroom go down to the Transform panel below Lens Corrections, and in ACR expand the Geometry panel to open the perspective correction controls. At first, try the automated presets to see if these remove distortion effectively. Only Guided requires guides to be placed. Alternatively, or alongside one another, apply manual corrections too. For this image, Vertical was set to -18 to straighten vertical lines and Rotate was set to +12 to straighten the horizon.



3 Crop the image

With the Transform panel, you can click on Constrain Crop and Lightroom/ACR will automatically remove any empty white space that appears around the image. Alternatively, to take greater control of the crop, you can activate the Crop Overlay. Set Aspect to Original to maintain the original image ratio and make sure that the padlock is locked to constrain proportions. Drag out the Crop Overlay and once happy press the Enter key to commit to the crop.

DxO Viewpoint 3

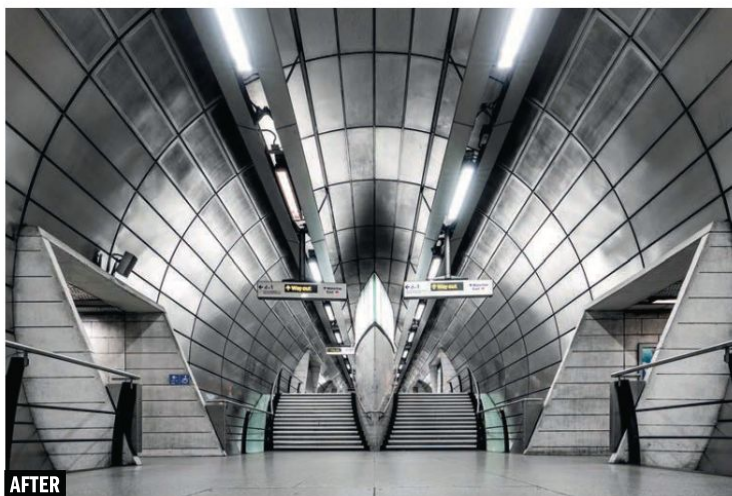
£69 • www.dxo.com

DXO HAS long been a key player in the area of lens and distortion corrections, so it comes as no surprise that there are several software options providing extensive control in these areas. Here, we'll take a look at Viewpoint 3 and Perspective Efex, which are practically identical but come in two completely different packages.

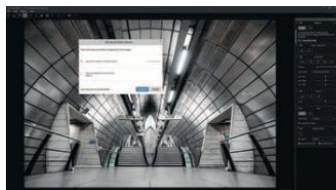
DxO Viewpoint 3 is available as standalone software, with the ability to be used as a Photoshop and Lightroom plug-in costing £69. Users of the Nik Collection 3 by DxO will get the Perspective Efex plug-in included and the plug-in suite costs £133. Both are available as a free trial so you can test the software before purchasing.

The results from DxO Viewpoint 3 and Perspective Efex are excellent, arguably the best, but where the two software options fall behind other DxO software and other software options, is their inability to work directly with raw files. Although, this isn't the end of the world and the results are still impressive.

One area where DxO is head and shoulders above the competition is that if you shot a portrait or a group of people with a wideangle lens and the subjects at the edges of the frame are distorted, you can use the Volume deformation controls to remove the stretched look you often experience towards the edges of the frame in this situation. You can also use this control with any subject to remove the stretching, but it's most effective where there's an important element such as a person or object at the edge of the frame.



VIEWPOINT 3 AND PERSPECTIVE EFEX CORRECTION CONTROLS



1 Lens corrections

With your image open, click on the Auto button in the Distortion panel and this will open a dialogue asking you to select the original raw file so that detailed EXIF data can be obtained by the software. Once this is selected, lens corrections will be applied to the image with an Intensity slider to control the overall strength. Alternatively, if a raw file isn't available, click on the Manual icon next to the Auto button where you can apply Barrel, Pincushion and Fisheye distortion.



2 Perspective corrections

On the Perspective panel, you can choose from one of five options including Auto. The other four options require guides to be set and are most often the best way to correct distortion. For this image, Force Vertical Parallel was selected since the image suffers from strong converging verticals. For this, the guides were set along lines in the scene that should have been vertical, and the Apply button was pressed to commit to the correction.



3 Straighten horizon

The horizon can be straightened in the previous step with the Force Horizontal Parallel and Rectangle options, using the same type of guide as before, but we can also straighten the horizon in the Horizon panel below. So now, either select Auto for an automatic straighten or select the Horizontal Level and drag the guide along a straight line that should be horizontal and press Apply. You can take control of the cropping that has been applied with the Crop panel controls.

Affinity Photo

- Win and Mac £48.99
- iPad £19.99 ● www.affinity.serif.com

AFFINITY Photo is Photoshop's closest competitor in terms of editing power and overall functionality, and as such provides the same level of adjustments over distortion control when working with raw files as in Lightroom and Adobe Camera Raw.

The software provides lens and perspective distortion correction controls in the Develop Persona when editing raw files with controls for both types of distortion found in the same panel. And while you can achieve the same level of control as in Lightroom and Viewpoint 3, there are no automated or guided perspective corrections available.

Despite the reliance on manual sliders, you can achieve fine control over adjustments thanks to them being easy to use with self-explanatory labelling. In reality, performing manual corrections over auto or guided approaches takes seconds rather than minutes longer. While these options would be welcome, their absence has no effect on what Affinity Photo is capable of. Overall, results are excellent and while beginners may find the manual sliders daunting, you really can't go wrong with them because each set of adjustments can be reset.

Lens corrections are much more automated and you simply select the Lens Correction Lens Profile, Chromatic Aberration Reduction and Remove Lens Vignette. If the Lens Profile doesn't load because one doesn't exist for the lens you shot with, you can remove barrel and pincushion distortion with the Distortion slider.



APPLYING MANUAL CORRECTIONS IN AFFINITY PHOTO



1 Lens corrections

Open your raw file in Affinity Photo and click on the Lens tab on the right to open the panel. Here, click on the Lens Correction checkbox, as well as Lens Profile if not automatically selected, Chromatic Aberration Reduction and Remove Lens Vignette. With the latter, a slider appears to control intensity. You only need to use the DeFRINGE option if colour fringing remains visible after applying Chromatic Aberration Reduction.



2 Perspective corrections

We can now use the Horizontal, Vertical, Rotation and Scale sliders to remove perspective distortion. The Distortion slider at the top fixes barrel and pincushion distortion, which was previously corrected with the Lens Profile. For this image, the camera was tilted back slightly and the horizon isn't quite straight, so Vertical was set to -16% to pull the top of the image out and push the bottom in. To straighten the horizon, Rotation was set to -0.04° to rotate anti-clockwise.



3 Crop the image

After applying perspective corrections it's common to see empty space along some image edges and corners. The Scale slider can be increased to remove this, although cropping is often better because it provides greater control, so that's what we'll do here. Click on the Crop Tool icon on the Tool panel and make sure Mode is set to Original Ratio. The crop guide will appear on the image and you can drag the control points to adjust the crop before hitting Enter to crop.

Photoshop Elements 2021

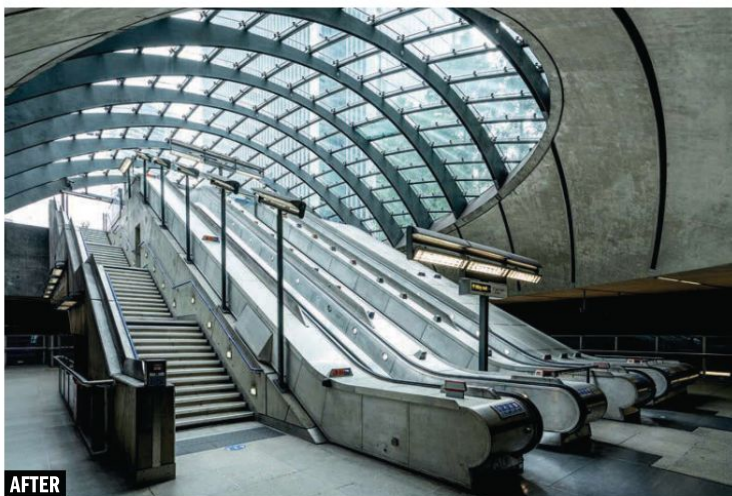
£75 ● www.adobe.com

PHOTOSHOP Elements is the most limited option available when it comes to distortion correction, but it's important to cover it because of how popular the software is. Elements Raw unfortunately provides no lens or perspective correction controls.

Elements does, however, provide manual lens and perspective adjustments in the Expert section of the Photo Editor through the Correct Camera Distortion filter. This means that both raw and JPEG shooters can enjoy these controls. These controls are a cut-back version of the Lens Correction filter in Photoshop.

Perspective adjustments are applied manually and the interface is simply and clearly laid out as you'd expect from Elements. There are controls to Remove Distortion, Vignette, Vertical Perspective and Horizontal Perspective, although there's no way to remove chromatic aberration. If you use Elements, you could benefit from purchasing DxO Viewpoint 3 or Nik Collection 3 by DxO so you can take more control over lens and perspective distortion, but we will be looking at the stock controls available in Elements below.

While Elements can be frustrating, it does provide a cost-effective entry point for Photoshop software thanks to the perpetual license. The trade-off is that you get some seriously powerful software for the cost compared to the Creative Cloud Photography plan, but many key features are absent.



USING THE CORRECT CAMERA DISTORTION FILTER IN ELEMENTS



1 Lens corrections

With your image open go to Filter>Correct Camera Distortion and make sure that Show Grid is checked because this can help to identify distortion. Identifying small amounts of distortion can be tricky with some images. Go to the Remove Distortion slider where barrel or pincushion distortion can be corrected by moving it left to remove pincushion, and moving it right to remove barrel. In this image, +10.55 was set to remove a small amount of barrel distortion.



2 Remove vignette

Vignette removal is also manual, but with just two sliders you can easily remove vignettes due to lens imperfections or add them for creative effect. The Amount slider darkens when dragged left, and lightens when dragged right. The Midpoint slider focuses the vignette on the centre of the image when dragged left, while it makes it smaller and focuses more on the corners when dragged right. The Amount slider was set to +20 and Midpoint at the default for this image.



3 Perspective corrections and horizon

Removing perspective distortion is easy with sliders featuring easy-to-understand symbols showing what happens when you move either slider. For this image, the Vertical Perspective was dragged left to -60 to pull the top of the image out and push the bottom in. The horizon can now be straightened using either the Angle dial to rotate or by typing the angle required into the box set to 0.00° by default. This image was rotated to 0.50°.

Combat converging verticals

Capture stunning images of architecture in-camera using a tilt-shift lens.

Jeremy Walker explains how these specialist lenses work and the benefits of using one

We can all shoot architecture – after all, all you need is a building, and it doesn't really matter about size, grandeur or architectural style. Close-ups, details, quirky angles with converging verticals, night-time shots, the possibilities are near endless. But what if you are shooting for a client, an architect perhaps, who doesn't want their building to appear to be leaning over like a modern-day Tower of Pisa?

Converging verticals can make a building look very dramatic. But for the client who designed their building to be upright, it has to look, well, upright.

High-quality architectural photography used to be the sole domain of the large-format technical camera, one which allowed movements such as rising front, tilt and rotation, both of the lens panel and the film plane. Today, with precision engineering and advanced optical design, tilt-shift lenses allow us to achieve similar results with less hassle.

What exactly is a tilt-shift lens?

More accurately a tilt-shift lens should be called a perspective control lens as it has the ability to control image perspective. Without getting too technical, this type of lens has elements that can be moved up or down, and in some cases from side to side without having to move the camera body. Perspective control lenses come in a variety of focal

lengths from 11mm to 135mm, although the most popular focal lengths are 17, 19 and 24mm. It is the precise and controlled rise and fall movement that is of most interest to an architectural photographer. One small drawback to this type of lens is that due to their complicated construction they are only available as manual-focus lenses.

A problem solved

If you want your building verticals to remain so, your camera, lens and building have to be parallel to each other. If you point the camera and wideangle lens up, you will have converging verticals and the building will appear to be falling backwards.

The problem is solved by keeping the camera and perspective control lens level, on both axis and only moving the lens upward, known as rising front. Keeping the lens parallel to the building will ensure vertical lines remain vertical. The amount of rising (or drop) front on most lenses of this type is about 12mm of movement. This does not sound like a huge amount of adjustment but a few millimetres can make a big difference to your image.

Some people will argue that tilt-shift lenses are outmoded and everything can be done in post-production. Converging verticals can be corrected but there is only so much squishing, pulling and pushing a pixel will take. If you want a versatile and extremely high-quality lens, invest in a tilt-shift lens.



Above: Using a 45mm Tilt-Shift for this New York skyline corrected the distortion Nikon D810, 45mm PC-E, 90sec at f/11, ISO 100

Using the Tilt function

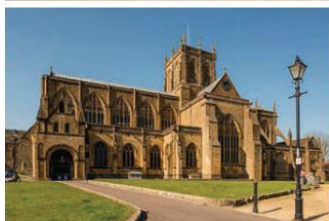
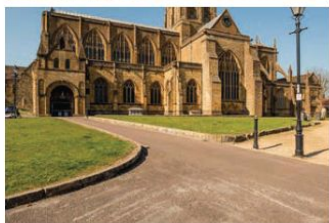
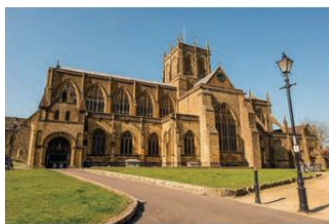
Some Perspective Control lenses only have the rising and falling control, the part which controls verticals in an image. The more advanced design of a PC lens also has a 'Tilt' function which allows control of the image plane. This can be used for ensuring front to back image sharpness (the Scheimpflug Principle, and that's another article altogether!) or for creatively making areas of the image out of focus so that just a road or path are sharp and either side is out of focus. It's a very interesting and creative technique when used for architecture, street scenes and city views and will give you something a bit different.





Use a Tilt-Shift lens for close-ups

A few tilt-shift lenses also have the capacity to be used as close-up lenses. My own experience of the Nikon 45mm PC lens is that it was stunningly sharp and a brilliant all-round lens. Great for shooting city skylines as well as shooting close-up details of frosty leaves.



Top: Pointing the camera up to get entire building in will result in converging verticals

Middle: Shooting straight on cuts off the top of the building

Bottom: By using the shift function you will keep the lens parallel to the building, and vertical lines will remain vertical



Top tips

Stay level

Everything has to be level. A hot-shoe spirit level or in-built electronic level are absolutely essential. Care and time should be spent making sure you are as accurate as possible.

Use a geared head

A sturdy tripod with a smooth geared head will be preferable. There is nothing worse than locking everything off and then finding the horizon is not level or a vertical is slightly out of true.

Manual focus only

There is no autofocus on a tilt-shift lens so allow time to manually focus on your subject. Use live view at 100% for accurate focusing. Once you're happy, check the focus and check again.

Meter first

Meter through the lens before making any rise or fall adjustments. Taking a meter reading after any adjustments may affect the true exposure. Shoot a test frame and check the histogram just to make sure you are in the ballpark.

Reset movements

Reset any movements you may have made to the lens back to zero. It is very easy to finish shooting one location, move to another and not realise you have several millimetres of correction already set on the lens and then wonder why your image doesn't look right!

Tilt-Shift lenses

Take control over the perspective and plane of focus in your architecture and interior photographs with one of these great tilt-shift lenses



Macro

Longer focal-length tilt-shift lenses are often designated as macros. They're mostly used for studio-based product photography.

Focal length

24mm wideangle lenses tend to be ideal for architectural exteriors, while wider optics are great for interiors.

Tilt

Tilting the lens can be used to extend the depth of field without having to stop down the aperture. Alternatively it can provide a 'fake miniature' effect.

Shift

Shifting the lens upwards allows the camera back to be kept upright when shooting architecture, to eliminate converging verticals.

Rotation

Tilt-and-shift lenses allow the shift movement to be rotated relative to the camera, for switching between landscape- and portrait-format shooting.



Canon

• www.canon.co.uk

CANON currently offers five tilt-shift lenses, all with the full-frame EF mount: the TS-E 17mm f/4L (£2,259), TS-E 24mm f/3.5L II (£1,999), TS-E 50mm F2.8L Macro (£2,439), TS-E 90mm F2.8L Macro (£2,439) and TS-E 135mm F4L Macro (£2,439). Of these, the TS-E 24mm f/3.5L II is the 'go-to' lens for architecture photography because its angle of view is suitable for photographing large buildings without having to go too far back. It enables up to $\pm 8.5^\circ$ and ± 12 mm shift, plus $\pm 90^\circ$ rotation is available for each movement independently. It's supplied with a large bowl-shaped hood and accepts 82mm filters.

Thanks to its 'normal' field of view, the TS-E 50mm F2.8L Macro also holds appeal, but naturally, you have to step further away from a building to get it all in the frame compared to the 24mm lens. However, it also has a closest focusing distance of 27.3cm at which it gives half life-size reproduction, making it attractive for product photography as well as architecture.

Meanwhile, the TS-E 17mm f/4L is useful for photographing skyscrapers and cramped interiors. Its tilt movement is more limited than the 24mm lens at $\pm 6.5^\circ$, but the shift is the same at 12mm and there's independent rotation available for each to $\pm 90^\circ$.

Thanks to their longer focal lengths, the TS-E 90mm F2.8L Macro and TS-E 135mm F4L Macro are more suited to macro, product and portrait photography than architecture.



Nikon

• www.nikon.co.uk

THERE are four tilt-shift or perspective control (PC-E) lenses in Nikon's lineup: the PC-E 19mm f/4E ED (£3,199), PC-E 24mm F3.5D ED (£1,739), PC-E Micro 45mm f/2.8D ED (£1,709) and PC-E Micro 85mm f/2.8D (£1,499). They all have the Nikon F mount and cover a full-frame sensor. In principle, they can also be used on the firm's Z-mount mirrorless cameras via the FTZ mount adapter.

Again, the 24mm focal length of the PC-E 24mm F3.5D ED makes it an appealing option for architectural photography. It can tilt by up to $\pm 8.5^\circ$ and shift by 11.5mm, plus there's up to $\pm 90^\circ$ rotation available, allowing the correction of converging verticals with either portrait or landscape format images. Helpfully, it comes supplied with a lens hood and has a thread for 77mm filters.

Nikon's PC-E 19mm f/4E ED is useful for photographing very tall buildings or tight spaces indoors. It's the only Nikon PC-E lens that has a dual rotation mechanism to enable the axis of the tilt function to be altered relative to the shift on a shot-by-shot basis. However being an E-type lens, it lacks a mechanical aperture ring.

If you want a tilt-shift lens with a 'normal' field of view, there's the PC-E Micro 45mm f/2.8D ED. It has a closest focusing distance of 25.3cm which delivers the maximum reproduction ratio of 1:2, or half-size, making it useful for product and still-life photography. Meanwhile the PC-E Micro 85mm f/2.8D is ideal for portraits and product shots.



Laowa

• www.venuslens.net

LAOWA has a few interesting optics for architectural photographers. Firstly, there's the 15mm F4.5 Zero-D Shift lens (£1,249), reviewed on page 79. It's a full-frame lens available in Canon EF or RF, Nikon F or Z, Pentax K, Sony FE and L mounts.

It's the widest shift lens currently available, which means it's useful for photographing very tall buildings or tight interiors. However, there's no tilt movement available, just shift of up to 11mm with 360° rotation.

The 15mm F4.5 Zero-D Shift produces a 65mm-diameter image circle which means that in theory it can be used on medium format cameras like the Fujifilm GFX100S. As yet it's not available with the GF mount, but the Canon EF and Nikon F versions can be fitted onto GFX cameras via the requisite mount adapters.

There's also the Laowa 15mm F4 Wide Angle Macro (£449-£499) for Canon EF, Nikon F, Pentax K and Sony FE mounts. This is an unusual 1:1 macro lens that works on full-frame cameras, but which also has a ± 6 mm shift feature available for use with APS-C format cameras.

Finally, there's the Laowa Magic Shift Converter (£299) which is essentially a 1.4x teleconverter that enables Canon EF or Nikon F lenses to be used on Sony E-mount cameras with up to ± 10 mm shift. It's an interesting option, but you only get aperture control if the mounted lens has an aperture ring. It's best suited for use with the £899 Laowa 12mm f/2.8 Zero-D lens, with which it makes a 17mm f/4 lens.



Samyang

• www.samyanglens.com

WITH a street price of about £689-£749 depending upon the mount, the Samyang T-S 24mm f/3.5 ED AS UMC is the most affordable tilt-shift lens on our list. At its optimum aperture settings of around f/5.6-f/11, it compares very well with its more expensive competitors in terms of sharpness, which makes it an interesting option for enthusiast photographers who wish to experiment with this type of lens. However, while it offers a similar range of movements to its near-doppelgänger, the Canon TS-E 24mm f/3.5L II, it doesn't share the same construction quality and smoothness of operation, meaning it's not so well-suited for use by those who photograph buildings for a living.

It's a full-frame optic with an architecture-friendly focal length of 24mm and it's available in Canon EF, Nikon F, Pentax K, and Sony A or FE mounts. Whatever version you opt for, the aperture is set via a ring on the lens, with detents at half-stop intervals. The lens doesn't include any electronics to transmit focal length or aperture data to the camera, and like all the other tilt-shift lenses in this round-up, focusing is manual-only.

The tilt angle can be adjusted by up to $\pm 8.5^\circ$ and there's ± 12 mm of shift available for correcting converging verticals. The direction of shift can be rotated by 90° for portrait-format shooting, while the tilt axis can also be rotated independently though 90° . The lens accepts 82mm diameter filters, but no hood is supplied.

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Round Five Architecture

This round offers huge scope to create creative, dynamic images, whether you're drawn to grand, traditional structures or sleek, contemporary works of art. While we fully expect you to explore the buildings and skylines of towns and cities, remember that architecture takes many forms. For example, a bridge can offer many framing and compositional opportunities. Don't be afraid to explore abstracts too, as architecture is filled with curves, lines and other interesting details.



Your guest judge

Your guest judge for Round Five of APOY is David Clapp. A successful landscape, travel and architectural photographer, David describes himself as a jack of all trades. In January 2019, he received a direct Fellowship to the Royal Photographic Society, as recognition for his contribution to photography. He is also a renowned photographic teacher and lecturer. Visit www.davidclapp.co.uk.

Plan your APOY 2021 year

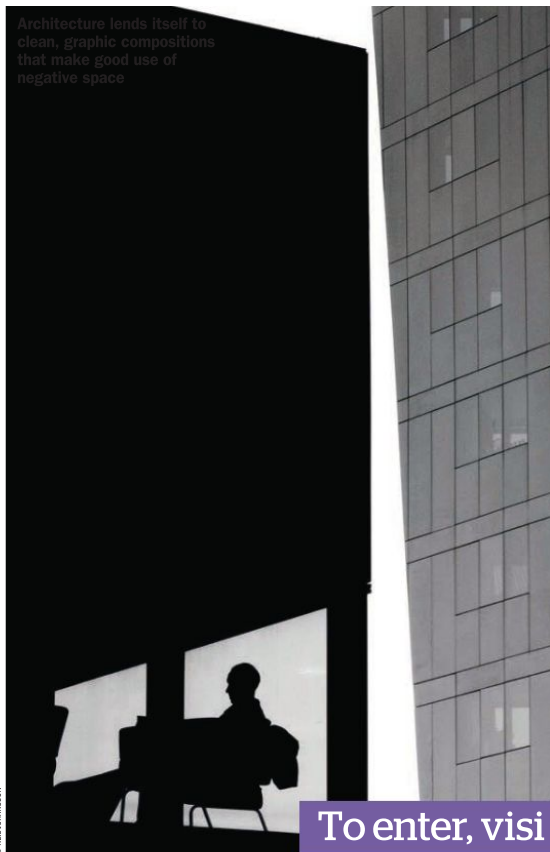
Below is a list of all this year's rounds, including when they open, when they close and the dates the results will be announced in AP

THEME	OPENS PHOTOCROWD	OPENS AP	CLOSES	RESULTS
Black & white	6 Feb	13 Feb	1 Mar	AP 10 Apr
Natural world	20 Feb	13 Mar	19 Mar	AP 8 May
Home	20 Mar	10 Apr	16 Apr	AP 5 Jun
Landscapes	17 Apr	8 May	14 May	AP 3 Jul
Architecture	15 May	5 Jun	11 Jun	AP 31 Jul
Movement	12 Jun	3 Jul	9 Jul	AP 28 Aug
Portraits	10 Jul	31 Jul	6 Aug	AP 25 Sep
Travel	7 Aug	28 Aug	3 Sep	AP 23 Oct
Street	4 Sep	25 Sep	1 Oct	AP 20 Nov
Close-ups	2 Oct	23 Oct	29 Oct	AP 18 Dec

YOUR FREE ENTRY CODE

Enter the code below via Photocrowd to get one free entry to Round Five - Architecture

APOY54071275



ALL ABOUT APOY 2021

The camera club award

Do you belong to a camera club? You can accumulate points for your society when you enter APOY, and after all the ten rounds are complete, the one with the most points will win a voucher for £500 to spend at MPB. The club might want to spend it on gear for use by members, or even run its own in-house competition with the prize going to the most successful photographer. It's entirely up to the winning group to decide.



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What you win

Take your pick from MPB's huge catalogue of used gear

The winner of each round of APOY receives a £500 voucher to spend on anything at MPB. From top-of-the-range digital medium-format camera bodies, to entry-level DSLRs, telephoto zooms and wideangle lenses, MPB is a one-stop shop for used kit. And, of course, you can use your voucher towards your dream piece of kit, if it happens to cost more than £500.

Ranging from £929 to £1,029, the Nikon PC-E 24mm f/3.5D ED is an example of a tilt-shift lens that will transform your architectural shots, as will the Canon TS-E 24mm f/3.5 L II, at £1,369, helping minimise distortion and avoid converging verticals.

Many architectural photographers like to work in low light for increased atmosphere, and a mirrorless camera like the Sony A7R produces high-quality images in challenging conditions. MPB has a range of A7R bodies in stock that range from £584 to £679.

There are second- and third-placed prizes of £100 and £50 vouchers respectively, while the winner of the Youth category wins a £250 voucher.

Check out www.mpb.com to take your pick from thousands of items.

The Young POTY award

This year, we are adding a Young Photographer of the Year category to APOY, in order to encourage our up-and-coming snappers. Entrants should be 21 years old or younger by the competition's final closing date of 29 October 2021. All the categories are the same as for the main competition – simply select the Young APOY option on Photocrowd when you upload your images. This category is free to enter; each category winner receives a £250 voucher, and the overall winner receives a voucher for £500 to spend at MPB.





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Sony 135mm f1.8 GM	£100
Sony 90mm f2.8 Macro G	£50

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Reader Portfolio

Spotlight on readers' excellent images and how they captured them



Philippa Huber, UK



About Philippa

Philippa and her husband live on a narrowboat and travel the rivers and canals of the UK.

Favourite subjects

Nature and wildlife. Living on a narrowboat, I am fascinated by the natural world that surrounds me.

How did you get into photography?

I've always enjoyed photography as a way of documenting my travels.

What do you love about photography?

I see the world much more clearly through a lens, noticing details, behaviour and beauty that would otherwise pass me by.

First camera

A second-hand Minolta SLR back in the early 1990s. My first DSLR was a Nikon D90.

Current kit

Nikon D750 and a variety of lenses ranging from 20-35mm to 150-600mm; 3-legged Thing Punk Billy tripod; Sony RX100 III.

Favourite lens

The Sigma 150-600mm or Lensbaby Velvet 85.

Favourite accessory

My massive dog cushion, which I use as a waterproof lens support.

Dream purchase

A minimum three-month trip in the Nordic countryside in the snow.

What software do you use?

Capture One Pro.

Favourite photographers

Currently, Stefan Gerrits' birds; Pasi Kaunisto's cold-weather wildlife; Georgina Steytler's birds; Margaret Hogarth's atmospheric landscapes.

Favourite photo books

Exposure by Jane Bown.

Favourite tips

For wildlife photography, know your camera well enough that you can adjust settings quickly without taking your eye away from the viewfinder.

Tell us about your pictures

The photos show part of my life as I travel the English canals. All shots were taken from, or close to, my narrowboat and hopefully they allow others to share something of my sense of awe at what surrounds me.

Find out more

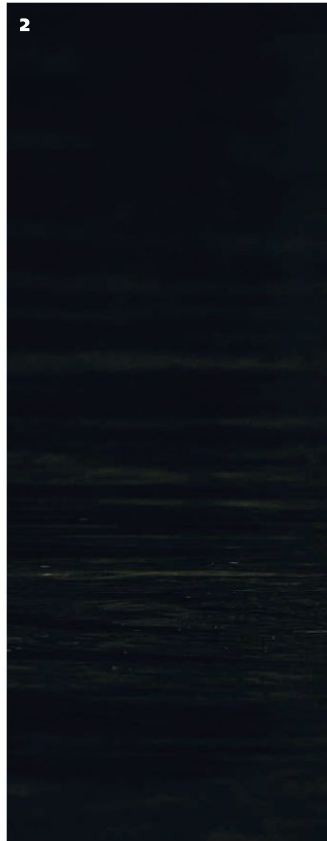
www.philippahuberphotography.com; Instagram @philippahuber and @philippahuber1.

Face the Day

1 I was woken up at 5am by birds pecking on the boat's hull. I got up to find the water laden with mist and the sun just rising.

Nikon D750, 35-70mm at 70mm, 1/500sec at f/13, ISO 320

2



Reflecting

3 My aim with this image was to capture an atmospheric and behavioural portrait of the swan as it performed its final preening ritual of the day.

Nikon D750, 150-600mm, 1/800sec at f/13 and +2 exposure compensation, ISO 2000





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software

The **Reader Portfolio** winner chosen will receive a copy of **Skylum Luminar AI**, worth £79. See www.skylum.com

Luminar is a fully featured photo editor for Mac and PC designed for photographers of all skill levels, blending pro-level tools with remarkable ease of use and an enjoyable experience. A new Library feature lets you organise, find and rate images easily, while over 100 editing features, plus a suite of fast AI-powered technologies under the hood, will make any image stand out.



YOUR PICTURES IN PRINT

Submit your images

Please see the 'Pictures' section on page 3 for details of how to submit. You could see your photos here in a future issue!



Preening

2 The background and light were good for this portrait of a preening swan.

Nikon D750, 150-600mm, 1/1600sec at f/8, ISO 400

End of the Day

4 We had parked up on the Kennet and Avon canal by Hamstead Lock. To see a large swan family preening like this is very rare. They were opposite the towpath, so I got my long lens and tripod and knelt down between a gap in the reeds.

Nikon D750, 150-600mm, 1/800sec at f/13, ISO 2000

Breakfast

5 I wanted to capture the beautiful markings of this Egyptian goose. The light enabled me to isolate it from the background and capture a great reflection.

Nikon D750, 150-600mm, 1/400sec at f/6.3, ISO 2000



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Nigel Atherton, *Editor*

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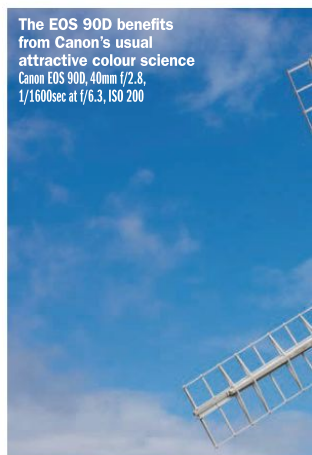
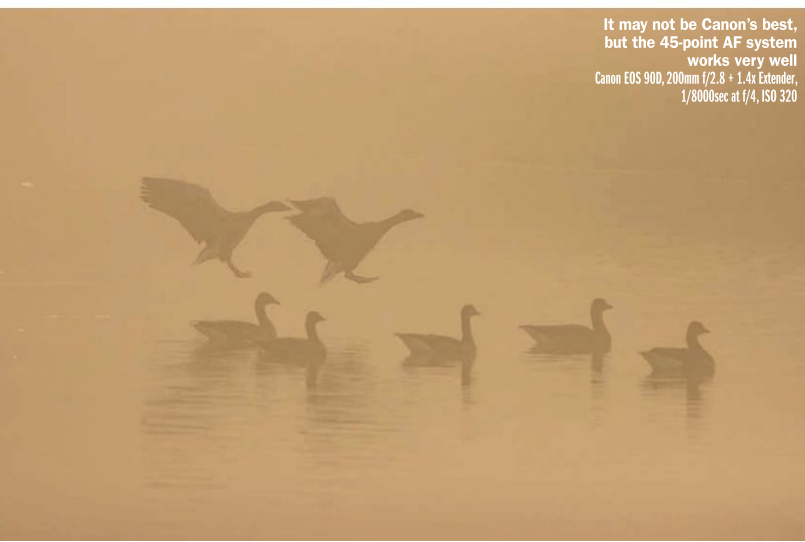
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It may not be Canon's best,
but the 45-point AF system
works very well
Canon EOS 90D, 200mm f/2.8 + 1.4x Extender,
1/8000sec at f/4, ISO 320

The EOS 90D benefits
from Canon's usual
attractive colour science
Canon EOS 90D, 40mm f/2.8,
1/1600sec at f/6.3, ISO 200



With its relatively compact size, the EOS 90D is easier to carry around all day than its higher-end siblings
Canon EOS 90D, 70-200mm f/4 at 70mm, 1/400sec at f/5.6, ISO 100



At a glance

£1,249 body only

- 32.5MP APS-C sensor
- 45 cross-type AF points
- 10 frames per second burst rate
- ISO 100-25,600
- 4K 30p video
- Wi-Fi and Bluetooth
- Weather-sealing

Canon's last great DSLR

As Canon continues the shift towards mirrorless, **Matty Graham** looks back on the EOS 90D - an APS-C DSLR that punches well above its weight

The year 2021 saw Canon maintain its number one share of the global market for interchangeable-lens digital cameras for the 18th consecutive year. And, if there's one thing Canon has excelled in over those glory years, it's what can loosely be called 'enthusiast-level' DSLRs. This has always made good business sense; hook in newcomers to photography and then provide a pathway as they move on to more advanced cameras, ending up at the full-frame 5D line-up. It could be argued however that Canon's mid-range XXD line-up has always trod a blurred path, offering more advanced features than its entry-level DSLRs, but remaining competitively priced, which attracted those users for who a full-frame DSLR was out of reach. What seems to be the last in this prolific range is the impressive EOS 90D, which was launched back in August 2019 and appears to be a last hurrah before a continuous transition to

RF-mount mirrorless cameras. Having owned a 90D since the day it was launched, I'm of the opinion that it's one of the best cameras Canon has ever launched. In fact, I think this APS-C sensor model could well be Canon's last great DSLR.

A little history

Canon's XXD story starts back in 2003 as the brand began to tighten its grip on the digital camera market. The first iteration – the EOS 10D – was ahead of its time, serving up a 6.3-million-pixel APS-C sensor and delivering a DSLR that enabled everyday photographers to get creative. In fact, the 10D came out so early it actually pre-dated Canon's range of EF-S lenses, which were only compatible with APS-C DSLRs. Over time the line introduced important features, such as vari-angle screens, ahead of other Canon ranges so the XXD range was always a feature-packed alternative to Canon's full-frame





Matty finds his EOS 90D a good match to the compact, lightweight 40mm f/2.8 pancake lens

cameras. When I bought the 90D on launch day, the other cameras in my Canon arsenal were the pro-spec EOS 5D Mark IV and the 'semi-pro' EOS 7D Mark II. Although far more affordable than both those cameras, the 90D offers higher resolution, faster frame rates and more versatile video specifications than my 5D Mark IV/7D Mark II combo, thus justifying its place in my kit bag. In fact, the comparison to the 5D Mark IV is exactly why I added this camera to my set-up in the first place, but we'll come to that.

At the heart of the 90D is that APS-C CMOS sensor, that delivers an effective resolution of 32.5 million pixels. Despite the 90D being considered an enthusiast or consumer-level camera, it features the same powerful DIGIC 8 processor unit as Canon's latest EOS R and RP mirrorless full-frame cameras. Although specification numbers aren't everything, it should be noted that the 90D actually offers a higher resolution than the 5D Mark IV (32.5MP vs 30.4MP) and is the highest resolution APS-C camera Canon ever released, easily besting the 20.2-million-pixel 7D Mark II. This resolution enables the 90D to produce a maximum file size of 6960x4640 pixels. That's more than enough to create prints up to A3 or to crop into frames without compromising image quality, especially if their intended destination is on social media platforms such as Instagram.

Battery bonus

The 90D is a very efficient camera and features one of the highest battery life figures on the market. Capable of capturing up to a whopping 1,300 shots on a single charge, it's highly likely that just one battery will be enough for a whole day out with the camera. What's more, and rather crucially for photographers who were already invested in Canon models, the 90D employs the same rechargeable LP-E6N Li-ion battery that is used in Canon's other pro and semi-pro cameras such as the 7D Mark II and 5D Mark IV.

Despite the high resolution, the 90D is not a big camera. Tipping the scales at just 701g (209g lighter than the 7D Mark II and 189g lighter than the 5D Mark IV) it measures only 140.7x104.8x76.8mm. These dimensions make it small enough for me to pair with a lightweight lens such as Canon's EF 40mm f/2.8 STM pancake optic and use on a mid-range gimbal like the DJI Ronin SC. This weight-saving does come at somewhat of a cost as the 90D only offers a single SD card slot and lacks other pro-spec features such as GPS.

Speed and precision

Although it can't match the legendary autofocus system found on the 7D Mark II (which was like a baby EOS-1D X), the 90D's 45-point system is still impressive. All of the points are of the more sensitive cross-type variety and perform well when used in the camera's AF servo tracking mode, particularly when trying to keep up with moving subjects in the frame. Unfortunately, the 90D doesn't retain the AF preset options found on the 7D Mark II, but it has still proved a decent option for sports and wildlife photography. This is actually when that APS-C sensor yields benefits, with the 1.6x crop factor extending the equivalent focal length of your lenses, with a 70-300mm optic effectively working like a 112-480mm lens and getting you closer to the subject. In the field, that autofocus system works incredibly well, even in low light. Thanks to Canon's Dual Pixel CMOS sensor, AF also works particularly well when capturing video footage.

When it comes to burst rate, the 90D impresses again, matching the 7D Mark II in offering 10 frames per second, and even exceeding it by capturing 11fps when shooting with live view. The camera is able to maintain this burst rate for 58 JPEG and 25 raw images before the buffer fills. Although this figure may seem pedestrian compared to the sorts of burst rates attainable from some mirrorless cameras (the Olympus OM-D E-M5 Mark III can shoot at 30fps) the reality is that in the field this speed is more

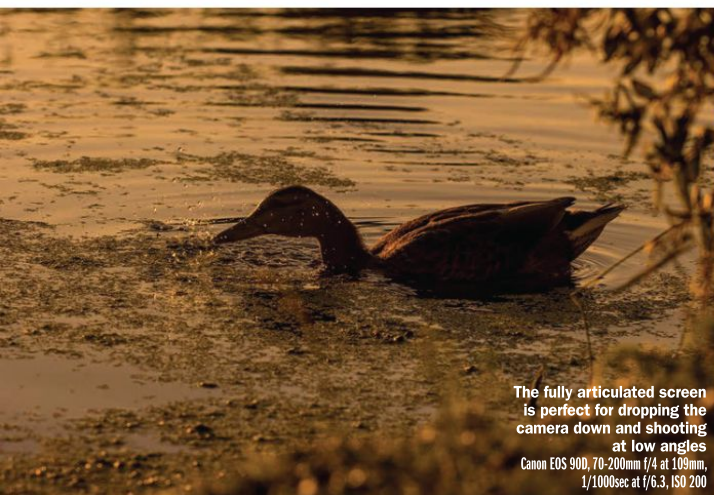


than enough to capture action sequences such as squirrels leaping from branch to branch, swans touching down gracefully onto a lake and the like. If you were a professional wildlife or sports photographer then you could justify the extra expense for an EOS-1D X, but for others, the 90D provides an excellent back-up option, combining that speed with the beefy 32.5-million-pixel resolution. This is particularly useful because it allows users to crop in on their images (a common technique with wildlife and sports photography) without overly compromising the quality and still enabling the photographer to make decent-size prints.

The versatility I've enjoyed with the 90D has a lot to do with the impressive LCD. At 3 inches, it's actually slightly smaller than the 3.2in LCD from Nikon's D500 but in practice, this isn't a big deal. The combination of vari-angle design and touch-sensitivity make it quick and easy to not only set up awkward high/low compositions either by holding the camera high up and pointing the LCD down,



With its 1.6x crop factor and high-resolution sensor, the 90D effectively provides more reach than full frame, which is ideal when shooting wildlife
 Canon EOS 90D, 200mm f/2.8 + 1.4x Extender, 1/400sec at f/4, ISO 400



The fully articulated screen is perfect for dropping the camera down and shooting at low angles
 Canon EOS 90D, 70-200mm f/4 at 109mm, 1/1000sec at f/6.3, ISO 200

or by flipping the screen out and capturing a worm's-eye view of a scene millimetres from the ground, which is a technique I regularly employ. Accessing exposure and camera settings using the touchscreen is easy too; a dedicated Q button is the shortcut to changing variables such as white balance, exposure compensation, focus mode and metering options. In fact the main menu system will be instantly familiar to any photographer who has picked up a Canon DSLR before. In my opinion, Canon really did miss a trick by not including a vari-angle LCD on the EOS 5D Mark IV and the user-friendly screen really speeds up my workflow and honestly allows me to capture viewpoints that wouldn't have been possible with the larger camera. At the launch of the 5D Mark IV in 2016, it was maybe seen that pro cameras must steer clear from vari-angle screens, but as we've seen it play out over the years, virtually every pro camera now offers either a tilting or fully articulating LCD monitor design.



➤ A true hybrid camera

Where the 90D really excels as a DSLR and where it has paid for itself many times over is when it comes to video. The 90D is arguably over-specified for its price point and highlights the huge shortcomings of Canon's flagship full-frame DSLR 5D Mark IV. The restrictions of the fixed LCD versus the vari-angle LCD on the 90D that we've already mentioned are magnified when shooting video. What's more, the 120p slow motion mode is only available in HD on the full-frame 5D Mark IV, while the 90D offers 120p in Full HD, enabling me to create higher quality slow motion sequences. Offering 4K video at 25p, the 90D really can cut it as a usable B-camera and I've often employed it when working on everything from high-end corporate videos to simpler YouTube videos.

While Canon's C-Log profile technology is available for the 5D Mark IV, this was only accessible as a paid-for addition, with videographers needing to take the 5D Mark IV into a Canon dealer to be upgraded. Obviously, the 90D doesn't have C-Log, however there are a couple of different ways videographers can work around this. The first is to work with the User Defined Picture Style options on the camera. Along with the standard options of Landscape, Portrait etc, there are also three custom slots available where users can set their own parameters to fine-tune the style of the stills and footage. By ramping up the Saturation and Sharpness while playing around with the Contrast, it's possible to create a custom Picture Style that has a very cinematic feel. Videographers can also take things further as there are a number of websites out there that offer bespoke custom Picture Styles that can be installed by using the EOS Utility software

and, while this may be just too much of a hassle for someone who shoots footage on rare occasions, for videographers it's well worth the time investment. Additionally, the 90D offers ports for both headphones and an external microphone so enhanced audio can be both captured and monitored. Ultimately, the 90D represents a great package for a videographer and for a vlogger who would want to flip the vari-angle screen forward by 180° and present to camera.

Of course, we can't talk about the 90D's features without adding some perspective by highlighting its price-tag. The current street price from the usual well-known dealers is £1,249 body only, or £1,349 with the EF-S 18-55mm f/4-5.6 IS STM. While many may scoff at the kit lens, it's worth remembering it weighs just 205g, features IS technology that offers up to four stops of compensation, includes the quiet STM motor and returns an equivalent focal length of 29-90mm. This counts as a versatile range that should cover everything from landscapes and portraiture, along with more close-up work thanks to the minimum focusing distance of 25cm. This is a value-for-money price-tag, given that the closest rival to the 90D in terms of features is probably Nikon's D500, which currently retails for a couple of hundred pounds more. Both cameras have virtually the same burst rate and offer 4K video, but while the D500 features more AF points (153 vs the 90D's 45), the Canon hammers the Nikon on resolution (32.5 vs 20.1 million pixels).

Canon's colour science is well known and the image quality from the 90D's stills files is superb. I shoot virtually exclusively in raw before editing using Adobe Lightroom and the files support a large degree of tolerance when it comes to revealing Shadows and pulling

Sufficient dynamic range is available for making large tonal adjustments in raw processing

Canon EOS 90D, 17-40mm f/4 at 20mm, 1/1000sec at f/7.2, ISO 200



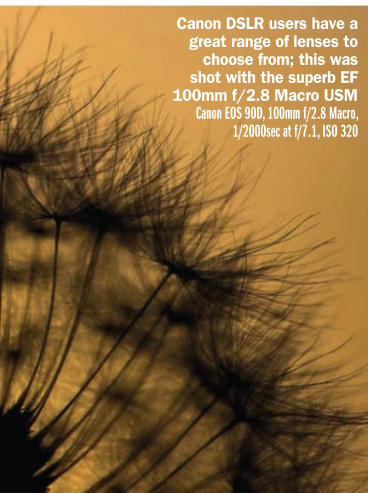
It may not match full frame, but the APS-C sensor can deliver a decent level of background blur

Canon EOS 90D, 40mm f/2.8, 1/1000sec at f/3.5, ISO 100





Canon DSLR users have a great range of lenses to choose from; this was shot with the superb EF 100mm f/2.8 Macro USM. Canon EOS 90D, 100mm f/2.8 Macro, 1/2000sec at f/7.1, ISO 320



back Highlights – particularly useful when editing frames taken during golden hour's tricky high-contrast lighting that can leave foregrounds underexposed or skies overexposed. Obviously the 1.6x crop factor does mean you'll need an ultra wideangle lens if you really want to capture the vastness of a landscape scene, but there are plenty of optics on the market that can do this job whatever your budget.

A fitting finale

As it turns out, the EOS 90D will be my last Canon DSLR, marking a full-stop to a journey that started 18 years ago with the EOS 10D. Both cameras were arguably ahead of their time and the 90D counts as a fitting end to my time using Canon DSLRs before I move across to the brand's mirrorless RF models in the shape of the full-frame EOS R6. Pound-for-pound, the 90D can easily be considered the best-value DSLR Canon ever produced, even beating the highly competitive original Canon EOS 6D that brought full-frame DSLR

photography to the masses in 2012. For enthusiast-level photographers the 90D offered a compelling blend of beefy resolution, speedy burst rates and rapid autofocus. But this was a camera that blurred the lines between sectors and for professionals the 90D was also an affordable B-camera that punched above its weight and provided a lightweight option for gimbal video work. It's a real shame we are unlikely to see a true DSLR successor to the 90D and now Canon photographers face three current options. They could follow my lead and switch over to a mirrorless RF-mount full-frame camera, or shift sideways and opt for an APS-C model from Canon's M-mount range such as the EOS M50 Mark II or the EOS M6 Mark II (which also offers 32.5MP). Alternatively, they can simply stick with the EOS 90D. After all, thanks to its aluminium alloy and polycarbonate resin body and typically robust Canon build quality, this is a camera that should offer plenty more years of use to come.





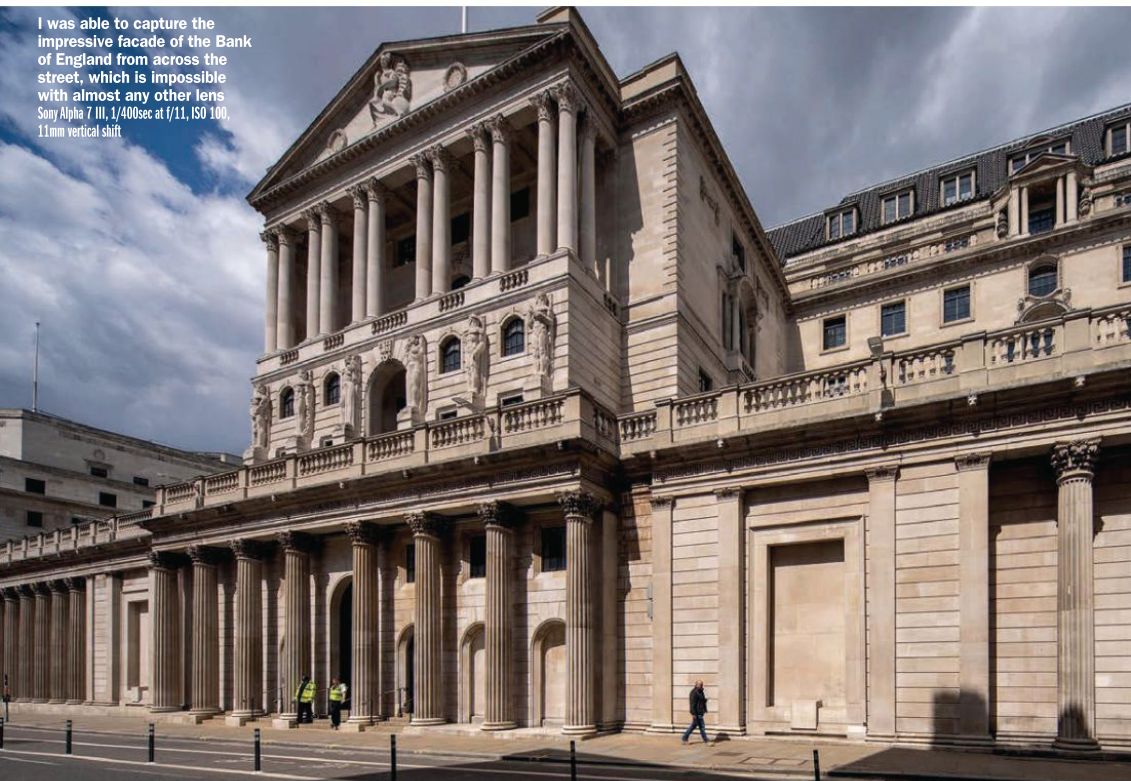
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I was able to capture the impressive facade of the Bank of England from across the street, which is impossible with almost any other lens
Sony Alpha 7 III, 1/400sec at f/11, ISO 100, 11mm vertical shift



Laowa 15mm f/4.5 Zero-D Shift



The world's widest-angle shift lens is an ambitious design from one of the world's most adventurous lens makers. **Andy Westlake** discovers what it can do

Of all the specialist lens types available, perspective control optics are perhaps the rarest and least understood. Even their colloquial name, 'tilt and shift', is slightly misleading; these are two separate functions with different purposes, and lenses don't necessarily need to provide both. Tilt allows

manipulation of depth of field, while shift enables correction of keystone distortion. The latter is most commonly seen as converging verticals when shooting tall buildings, which means that wideangle shift lenses are particularly valuable for architectural work.

The lens we're looking at here, the Laowa 15mm f/4.5 Zero-D

Shift, has the distinction of being the world's widest-angle shift lens. With a £1,249 price tag, it's very much a specialist optic, but compared to the £2,259 Canon TSE 17mm f/4L or the £3,149 Nikon PC Nikkor 19mm f/4E ED, it looks like a bargain. Designed for use on full-frame DSLR and mirrorless cameras, it's available in all of the relevant mounts.

Features

Let's take a look at what the Laowa 15mm f/4.5 has to offer. First and foremost, it's an ultra-wideangle prime that provides 11mm of shift in any direction. This requires an image circle 65mm in diameter, rather than the usual 43mm for full frame, which means the lens covers an overall angle of view equivalent to 10mm. The Zero-D in its name promises minimal curvilinear distortion, which is essential for this type of lens.

Optically Laowa has used an arrangement of 17





Its huge angle of view makes the Laowa 15mm uniquely suitable for interiors

Sony Alpha 7 III, 1/10sec at f/8, ISO 100, vertical shift

elements in 11 groups, headed up by a strikingly bulbous front element. Behind it, two aspheric elements and three extra-low dispersion (ED) glass elements are used to suppress distortion and lateral chromatic aberration. Apertures down to $f/22$ are provided by a five-bladed diaphragm, and the lens can

focus as close as 20cm. There are no electronics for passing the aperture setting to the camera, so you won't see this in the viewfinder or your images' EXIF data. If you use a camera with in-body stabilisation, you'll need to set the focal length manually.

With such a wide field of view, screw-in filters are never going to

be an option. However Laowa offers a matched holder for 100mm-wide filters which costs £130. There's also a £160 Lens Support that allows the lens to be fixed onto a tripod while the camera is moved behind it, which is useful for stitching multiple images at different shift positions to give an even wider view.

Build and handling

The first thing you have to work out when using this lens is how to remove its front cap. That vulnerable dome of glass needs special protection, which comes in the form of an unusual bayonet-fit cylindrical cap. It's good practice to keep this in place when you're not shooting.

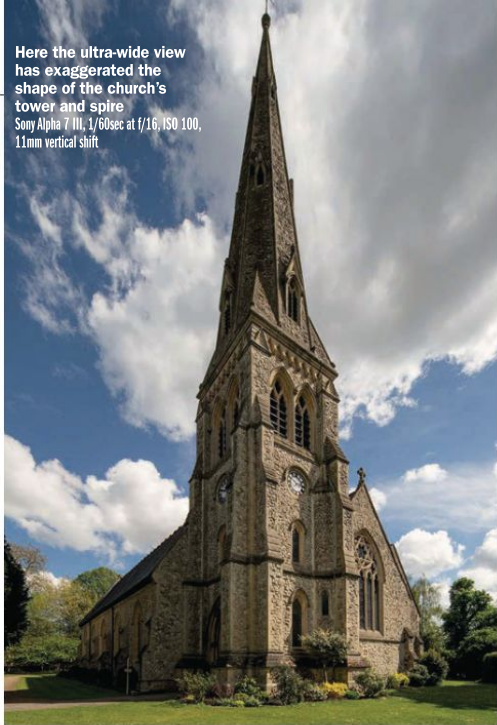
With a barrel that's constructed entirely of metal, the quality of construction is excellent. At the front, the manual focus ring operates beautifully smoothly without a hint of backlash, while the aperture ring has shallow but firm detents at the full-stop settings. Behind this, the shift mechanism is operated via a third ring around the barrel, which makes for impressively smooth and precise adjustment. A scale on the right side of the barrel indicates how much shift you've dialled in, while a screw on the left locks the lens at any position. On the upper left you'll find a button that, when depressed, allows the shift movement to be rotated relative to the camera, with click-stops at 15-degree intervals. It's very straightforward and intuitive to use.

Given its immense angle of view, the Laowa 15mm $f/4.5$ is surprisingly small. It's specified as 103mm long and 597g in



Using a shift lens gives a significantly wider final field of view compared to shooting with a conventional lens of the same focal length, then correcting converging verticals in software afterwards

Here the ultra-wide view has exaggerated the shape of the church's tower and spire
Sony Alpha 7 III, 1/60sec at f/16, ISO 100, 11mm vertical shift



weight for DSLR mounts, which makes it substantially lighter than its Canon and Nikon counterparts. Mirrorless versions are necessarily a couple of centimetres longer and about 140g heavier, thanks to a robust extended mount section that's felt-lined to minimise internal reflections. Inevitably, the mechanical complexity of its design means that the lens isn't weather-sealed.

In practical use

Shift lenses are infamously tricky to use with the optical viewfinders of SLRs. They wreak havoc with the metering, so you have to set the camera on a tripod, adjust the focus, manually set the exposure, and finally shift the lens to achieve your desired composition. Switching to live view fixes the metering and aids with focusing, but you'll still need to use a tripod. However on mirrorless cameras it's a different story, and with a bit of practice, shift lenses become very easy to use. I tested the E-mount version on the Sony Alpha 7 III and spent just as much time shooting handheld as I did with the camera on a tripod. The trick is

to use the camera's electronic level display to keep everything straight, shift the lens then shoot. You won't get perfect results in-camera, but your files will probably only need minor geometric tweaks in raw processing. For critical work there's still a lot to be said for using a tripod with a geared head for precise composition.

With its immense angle of view, the Laowa 15mm f/4.5 is a specialist tool even by the standards of shift lenses. It turns out to be ideal for shooting large buildings with flat facades where space is tight, or very tall buildings from relatively close viewpoints. But it's not so great with more complex three-dimensional shapes such as churches, where you're liable to end up with significant distortion of their proportions. Its biggest strength perhaps lies with interiors, with which it can deliver especially dramatic results.

Image quality

Of course with its £1,249 price tag, the Laowa 15mm f/4.5 can't entirely rely on its unique capabilities to justify its existence; it also has to deliver the goods optically. Shift lenses

are expected to provide high sharpness across their full image circle, along with minimal distortion and lateral chromatic aberration.

Let's start with the good points. Firstly, the lens has impressively low distortion: at full vertical shift there's some visible barrel-type bowing of straight lines across the top of the frame, but it's not so pronounced that it's likely to spoil your images. Some green and magenta fringing is visible, but it's not excessive, which is important as it can't easily be fixed in Adobe Camera Raw. Vignetting is quite pronounced at f/4.5, which results in ugly darkening across the top of the frame when the lens is shifted, but it clears up completely by f/11. The optics are also pretty resistant to flare, although occasionally you'll see striking streaks of light if the sun shines directly onto the front element. In such situations you're best advised to put the camera on a tripod and shield the lens using your hand or a piece of card.

Where my review sample fell over slightly came with regards to sharpness, although not in the usual way. Rather than soft edges or corners, it exhibited noticeable asymmetry when examining 24MP files from the Sony A7 III at 100% onscreen. The left-hand edge of the image was impressively sharp, especially when stopped down to f/8 or smaller, but the right edge was noticeably blurred, and this could only really be overcome by stopping down to f/16. With the lens fully shifted vertically, the top third of the image never quite got critically sharp even at the smallest apertures, but that's not entirely unexpected.

The lens's asymmetry could indicate an alignment problem during manufacturing; after all, this is an extraordinarily ambitious design. But then again, my review sample had been flown from China to the UK, so equally it could be a result of careless handling in transit. My previous experience of Laowa lenses makes me think that a properly adjusted example of the lens should give entirely acceptable sharpness.

LENS TEST

Testbench

Verdict

IN MANY respects, it's difficult to rate a lens like the Laowa 15mm f/4.5 Zero-D Shift. Its unique combination of an ultra-wide angle view and shift movement means that it's capable of delivering images that no other lens can capture in quite the same way. If that's something you can exploit either commercially or aesthetically, that might be all you need to justify its price tag. There really is nothing else like it, aside perhaps from the Canon TS-E 17mm f/4L which costs £1,000 more. Indeed the fact that this lens exists at all is pretty extraordinary, particularly when you consider that it comes from an optical company that's only eight years old.

Of course the asymmetric sharpness of my review sample has to raise some concerns, although I doubt all copies of the lens will look the same in this regard. I'd recommend buyers check the lens thoroughly to ensure it gives acceptable results for their needs, but that's always good practice anyway.

Obviously this is a niche lens, and with its fully manual operation and extreme field of view, really not one for the faint-hearted. It certainly takes more knowledge, technique and practise than usual to get the best out of it. But for architectural photographers who know exactly what they're doing, it offers unique creative potential.

Data file

Price £1,249	f/4.5-f/22
Filter diameter n/a	Minimum focus 20cm
Lens elements 17	Length 103mm
Groups 11	Diameter 79mm
Diaphragm blades 5	Weight 597g
Aperture	Lens mount Canon EF, Canon RF, Leica L, Nikon F, Nikon Z, Pentax K, Sony E



Amateur Photographer
Testbench
Recommended
★★★★



Leofoto G2 geared head

Andy Westlake tests a compact, lightweight geared head for precise camera adjustment

£189.99 • www.leofoto.com

PHOTOGRAPHERS who engage in serious architectural work often prefer to work with geared tripod heads. By driving the camera directly in each direction, these enable extremely precise control over composition, but in return, they tend to be large, heavy and expensive. Historically, this sector has been dominated by Manfrotto and Arca Swiss, but now some interlopers have started to find a way in. The device we're looking at here, the Leofoto G2, bears a strong resemblance to the Arca Swiss Core Leveller 60, but at a third of the price.

Compared to most other tripod heads, whose aim is to lock the camera at any angle of the user's choice, this serves a different purpose. It's all about setting the camera straight and level, which is a prerequisite for formal architectural compositions. To this end, it offers geared adjustments across a range of $\pm 10^\circ$ in two directions. Panning is provided via a smoothly rotating camera clamp, which can be locked in place when required. Should you wish to shoot in portrait format, you'll need an L-bracket on your camera. This design may sound limiting, but the advantage is that it allows the Leofoto G2 to be very much smaller and lighter than conventional geared heads. It'll even fit between the legs of many travel tripods, making it a tempting option for location work.

While the device can be used on top of a ballhead, for architectural work it'll most likely be mounted directly onto a tripod. The two axes of geared control are then used to ensure the camera is level, or perhaps tilted upwards slightly for more natural-looking images. This is where the Leofoto G2 is at a disadvantage compared to the Arca Swiss version, which includes a panning base for aligning those axes logically. My solution was to add a rotating base underneath.

The head is constructed from aluminium, with excellent build quality. All of the movements are smooth and precise, and once you've worked out how you prefer to align the controls, it's extremely intuitive to use. I stress-tested its load capacity using a full-frame DSLR and 400mm lens totalling over 3kg, which it handled with aplomb.

Verdict

There's no doubt the Leofoto G2 is a niche product with substantial limitations, most obviously its restricted range of movement. This limits its usefulness for many subjects, so it's not a head you'd employ all the time. But if you have a use for it, it'll do the job really well.

Amateur
Photographer
Testbench
Recommended
★★★★★



Level

A circular bubble level on the camera clamp helps with setting the camera platform flat.

Camera plate

The 6cm-long NP-60 includes both a strap slot and an anti-twist lip. The camera screw has a fold-down d-ring for easy attachment.



Tripod socket

The base has a standard 3/8in tripod connection socket, with a 1/4in adapter supplied in the box.

Arca compatible

There's an Arca Swiss-type clamp on top, and a dovetail plate at the base for fixing onto a ballhead.

An L-bracket is required for vertical shots



At a glance

- Height 6.2cm
- Diameter 6cm (excluding controls)
- Rated load 20kg
- Weight 360g

OTHER USES

This head isn't just for architecture. It can also be used for creating stitched panoramas, by first setting the camera perfectly level and then panning across a scene to shoot a series of frames. More generally, it's potentially useful for any work that requires fine control over the camera angle.



Ask the Experts

Looking for a new camera or accessory and need some advice? We're here to help. Contact us at ap.ed@kelsey.co.uk or on Twitter at @AP_Magazine and #AskAP

Is there a better way to switch between shooting orientations?

Q With lockdowns limiting my ability to enjoy my other hobbies, I've finally done what I've long said I would, and started to develop my landscape photography skills while taking walks in the local area. One thing that always frustrates me though is the faff involved when switching between landscape and portrait shooting orientations on a tripod. Surely someone has thought of a solution that doesn't involve readjusting the tripod each time?

Colin Carter

A You'll be pleased to know that they have indeed Colin! An L-bracket is a quick release plate that wraps around the bottom and side of your camera in an L-shape, allowing it to be clamped onto a tripod at either of these angles. This makes changing your camera's shooting orientation as simple as unmounting it, turning it round, and locking it back down. There are L-brackets designed specifically for certain camera models that maintain full access to all of their ports, or universal L-brackets that can be used with a wide variety of different cameras. Many respected tripod brands such as Manfrotto, 3 Legged Thing and Benro produce these accessories, with prices starting from around £30, so there's sure to be the right one available for you.

L-brackets allow easier switching to portrait-format shooting on a tripod



What's the safest way to transport cameras?

Q I've recently started to take on freelance jobs and find myself regularly driving my equipment across uneven terrains and onto work sites. Up until now I've just used a camera bag, but what alternatives would you recommend for storage and transportation that offer a better degree of protection? It needs to be large enough for several camera bodies and lenses, and ideally could be taken on a flight as hand luggage when travel is allowed once more.

Tony Williams

A Nothing can beat a well-designed camera bag for portability, but they aren't the ultimate choice when it comes to protection. Hard cases are a more unwieldy option than a bag, but what they lose out on in ergonomic comfort, they make up for in their extreme ruggedness. Many camera hard cases are crushproof, dustproof, and offer some level of waterproofing. Here are three fantastic options which could meet your needs, and ensure the best protection for your equipment.

Our experts suggest



Manfrotto Reloader Tough L-55 PL Roller Case

Featuring enough protected space for two DSLRs and four to five lenses and accessories, the Reloader Tough L-55 PL roller case offers IP67 protection meaning it is 100% protected against entry of solid objects like dust and sand, and has been tested to continue to safely store its contents for at least 30 minutes while under a metre of water. A carry-on compliant roller case, it still remains portable for travel, features an external front tripod attachment and flexible internal padded dividers.

£219

- Cabin luggage size
- 50x26x14cm internal size
- 4.45kg weight



Peli 1510 Protector Carry On Case with Dividers

With their lifetime guarantee for breakage or defects, Peli cases have become synonymous with professional-grade protection. The 1510 Protector case meets carry-on requirements while safely storing two to three camera bodies and more than ten lenses. It boasts IP67 accredited waterproofing, crush proofing, and is even military-certified by NATO. Other features include easy-open latches, O-ring seal, automatic pressure release valve and quiet roll wheels. If you want peace of mind – look no further.

£319

- Cabin luggage size
- 51x29x19cm internal size
- 6.17kg weight

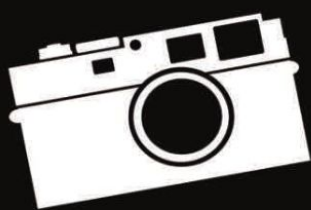


Vanguard Supreme 53F Hard Case with Foam

Thanks to its special O-ring sealing the Supreme 53F is not only able to withstand 120kg of external crush pressure, but is also waterproof to 5m and built to withstand temperatures of -40°C to +95°C. Despite this impressive durability, it remains carry-on size and its internal space can be customised using foam inserts for up to 15 lenses and bodies, according to Vanguard. This case has steel reinforced padlock rings, automatic pressure release valves and a rolling handle and wheels.

£210

- Cabin luggage size
- 56x45x20cm internal size
- 10.4kg weight



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Buying Guide

130
cameras
listed &
rated

Our comprehensive listing of key camera specifications

Cameras

Cameras come in three types: DSLRs with optical viewfinders, mirrorless models with electronic viewing, and compact cameras with non-interchangeable lenses

Controls

Entry-level cameras tend to have simple, easy-to-understand controls, while more expensive models add lots of buttons and dials to give quick access to settings.

Viewfinder

The biggest difference between DSLRs and mirrorless cameras is that the latter use electronic, rather than optical viewfinders. Some advanced compact cameras also have built-in electronic viewfinders to complement their rear LCD screens.

Compact cameras

These range from small, pocketable models to large bridge-type cameras with long zoom lenses and SLR-style designs. In this guide, we're only including those with relatively large sensors for high image quality, raw format recording and manual controls.



Handgrip

DSLRs traditionally have relatively large handgrips, while many mirrorless models have much smaller grips to keep size down. However, some can accept accessory grips to improve handling with larger lenses.

Lens mount

Each camera brand uses its own lens mount, and mirrorless cameras use different lenses to DSLRs even from the same brand. However, mirrorless models can often use DSLR lenses via a mount adapter.

AMOST all serious photographers prefer to use cameras with interchangeable lenses, as this gives the greatest degree of creative flexibility. At one time, this meant digital single-lens-reflex (DSLR) cameras, but these have now been joined by mirrorless cameras that use electronic viewfinders. The latest models are true alternatives to DSLRs, offering the same image quality and creative options. Camera

manufacturers offer a range of options, from simple, relatively inexpensive beginner-friendly designs, to sophisticated professional models. In the middle of the range you'll find enthusiast cameras with more advanced control layouts. Meanwhile the term 'compact' refers to cameras with built-in lenses, regardless of their size. Many offer excellent image quality and full manual control.

Mirrorless cameras				SENSOR SIZE	RESOLUTION (MP)	LENS MOUNT		MAX ISO	VIDEO	MIC INPUT	SHOOTING				SCREEN		DIMENSIONS						
NAME & MODEL	RRP	SCORE	SUMMARY								AF POINTS	BURST MODE (FPS)	VIEWFINDER	BUILT-IN Wi-Fi	FLASH	SCREEN SIZE (in)	ARTICULATED LCD	BATTERY LIFE (SHOTS)	WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)	WEIGHT (g)	
Canon EOS M200	£499		Basic entry-level viewfinderless model gains 4K video recording	APS-C	24.1	Canon M		25,600	3840		143	6.1	•	•	•	3	•	•	315	108.2	67.1	35.1	299
Canon EOS M50	£649	4.5 ★	Very likeable and well-specified entry-level model with viewfinder	APS-C	24.2	Canon M		51,200	3840	•	143	10	•	•	•	3	•	•	235	116.3	88.1	58.7	387
Canon EOS M50 Mark II	£699	4 ★	Minor update to M50 with eye-detect AF and slightly longer battery life	APS-C	24.2	Canon M		51,200	3840	•	143	10	•	•	•	3	•	•	250	116.3	88.1	58.7	387
Canon EOS M6 Mark II	£869	4 ★	Sports 32.5MP sensor and 14fps shooting, uses removable viewfinder	APS-C	32.5	Canon M		51,200	3840	•	143	14	•	•	•	3	•	•	305	119.6	70	49.2	398
Canon EOS RP	£1400	4 ★	Compact and affordable but over-simplified full-frame camera ever	FF	26.2	Canon RF		102,400	3840	•	477	5	•	•	•	3	•	•	250	132.5	85	70	485
Canon EOS R	£2350	4 ★	Canon's first full-frame mirrorless uses the EOS 5D Mark IV's sensor	FF	30.3	Canon RF		102,400	3840	•	565	8	•	•	•	3.2	•	•	350	135.8	98.3	84.4	660
Canon EOS R6	£2500	5 ★	Superb all-rounder with in-body stabilisation and dual card slots	FF	20.1	Canon RF		204,800	3840	•	607	12	•	•	•	3	•	•	380	138.4	97.5	88.4	680
Canon EOS R5	£4200	4.5 ★	Remarkable 45MP powerhouse capable of internal 8K video recording	FF	45	Canon RF		102,400	4096	•	594	12	•	•	•	3.2	•	•	320	135.8	97.5	88	738
Fujifilm X-A7	£699	3 ★	Sports large fully articulated LCD, but frustrating controls	APS-C	24.2	Fuji X		51,200	3840	•	425	6	•	•	•	3.5	•	•	270	119	67.7	41.1	320
Fujifilm X-E4	£799	4 ★	Sharply-styled, compact mirrorless model with a tilt-up selfie screen	APS-C	26.1	Fuji X		51,200	3840	•	425	20	•	•	•	3	•	•	460	121.3	72.9	32.7	364
Fujifilm X-Pro3	£1799	4 ★	Employs unusual hidden rear LCD design that polarises opinions	APS-C	26.1	Fuji X		51,200	4096	•	425	20	•	•	•	3	•	•	370	140.5	82.8	46.1	497
Fujifilm X-S10	£949	5 ★	Fine SLR-styled model with in-body image stabilisation and large handgrip	APS-C	26.1	Fuji X		51,200	3840	•	425	20	•	•	•	3	•	•	325	126	85.1	65.4	465
Fujifilm X-T200	£749	3.5 ★	Fine handling and great image quality, but slow and buggy in use	APS-C	24.2	Fuji X		51,200	3840	•	425	8	•	•	•	3.5	•	•	270	121	83.7	55.1	370
Fujifilm X-T30	£849	5 ★	Superb mid-range model that borrows much of its tech from the X-T3	APS-C	26.1	Fuji X		51,200	3840	•	425	8	•	•	•	3	•	•	380	118.4	82.8	46.8	383
Fujifilm X-T3	£1349	5 ★	New sensor and improved autofocus make it the best APS-C camera yet	APS-C	26.1	Fuji X		51,200	4096	•	425	20	•	•	•	3	•	•	390	132.5	92.8	58.8	539
Fujifilm X-T4	£1549	5 ★	Exciting update with in-body stabilisation and fully articulated screen	APS-C	26.1	Fuji X		51,200	4096	•	425	20	•	•	•	3	•	•	500	134.6	92.8	63.8	607
Leica CL	£2250	4.5 ★	Gorgeous APS-C mirrorless model with viewfinder and touchscreen	APS-C	24.2	Leica L		50,000	3840	•	49	10	•	•	•	3	•	•	220	131	78	45	403
Leica TL2	£1700	4 ★	Update to the TL with 24MP sensor and much faster operation	APS-C	24	Leica L		50,000	3840	•	49	20	•	•	•	3.7	•	•	250	134	69	33	399
Leica SL2	£5300	4 ★	Sports 47.3MP full-frame sensor, in-body stabilisation and 5K video	FF	47.3	Leica L		50,000	5120	•	225	20	•	•	•	3.2	•	•	370	147	107	83	916
Leica SL2-S	£3975	4 ★	More affordable 24MP version of the SL2 with pro video features	FF	24.6	Leica L		100,000	4096	•	225	25	•	•	•	3.2	•	•	510	146	107	83	931
Nikon Z 5	£1719	4 ★	Simplified version of the Z 6, comes with compact 24-50mm f/4-6.3 zoom	FF	24.3	Nikon Z		102,400	3840	•	273	4.5	•	•	•	3.2	•	•	470	134	100.5	69.5	675
Nikon Z 6	£2099	5 ★	Full-frame mirrorless all-rounder with 24MP sensor and 12fps shooting	FF	24.5	Nikon Z		204,800	3840	•	273	12	•	•	•	3.2	•	•	330	134	100.5	67.5	675
Nikon Z 6ii	£1999	4.5 ★	Second-generation full-frame mirrorless model with useful updates	FF	24.5	Nikon Z		204,800	3840	•	273	14	•	•	•	3.2	•	•	410	134	100.5	69.5	705
Nikon Z 7	£3399	5 ★	High-resolution full-frame mirrorless with in-body stabilisation	FF	45.7	Nikon Z		102,400	3840	•	493	9	•	•	•	3.2	•	•	330	134	100.5	67.5	675
Nikon Z 7ii	£2999	4.5 ★	Gains dual card slots, faster shooting, 4K 60p video and vertical grip option	FF	45.7	Nikon Z		102,400	3840	•	493	10	•	•	•	3.2	•	•	420	134	100.5	69.5	705
Nikon Z 50	£849	5 ★	Well-specified APS-C mirrorless model boasts excellent handling	DX	20.9	Nikon Z		204,800	3840	•	209	11	•	•	•	3.2	•	•	320	126.5	93.5	60	450
Olympus PEN E-PL10	£599		Entry-level model with built-in flash and 4K video but no viewfinder	4/3	16.1	Mic/4/3		25,600	3840		121	8.6	•	•	•	3	•	•	350	117.1	68	39	380
Olympus OM-D E-M10 III	£699	4.5 ★	Excellent entry-level OM-D with simplified, easy-to-use interface	4/3	16.1	Mic/4/3		25,600	3840		121	8.6	•	•	•	3	•	•	330	121.5	83.6	49.5	410
Olympus OM-D E-M10 IV	£699	4.5 ★	Compact, lightweight, enjoyable to use and takes great-looking pictures	4/3	20.2	Mic/4/3		25,600	3840		121	15	•	•	•	3	•	•	360	121.7	84.4	49	383
Olympus OM-D E-M5 III	£1100	5 ★	Very capable camera with a small, lightweight, weather-sealed body	4/3	20.4	Mic/4/3		25,600	4096	•	121	10	•	•	•	3	•	•	310	125.3	85.2	49.7	414
Olympus OM-D E-M1 II	£1850	5 ★	Superb AF system, super-fast shooting and remarkable in-body IS	4/3	20.4	Mic/4/3		25,600	3840	•	121	60	•	•	•	3	•	•	440	134.1	90.9	68.9	574

ALL PRICES ARE RRP'S. STREET PRICES MAY VARY

We've tried our hardest to ensure that the information in this guide is as complete and accurate as possible. However, some errors will inevitably have crept in along the way: if you spot one, please let us know by emailing ap.ed@kelsey.co.uk. Unfortunately we don't have space to list every single product on the market, so we don't include the most expensive speciality items. **Before making a purchase we advise you to check prices, along with any crucial specifications or requirements, with either a reputable retailer or the manufacturer's website.**



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NAME & MODEL	RRP	SCORE	SUMMARY							SHOOTING	SCREEN	DIMENSIONS									
Olympus OM-D E-M1 III	£1600	5★	Super-fast, incredible IS and packed full of advanced features	4/3	20.4	Mic/4/3	25,600	4096	-	121	60	-	-	3	-	-	420	134.1	90.9	68.9	580
Olympus OM-D E-M1X	£2800	4.5★	Pro-spec high-speed model with built-in vertical grip	4/3	20.4	Mic/4/3	25,600	4096	-	121	60	-	-	3	-	-	2580	144.4	146.8	75.4	997
Panasonic Lumix G9	£1499	4.5★	High-speed, rugged photo-centric flagship camera with in-body IS	4/3	20.3	Mic/4/3	25,600	3840	-	225	9	-	-	3	-	-	890	136.9	97.3	91.6	658
Panasonic Lumix G80	£699	4.5★	SLR-style model for enthusiasts with in-body IS and 4K video	4/3	16	Mic/4/3	25,600	3840	-	49	9	-	-	3	-	-	330	128.4	89	74.3	505
Panasonic Lumix G90	£899	4.5★	Versatile SLR-shaped stills/video hybrid with 4K video and in-body IS	4/3	20.3	Mic/4/3	25,600	3840	-	49	9	-	-	3	-	-	290	130.4	93.5	77.4	533
Panasonic Lumix G100	£590	4★	Small SLR-shaped camera specifically designed for vloggers	4/3	20.3	Mic/4/3	25,600	3840	-	49	10	-	-	3	-	-	270	115.6	82.5	54.2	345
Panasonic Lumix GX880	£400		Tiny easy-to-use pocket camera with tilting screen and 4K video	4/3	16	Mic/4/3	25,600	3840	-	49	5.8	-	-	3	-	-	210	106.5	64.6	33.3	270
Panasonic Lumix GX9	£699	4★	Compact body with tilting screen and viewfinder, and 5-axis stabilisation	4/3	20.3	Mic/4/3	25,600	3840	-	49	9	-	-	3	-	-	900	124	72.1	46.8	450
Panasonic Lumix GH5	£1299	4.5★	Video-focused high-end model with in-body stabilisation and 4K video	4/3	20.2	Mic/4/3	25,600	4096	-	225	12	-	-	3.2	-	-	410	138.5	98.1	87.4	725
Panasonic Lumix GH5 II	£1499		Update to GH5 that supports wireless live streaming of video	4/3	20.2	Mic/4/3	25,600	4096	-	225	12	-	-	3	-	-	410	138.5	98.1	87.4	727
Panasonic Lumix GH5S	£2199		Professional video version of GH5 with 10.2MP multi-aspect sensor	4/3	10.2	Mic/4/3	204,800	4096	-	225	11	-	-	3.2	-	-	410	138.5	98.1	87.4	660
Panasonic Lumix S1	£2199	4.5★	24MP full-frame mirrorless with exceptional viewfinder	FF	24.2	Leica L	204,800	3840	-	225	9	-	-	3.2	-	-	380	148.9	110	96.7	899
Panasonic Lumix S1H	£3600		Specialist full-frame mirrorless model designed for pro-level video	FF	24.2	Leica L	204,800	4096	-	225	9	-	-	3.2	-	-	380	151	114.2	110.4	1164
Panasonic Lumix S1R	£3399	4.5★	High-resolution full-frame mirrorless with in-body stabilisation	FF	47.3	Leica L	51,200	3840	-	229	9	-	-	3.2	-	-	360	148.9	110	96.7	898
Panasonic Lumix S5	£1800	4.5★	Compact-bodied, enthusiast-focused model designed for both stills and video	FF	24.2	Leica L	204,800	3840	-	225	7	-	-	3	-	-	440	132.6	97.1	81.9	714
Sigma fp	£1999	4★	Smallest full-frame mirrorless, but compromised features and handling	FF	24.6	Leica L	102,400	3840	-	49	18	-	-	3.2	-	-	280	112.6	69.9	45.3	422
Sigma fp L	£1999		High-resolution version of the fp with 61MP full-frame sensor	FF	61.0	Leica L	102,400	3840	-	49	10	-	-	3.2	-	-	240	112.6	69.9	45.3	427
Sony Alpha 6000	£670	4.5★	A fine camera for its time, but now very much showing its age	APS-C	24	Sony E	25,600	1080	-	179	11	-	-	3	-	-	310	120	67	45	344
Sony Alpha 6100	£830		Update to the A6000 with Sony's latest AF technology and 4K video	APS-C	24.2	Sony E	51,200	3840	-	425	11	-	-	3	-	-	380	120	66.9	59.4	396
Sony Alpha 6400	£1000	4★	Extraordinary new autofocus system, but in an outdated body design	APS-C	24.2	Sony E	102,400	3840	-	425	11	-	-	3	-	-	360	120	66.9	49.9	403
Sony Alpha 6600	£1450	4★	In-body stabilisation and impressive autofocus, but frustrating body design	APS-C	24.2	Sony E	102,400	3840	-	425	11	-	-	3	-	-	720	120	66.9	59	503
Sony Alpha 1	£6500	5★	Flagship model with an unprecedented combination of resolution and speed	FF	50.1	Sony E	102,400	7680	-	759	30	-	-	3	-	-</					

DSLR cameras				SENSOR SIZE	RESOLUTION (MP)	LENS MOUNT	MAX ISO	VIDEO	MIC INPUT	AF POINTS	ISO RANGE (FPS)	ISO COVERAGE (%)	BUILT-IN Wi-Fi	FLASH	SCREEN SIZE (IN)	ARTICULATED LCD	BATTERY LIFE (SHOTS)	WIDTH (MM)	HEIGHT (MM)	DEPTH (MM)	WEIGHT (G)	
NAME & MODEL	RRP	SCORE	SUMMARY								SHOOTING				SCREEN			DIMENSIONS				
Canon EOS 2000D	£469	3 ★	Minor update to EOS 1300D gains 24.1MP sensor	APS-C	24.1	Canon EF	12,800	1080	-	9	3	95	-	-	3		500	129	101.3	77.6	475	
Canon EOS 4000D	£369	2.5 ★	Super-cheap stripped-back DSLR for budget-conscious beginners	APS-C	18	Canon EF	12,800	1080	-	9	3	95	-	-	2.7		500	129	101.6	77.1	436	
Canon EOS 250D	£530	4 ★	Very compact entry-level DSLR with fully articulated screen and 4K video	APS-C	24.1	Canon EF	51,200	3840	-	9	5	95	-	-	3	-	-	1070	122.4	92.6	69.8	449
Canon EOS 850D	£820	4 ★	Fully featured upper entry-level DSLR includes 4K video recording	APS-C	24.1	Canon EF	51,200	3840	-	45	7	95	-	-	3	-	-	800	131	102.6	76.2	515
Canon EOS 90D	£1210	4 ★	Mid-range DSLR boasts 32.5MP sensor, 10fps shooting and 4K video	APS-C	32.5	Canon EF	51,200	3840	-	45	10	100	-	-	3	-	-	1300	140.7	104.8	76.8	701
Canon EOS 6D Mark II	£1999	4.5 ★	Includes 26.2MP full-frame sensor and fully articulated screen	FF	26.2	Canon EF	102,400	1080	-	45	6.5	98	-	-	3	-	-	1,200	144	110.5	74.8	765
Canon EOS 5D Mark IV	£3599	4.5 ★	Hugely accomplished workhorse model, but pricey		FF	30.4	Canon EF	102,400	3840	-	61	7	7	100	-	3.2	-	900	151	116	76	890
Canon EOS-1D X Mark III	£6499		Super-fast pro model for sports and action photographers		FF	20.1	Canon EF	819,200	5496	-	191	16	100	-	-	3.2	-	2,850	158	167.6	82.6	1440
Nikon D3500	£499	4 ★	Easy-to-use entry-level DSLR with Bluetooth connectivity	DX	24.2	Nikon F	25,600	1080		11	5	95		-	3		1,550	124	97	69.5	415	
Nikon D5600	£800	4.5 ★	Excellent image quality and handling, plus Bluetooth connectivity	DX	24.1	Nikon F	25,600	1080	-	39	5	95	-	-	3.2	-	-	970	124	97	78	465
Nikon D7500	£1299	4.5 ★	Places the excellent sensor from the D500 into a smaller body	DX	20.9	Nikon F	1,640,000	3840	-	51	8	100	-	-	3.2	-	-	950	135.5	104	72.5	720
Nikon D500	£1729	5 ★	Probably the best DX-format DSLR ever, with remarkable autofocus	DX	20.9	Nikon F	1,640,000	3840	-	153	10	100	-	-	3.2	-	-	1,240	147	115	81	860
Nikon D750	£1800	5 ★	Great all-round enthusiast full-frame model with tilting screen	FX	24.3	Nikon F	51,200	1080	-	51	6.5	100	-	-	3.2	-	-	1,230	140.5	113	78	840
Nikon D780	£2199	5 ★	Superb all-rounder blends the best of DSLR and mirrorless technology	FX	24.5	Nikon F	204,800	3840	-	51	7	100	-	-	3.2	-	-	2,060	143.5	115.5	76	840
Nikon D850	£3499	5 ★	High speed and superb image quality make this the best DSLR yet	FX	45.7	Nikon F	102,400	3840	-	153	7	100	-	-	3.2	-	-	1,840	146	124	78.5	1005
Nikon D5	£5199		Nikon's top-end sports and action model for professionals	FX	20.8	Nikon F	3,280,000	3840	-	153	14	100		-	3.2	-	-	3,780	160	158.5	92	1405
Nikon D6	£6299		Latest pro-level high-speed sports camera boasts new AF system	FX	20.8	Nikon F	3,280,000	3840	-	105	14	100	-	-	3.2	-	-	3,580	160	163	92	1450
Pentax K-70	£600	4.5 ★	Solid performer with fully articulated screen and in-body stabilisation	APS-C	24.2	Pentax K	102,400	1080		11	6	100	-	-	3	-	-	410	125.5	93	74	688
Pentax KP	£1099	4 ★	Compact but well-specified DSLR with interchangeable hand-grips	APS-C	24.3	Pentax K	819,200	1080	-	27	7	100	-	-	3	-	-	390	131.5	101	76	703
Pentax K-3 III	£1899		Highly specified but pricey APS-C DSLR that boasts a large viewfinder	APS-C	25.7	Pentax K	1,600,000	3840	-	101	12	100	-	-	3.2	-	-	800	134.5	103.5	73.5	820
Pentax K-1 II	£1799	4.5 ★	Well-featured full-frame DSLR that's excellent value for money	FF	36	Pentax K	819,200	1080	-	33	4.4	100	-	-	3.2	-	-	670	136.5	110	85.5	1010
Sigma SD Quattro	£850	3 ★	SD-mount mirrorless camera with unique Foveon X3 sensor	APS-C	19.6	Sigma SD	6400	-	-	9	3.6	100		-	3		N/A	147	95.1	90.8	703	
Sigma SD Quattro H	£1499		Physically identical body to SD Quattro, but with larger APS-H sensor	APS-H	25.7	Sigma SD	6400	-	-	9	3.8	100		-	3		N/A	147	95.1	90.8	708	

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Compact cameras

NAME & MODEL	RRP	SCORE	SUMMARY	SENSOR SIZE	RESOLUTION (MP)	LENS RANGE (MM (EQV))	MAX ISO	VIDEO	MAX SHUT	BEST VIDEO (FPS)	VIEWFINDER	BUILT-IN Wi-Fi	FLASH	SCREEN SIZE (IN)	ARTICULATED LCD	FILE FORMAT	SIZE (MM)	WEIGHT (G)	DEPTH (MM)	HEIGHT (MM)	WIDTH (MM)
Canon G1 X Mark III	£1149	5★	Rewrites the rule book by fitting an APS-C sensor in a compact body	APS-C	24.2	24-72	25,600	1080	-	9	-	-	-	3in	-	-	200	115	77.9	51.4	399
Canon G3 X	£799	3.5★	Long zoom range, but let down by slow shooting and no built-in EVF	1in	20.2	24-600	12,800	1080	-	5.9	-	-	-	3.2in	-	-	300	123.3	76.5	105.3	733
Canon G5 X	£599	5★	Useful large-aperture f/1.8-2.8 zoom in a well-designed SLR-like body	1in	20.2	24-100	12,800	1080	-	5.9	-	-	-	3in	-	-	210	112.4	76.4	44.2	377
Canon G5 X Mark II	£849	4★	Handles well and gives great image quality, but sluggish AF in low light	1in	20.2	24-120	25,600	3840	-	30	-	-	-	3in	-	-	230	110.9	60.9	46	340
Canon G7 X Mark II	£549	4.5★	Pocketable body that handles well, with really useful zoom range	1in	20.1	24-100	12,800	1080	-	8	-	-	-	3in	-	-	265	105.5	60.9	42	319
Canon G7 X Mark III	£699	4★	Lovely pocket camera that includes 4K video and YouTube live streaming	1in	20.1	24-100	25,600	3840	-	30	-	-	-	3in	-	-	265	105.5	60.9	41.4	304
Canon G9 X Mark II	£449	4★	Slim, stylish, pocketable camera gives great image quality	1in	20.2	28-84	12,800	1080	-	8.2	-	-	-	3in	-	-	235	98	57.9	30.8	206
Fujifilm XF10	£449	3.5★	Small, attractive APS-C compact, slightly let down by sluggish AF	APS-C	24.2	28	51,200	3840	-	6	-	-	-	3in	-	-	330	112.5	64.4	41	279
Fujifilm X100V	£1999	5★	Replaces the X100F with new lens, tilting screen and weather-sealing	APS-C	26.1	35	51,200	3840	-	20	-	-	-	3in	-	-	420	128	74.8	53.3	478
Leica C-Lux	£875		Customised, re-badged version of the Panasonic TZ200	1in	20.1	24-360	25,000	3840	-	10	-	-	-	3in	-	-	370	113	67	46	340
Leica D-Lux 7	£1075		Customised, re-badged version of the Panasonic LX100 II	4/3	17	24-75	25,000	3840	-	11	-	-	-	3in	-	-	340	118	66	64	392
Leica V-Lux 5	£1049		Customised, re-badged version of the Panasonic TZ2000 II	1in	20.1	25-400	25,000	3840	-	12	-	-	-	3in	-	-	440	136.7	97.2	131.5	812
Leica Q	£3500	5★	Stunning full-frame compact boasts optically-stabilised f/1.8 lens	FF	24.2	28	50,000	1080	10	-	-	-	-	3in	-	-	N/A	130	80	93	640
Leica Q2	£4250		Update to the Q with high-resolution sensor and weather-sealed body	FF	47.3	28	50,000	4096	-	20	-	-	-	3in	-	-	350	130	80	91.9	718
Leica Q2 Monochrom	£4995	5★	Variant of the Q2 with a modified sensor that only shoots in black & white	FF	47.3	28	100,000	4096	-	20	-	-	-	3in	-	-	350	130	80	91.9	734
Panasonic FZ1000 II	£700	4★	Updates FZ1000 with higher-resolution, touch-sensitive screen	1in	20.1	25-400	25,600	3840	-	12	-	-	-	3in	-	-	440	136.2	97.2	131.5	810
Panasonic FZ2000	£600	4.5★	Sophisticated bridge camera with strong focus on 4K video	1in	20.1	24-480	25,600	3840	-	12	-	-	-	3in	-	-	350	137.6	101.9	134.7	966
Panasonic LX15	£370	4.5★	Likeable advanced compact with ultra-fast f/1.4-2.8 zoom lens	1in	20.1	24-72	25,600	3840	10	-	-	-	-	3in	-	-	260	105.5	60	42	310
Panasonic LX100	£400	5★	Engaging camera, but rather low resolution by current standards	4/3	12.8	24-75	25,600	3840	-	11	-	-	-	3in	-	-	300	114.8	62	55	393
Panasonic LX100 II	£600	4.5★	Fine camera with Four Thirds sensor, fast lens and analogue controls	4/3	17	24-75	25,600	3840	-	11	-	-	-	3in	-	-	340	115	66.2	64.2	392
Panasonic TZ100	£350	4.5★	Long zoom lens in pocket-sized body makes for a fine travel camera	1in	20.1	25-250	25,600	3840	-	10	-	-	-	3in	-	-	300	110.5	64.5	44.3	312
Panasonic TZ200	£500	4.5★	Huge zoom range for a pocket camera, but telephoto images lack detail	1in	20.1	24-360	25,600	3840	-	10	-	-	-	3in	-	-	370	111.2	66.4	45.2	340
Ricoh GR II	£549		Fine pocket camera, but showing its age in terms of specifications	APS-C	16.2	28	25,600	1920	-	4	-	-	-	3in	-	-	320	110.7	62.8	34.7	251
Ricoh GR III	£799	4★	Streamline, lightweight advanced compact with in-body image stabilisation	APS-C	24.2	28	102,400	1920	-	4	-	-	-	3in	-	-	200	109.4	61.9	33.2	257
Sigma dp0 Quattro	£899	3.5★	One of four cameras with the same body design but different lenses	APS-C	19.5	21	6,400	-	-	3.5	-	-	-	3in	-	-	200	161.4	67	126	550
Sigma dp1 Quattro	£899		Oddly-shaped body, but logical control layout and clear user interface	APS-C	19.5	28	6,400	-	-	3.5	-	-	-	3in	-	-	200	161.4	67	87.1	475
Sigma dp2 Quattro	£899	3.5★	Sports an excellent lens designed specifically for the Foveon sensor	APS-C	19.5	45	6,400	-	-	3.5	-	-	-	3in	-	-	200	161.4	67	81.6	460
Sigma dp3 Quattro	£899		The Foveon sensor is excellent at low ISO but poor above ISO 800	APS-C	19.5	75	6,400	-	-	3.5	-	-	-	3in	-	-	200	161.4	67	101.8	515
Sony RX0 II	£730		Updated RX0 with tilting screen and internal 4K video recording	1in	15.3	24	12,800	3840	-	16	-	-	-	1.5in	-	-	240	59	40.5	35	132
Sony RX1R II	£3450	5★	Fabulous full-frame compact with f/2 lens and pop-up viewfinder	FF	42.4	35	102,400	1920	-	5	-	-	-	3in	-	-	220	113.3	65.4	72	507
Sony RX10	£829	5★	Excellent bridge camera with constant f/2.8 zoom lens	1in	20.2	24-200	12,800	1920	-	10	-	-	-	3in	-	-	420	129	88.1	102.2	813
Sony RX10 II	£1200	5★	Stacked CMOS sensor enables faster shooting and 4K video	1in	20.2	24-200	12,800	3840	-	14	-	-	-	3in	-	-	400	129	88.1	102.2	813
Sony RX10 III	£1400	5★	Much longer zoom than previous RX10 models, but also much larger	1in	20.1	24-600	12,800	3840	-	14	-	-	-	3in	-	-	420	132.5	94	144	1095
Sony RX10 IV	£1800	5★	Update to RX10 III with vastly improved shooting speed and autofocus	1in	20.1	24-600	12,800	3840	-	24	-	-	-	3in	-	-	400	132.5	94	144	1095
Sony RX100	£399	5★	The original 1in sensor compact now looks outdated in terms of features	1in	20.2	28-100	12,800	1920	-	10	-	-	-	3in	-	-	330	101.6	58.1	35.9	240
Sony RX100 III	£810	5★	Features fast f/1.8-2.8 zoom lens and pop-up electronic viewfinder	1in	20.1	24-70	12,800	1920	-	10	-	-	-	3in	-	-	320	101.6	58.1	41	290
Sony RX100 IV	£896	4.5★	Improves on III with higher-resolution EVF, faster shooting and 4K video	1in	20.1	24-70	12,800	3840	-	16	-	-	-	3in	-	-	280	101.6	58.1	41	298
Sony RX100 V	£900	4.5★	Includes super-fast 24fps shooting and slow-motion video up to 960fps	1in	20.1	24-70	12,800	3840	-	24	-	-	-	3in	-	-	220	101.6	58.1	41	299
Sony RX100 VI	£980	4.5★	Fantastic pocket travel camera with 24-200mm equivalent f/2.8-4 lens	1in	20.1	24-200	12,800	3840	-	24	-	-	-	3in	-	-	240	101.6	58.1	42.8	301
Sony RX100 VII	£1200	4.5★	Gains Sony's latest AI-based autofocus tech, including real-time eye AF	1in	20.1	24-200	12,800	3840	-	20	-	-	-	3in	-	-	260	101.6	58.1	42.8	302
Sony ZV-1	£700	4★	Designed for vloggers, with high-spec mic and fully articulated screen	1in	20.1	25-70	12,800	3840	-	24	-	-	-	3in	-	-	260	105.5	60	43.5	294

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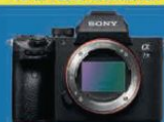


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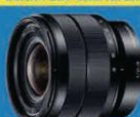


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2021

Faces

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All National Maestro winners will also be published on Facebook at the end of June for the EISA Public's Choice competition. Prize for the winner: €1000.

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Final Analysis

Maria Falconer considers...

'Final Farewell', 2012, by Rachel Wallace

In 2009 an old friend of mine, George, passed away.

At the close of his funeral, one of the mourners stepped forward gently releasing a handful of white rose petals that cascaded down onto the coffin. Struck by the poignancy of the moment I quietly lifted my iPhone and made a picture.

Later, at the wake, I was chatting to a small group of guests when I became aware of an elderly man approaching us. Catching my eye, he leaned in towards me and in a quiet but rather critical tone said, 'There is a time and a place for taking photos dear.' And without waiting for a response, he walked away.

I must admit that I was somewhat shocked at the time. I understand of course that funerals are sensitive events, but it wasn't as if I'd opened fire with a DSLR on burst mode!

Since then I've thought about his words and the clear implication that funerals aren't something that we are 'supposed' to photograph.

That photography is only appropriate at very specific times and places.

That was more than a decade ago, and since then things have significantly changed. If you haven't been to a funeral recently you may be surprised to hear that photography has become a much more acceptable, and often welcome, part of the proceedings.

Rachel Wallace is a professional photographer who works from her studio in the glorious Chiltern Hills. Much of



'Because mourners often remember little of what happens, Rachel's photographs are a wonderful aide memoire'

her art work focuses on our human connection with nature and the life cycles of the natural world.

Rachel is an accomplished practitioner in several areas of photography, including documentary and events. She has been nominated the 'Official Photographer' for many momentous occasions, not least the Pope's visit to the UK in 2012.

Rachel has an impressive list of awards, publications and exhibitions to her name, but the thing that really stood out for me when we first met, was her funeral work. Rachel is a

professional funeral photographer, she makes images and books for family and friends of the deceased.

The funeral of a close friend or relative is one of the most monumental events that we will ever attend. And because mourners often remember little of what happens, Rachel's photographs are a wonderful aide memoire and important memento. But even more than that, they present a focal point through which to work through grief.

In Rachel's words, I felt there was a need for people to be able to look back at the service and

see the love and respect that was there for them and their deceased. To help them remember the good moments, to give them something to share and talk about with their family and others bereaved from the death of that person. The photos can be an aid to grief, a comfort.

I wish that I had met Rachel in 2009. She would have known exactly what to say at George's funeral.

A time to remember, a place in our hearts.



You can see Rachel's work at www.farewellphotography.co.uk

Maria Falconer MA, MSc., FRPS, is a photographic practitioner, teacher and writer. A Fellow of the Royal Photographic Society, Maria lectures at De Montfort University and runs various photography workshops across the UK and in Europe.

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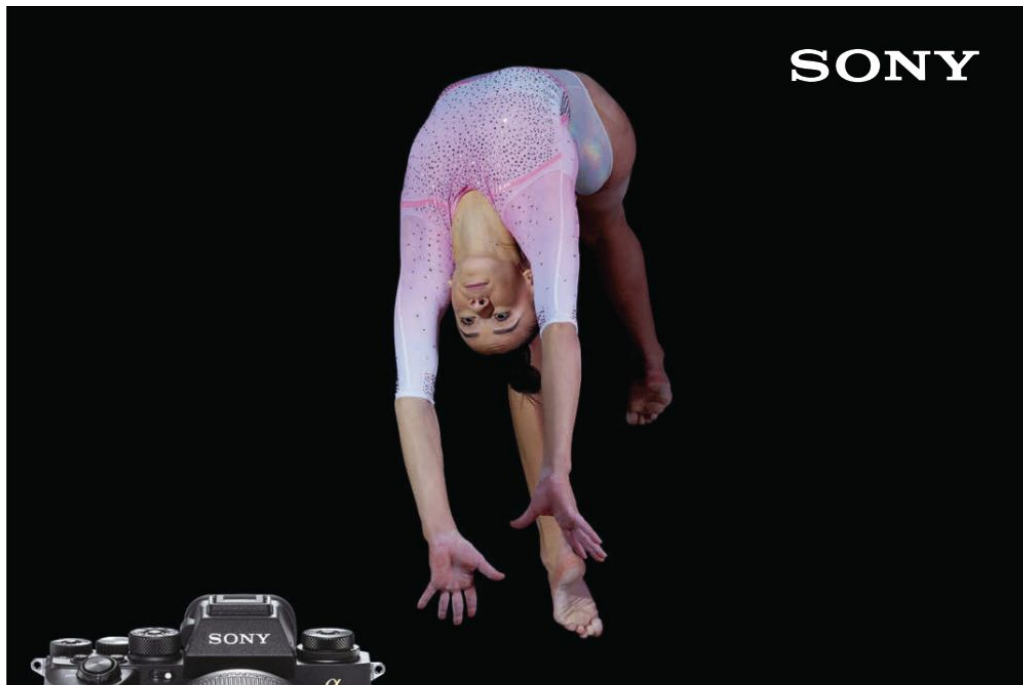
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