E Canon BOSM50 Fristilook Entry-level mirrorless with viewfinder and 4 K video for $£ 650$



# Sharpen yourl 

Are you sharpening the right way in Lightroom and Photoshop?

## Black \& white film school Ilford expert Matt Parry's shooting \& processing tips



## Freediving photo magic

Wendy Timmermans's art of underwater shooting


## I AM THE NEW PERSPECTIVE



I AM THE NEW NIKON FULL FRAME D850. The powerful
combination of high speed and high resolution. With Nikon's 45.7MP back-illuminated FX CMOS sensor and the speed of 9* fps shooting, the new D850 unlocks a new world of opportunity. Whether you're shooting weddings or landscapes, commercial, sports or fashion, with ISO 64 to 25600, a class-leading optical viewfinder, 153-point AF, silent mode shooting, long battery life, 8 K time-lapse** and full frame 4 K UHD video, the D850 captures images and video you'd never have thought possible. Equip your new D850 with your prized NIKKOR lenses to capture more. Learn more at Nikon.co.uk



## In this issue

8 First look
Andy Westlake and
Michael Topham check out
Canon's latest mirrorless
EOS M50 camera and
470EX-Al flash
14 Black \& white film essentials

## Part 2

Matt Parry explains the ins and outs of processing your own b\&w film
20 Sharpen up with Adobe CC
James Paterson simplifies how to use sharpening controls in Lightroom and Photoshop
26 Legends of photography
This week AP takes a look at the life of Ansel Adams
36 Location guide
Michael Topham describes shooting the Grade II listed railway viaduct at Ribblehead

## 38 Beneath the surface

Tracy Calder speaks to champion freediver Wendy Timmermans about her prize-winning underwater pictures
43 Olympus M.Zuiko Digital ED 12$100 \mathrm{~mm} / 4$ IS Pro Andy Westlake tests the best superzoom around
46 Photography apps
James Abbott rounds up six essential photo apps for your smartphone
Regulars
37 days
29 Inbox
32 Reader Portfolio
50 Accessories
53 Tech talk
66 Final Analysis

## 7days <br> A week in photography

Sharpness, like peace and love, is something many of us strive for but can find difficult to achieve. So in this issue, James Paterson rolls up his sleeves and gets to grips with sharpening tools in the popular editing programs Lightroom and Photoshop (page 20). Rather than general admonitions, there are lots of specific tips to help you get your images as sharp as possible.

This is also the time of the year when we see some new cameras roll out, starting with Canon's first 'serious' mainstream mirrorless: the EOS M50. Turn to page 8 for full details. If you want more 'classic' technology, check out Part 2 of Matt Parry's comprehensive guide to black \& white film shooting (page 14), stuffed with more helpful exposure and developing tips than you can shake your old SLR at.
Nigel Atherton, Editor

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## ONLINE PICTURE OF THE WEEK

## Mountain Hare by Nick Hurst

Nikon D850, 600 mm , $1 / 800 \mathrm{sec}$ at f/5.6, ISÓ 360

This stunning mountain hare portrait was uploaded to our Twitter page using the hashtag \#appicoftheweek. It was taken by photographer Nick Hurst. He tells us, 'The Peak District is well known for its desolate and open tracts of moorland, but not so much for the small population of mountain hares who frequent these slopes. Their white coats are perfectly suited to the winter terrain and in the snow they are particularly difficult to spot. It's always a challenge to capture your subject in harsh weather conditions and sub-zero temperatures. But the cloud had cleared momentarily, and positioned on the snowcovered heather was this handsome chap who seemed quite unperturbed by my presence. I just like the symmetry in this image which I accentuated in Lightroom with some dodging, burning and adjustment of levels to achieve the high key effect. My thanks to Ben Hall whose local knowledge and expertise helped me achieve this image, having spent a fantastic day together on the moors.'


Win!Each week we choose our favourite picture on Facebook, Instagram, Flickr, Twitter or the reader gallery using \#appicoftheweek. Perma Jet proudly supports the online picture of the week winner, who will receive a top-quality print of their image on the finest PermaJet paper*. It is important to bring images to life outside the digital sphere, so we encourage everyone to get printing today! Visit www.permajet.com to learn more.

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## NEWS ROUND-UP

The week in brief, edited by
Amy Davies and Hollie Latham Hucker


## Details on new Sigma Art lens revealed

Sigma has announced the price of its latest wideangle Art lens, which was announced earlier in the year. The $14-24 \mathrm{~mm} f / 2.8$ DG HSM zoom will have a suggested retail price of $£ 1,399.99$ in the UK. It will be available to purchase in Sigma, Canon and Nikon mounts from March.

Born Free starts campaign for ape publication


A Kickstarter campaign has been launched to fund a new coffee-table photography book titled Remembering Great Apes. Set to feature work from more than 50 of the world's top wildlife photographers, the book follows on from two previous successful launches, Remembering Rhinos and
Remembering Elephants, which together have raised significant sums of money for the Born Free Foundation's conservation work. For further information, visit rememberingwildlife.com.

## Dog POTY 2018 now open for entries

Get your pawesome prints ready as Dog Photographer of the Year 2018 is now officially open for registration and entry. Any photographer lamateur or professional) can participate in the competition, which is free to enter. Categories include Dog Portrait, Dogs at Play and Rescue Dogs. You've got until 4 April 2018 ( 5 pm GMT) to get your images in. For details, visit dogphotographerofthe year.org.uk.

Kenro releases 'Super ND' filters from Marumi The DHG Super ND 500 (2.7) reduces the amount of light passing through a lens by nine stops, while the DHG Super ND 1000 (3.0) goes one better and holds back a full 10 stops of light. Available in a range of sizes, prices start from €45.18 for the ND500 and $£ 49.62$ for the ND1000.


## Pulitzer Prize winner Max Desfor dies at 104

A photojournalist known for his work during the Korean War has died at the age of 104. American photographer Max Desfor, formerly of the Associated Press, was famous for his images of Korean War refugees crawling across a damaged bridge in 1950 , which went on to win him the Pulitzer Prize in 1951.


## Using Canon's innovative new

 Speedlite, the 470EX-AIThis week's Big Picture was taken by AP's technical editor Andy Westlake, during an event where members of the photo press were invited to try out Canon's latest kit. The Canon Speedlite 470EX-AI is unlike any flashgun we've seen before, with a unique Auto Intelligent (AI) function that's designed
to take the fuss out of bounce-flash photography by automatically manoeuvring the motorised flash head into the optimum position. This image was captured using a Beta model of the 470EX-Al with the Canon EOS 6D Mark II, using the AI bounce function in its fully automatic mode. This is a completely un-retouched out-of-camera JPEG, and both the lighting and exposure are difficult to fault. See page 9 for our report.

## Words \& numbers

Computer photography won't be photography as we know it. I think photography will always be chemical
Annie Leibovitz American portrait photographer


## Money raised from the

 Remembering Rhinos and Remembering Elephants campaigns

The $\mathbf{7 0 - 2 1 0 \mathrm { mm }} \mathrm{f} / 4$ lens for full-frame DSLRs is designed for responsive AF

# Tamron's DSLR and mirrorless launches 

4TAMRON revealed two new lenses this week, including one 'in-development' lens for Sony full-frame mirrorless cameras, and a telephoto zoom lens for full-frame DSLR models.
Featuring a constant fast aperture of $f / 4$, the $70-210 \mathrm{~mm} \mathrm{f} / 4 \mathrm{Di}$ VC USD DSLR lens construction consists of 20 elements in 14 groups, using three Low Dispersion (LD) lens elements which are designed to reduce aberrations.
The lens also features the highest-in-class maximum magnification ratio of 1:3.1, as well as the shortest-in-class minimum object distance of 0.95 m . The zoom mechanism is internal, meaning the physical length of the lens does not change during zooming and precluding 'lens creep'.
A new high-speed Dual MPU (microprocessing unit) is designed to deliver responsive

## 'The $70-210 \mathrm{~mm}$ f/4 DSLR lens features the shortest-in-class maximum object distance of 0.95 m ,

The 28-75mm f/2.8 lens for Sony fullframe mirrorless models features a high-speed AF driving system
autofocus performance, as well as 'outstanding' vibration compensation (VC) image stabilisation. The lens is also equipped with a full-time manual focus override mechanism for making fine manual focusing adjustments without using the AF/MF switch. The surface of the front element is coated with a protective fluorine compound which is water

and oil repellant. Furthermore, the lens itself has a moisture-resistant construction.
Available from April, the Tamron $70-210 \mathrm{~mm} \mathrm{f} / 4 \mathrm{Di}$ VC USD lens price will be around $£ 699$.

Also announced was the development of a standard zoom lens for Sony full-frame mirrorless models. The new $28-75 \mathrm{~mm} \mathrm{f} / 2.8 \mathrm{Di}$ III RXD lens promises to deliver both 'outstanding image quality and beautiful background blur effects (bokeh)'. At the wideangle end of the lens, the minimum focusing distance is just 0.19 m , while the lens itself weighs just 550 g and measures only 117.8 mm .

Extra silent AF system Another new feature of the lens will be a high-speed RXD AF driving system. This RXD (Rapid eXtra-silent stepping Drive) promises to deliver remarkable quietness, making it ideal for video recording. The lens also features a moisture-resistant construction, as well as a hydrophobic fluorine coating which is highly resistant to fingeprints and other debris.
The lens will be compatible with the Direct Manual Focus (DMF) system found on Sony cameras. No pricing information is yet available for the $28-75 \mathrm{~mm} f / 2.8 \mathrm{Di}$ III RXD lens, but according to Tamron, it should be available around the middle of the year.


SamyangXP lens for Canon full-frames - THE NEW Samyang XP $50 \mathrm{~mm} \mathrm{f} / 1.2$ lens for Canon full-frame DSLRs boasts a resolution of more than 50MP. High-resolution cameras such as the Canon EOS 5DS R are perfectly suited for the lens, but it can of course be used with other Canon DSLRs.
With a wide aperture of $\mathrm{f} / 1.2$ and manual focusing, the lens is particularly targeted towards portrait photographers, offering a shallow depth-of-field effect. The lens design comprises of nine blades to deliver beautiful bokeh, starburst and out-focusing effects. Designed to minimise distortion, as well as various aberrations, the lens should be available from March 2018, priced around $£ 799$.


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# New entry-level Canon DSLR duo arrives 

$\%$CANON has - ${ }^{-1}$ announced two new entry-level DSLR cameras to sit at the start of its line-up. The 2000D is known as the Rebel T7 in some other markets, such as the US, while the 4000D will not be available worldwide.
The Canon EOS 2000D is a direct follow-on from 2016's EOS 1300D, featuring much of the same specifications but with a 24.1MP sensor (an increase from the 18MP sensor of the 1300D).
Features brought over from the previous model include a Digic 4+ processor, a nine-point AF system, Full HD video recording, inbuilt Wi-Fi, an ISO range of 100-6400 (native), and a 3in, 920k-dot LCD screen.

Meanwhile, for those on a tighter budget, the EOS 4000D has also been announced. It has a lower resolution sensor (18 megapixels) than the


Both the EOS 2000D and EOS 4000D have a Feature Guide to help users get to grips with their functions

## 2000D and a smaller

 screen. The 4000D's screen is 2.7 in (but stays at 920k dots). Features which are shared with the 2000D include the processor, focusing system, inbuilt Wi-Fi and Full HD video recording. Both cameras include an inbuilt 'Feature Guide’ to help walk beginners through the functions ofthe camera. Battery life for both cameras is rated at 500 shots, or 1 hour 15 minutes of Full HD video recording.
Available now, the 2000D will cost $£ 369.99$ body only, or £469.99 when bought with an 18-55m kit lens. The 4000D will cost $£ 329.99$ body only, or £369.99 with the kit lens.

## Pentax reveals full-frame DSLR

- A GLANCE at the specs sheet of the - ${ }^{-1}$ new Pentax K-1 Mark II suggests that the camera is an incremental upgrade, but there are a couple of interesting new specifications none the less.
Most intriguing is Pixel Shift Resolution System II, which now has a new mode that can be used when shooting handheld. Ricoh claims Dynamic Pixel Shift Resolution mode can be used in conjunction with the camera's shakereduction mechanism to create highresolution shots without evidence of camera shake.
Another new feature is a newly incorporated accelerator unit, designed to help when shooting in low light to produce images with low levels of noise and high detail. ISO sensitivity has also been increased to ISO 819,200, with the promise of improved noise reduction even at such high levels.

Features inherited from the K-1 include The K-1 Mark II promises low-noise shots
For the latest news visit www.amateurphotographer.co.uk
a 36MP full-frame sensor; a 5-axis, 5-step SR (shake reduction) II system; flexible tilt-type LCD monitor; SAFOX 12 33-point autofocusing system; an optical viewfinder offering $100 \%$ field of view; weatherproof and dustproof body; dual SD card slots; Full HD video recording and a built-in GPS module.
Its price will be around $£ 1,799$ when it is launched at the end of March.


## Backin the day

A wander through the AP archive. This week we pay a visit to March 1963


THIS week the AP time machine is whizzing back to March 1963, and lots of big events are taking place in the world: the first Beatles LP is about to come out, the civil rights movement is gaining momentum in the USA, and more ominously, a certain Lee Harvey Oswald buys a rifle via mail order. AP's 13 March issue, meanwhile, was focusing on spring, with a picture of a heavily sedated-looking model posing with daffodils on the cover, and a child who seems to want to bite into a lamb's neck on the editor's intro page. The editor, Mr Sowerby, was about to go off to Photokina, the large photography trade show still held in Cologne,Germany; so some things never change. His editorial is interesting, as he talks a lot about the growing importance and seriousness of Japanese makers, and whets readers' appetite with rumours of a Leitz SLR - a format which would transform photography in the '60s. On a lighter note, there was also a fun article on old springtime customs, featuring some curious characters straight out of the Wicker Man, or even Royston Vasey.


Readers were alerted to look out for photogenic customs

# Canon EOS <br> Canon's new entry-level model could make a big impact on the mirrorless market, says Andy Westlake 

## At a glance

£539.99
£649.99 with
$15-45 \mathrm{~mm}$ lens
24.1-million-pixel Dual Pixel CMOS sensor

- 10fps continuous shooting
2.36-million-dot 120fps OLED viewfinder
3in fully articulated touchscreen
4K video

HigWhile Canon has been making mirrorless cameras for almost six years now, it has generally given the impression that it's not completely convinced by the idea. In particular, it has appeared to shy away from making models that might compete directly with its own DSLRs. Instead it has mostly concentrated on producing small viewfinderless designs, and still only has seven native EF-M lenses in its line-up.
Now, though, we have the new EOS M50, and perhaps things are starting to change. Canon calls it a 'premium entry-level' model that slots between the EOS M6 and M100 but with an electronic viewfinder built-in, alongside a fully articulated touchscreen. It offers a similar degree of external control to the firm's ultra-compact EOS 200D DSLR, and crucially, comes to the market at a similar launch price. So for the first time, Canon is offering novice camera buyers a genuine choice between DSLR and mirrorless.
Inside the EOS M50's unassuming little body, however, Canon has packed in a surprising number of firsts. It features a new generation of Canon's Dual Pixel CMOS AF sensor, which is capable of phase-detection AF across a wider area of the frame. It also debuts Canon's latest Digic 8 processor, promising betterlooking image files along with extra features such as eye-detection AF. There's a new CR3 raw format, with a space-saving, full-resolution C-RAW option. Last but not least, the EOS M50 becomes the firm's first consumer-level camera capable of recording 4 K video, albeit with a field of view crop of $1.6 x$ or more, depending on the mode selected for its 5-axis electronic stabilisation.
There are some interesting new connectivity features too, courtesy of the built-in Wi-Fi and

\author{[^1]}

Eye-detect AF
This is the first Canon model that can specifically identify and focus on your subject's eyes.

Guided user interface Canon has included this touchscreen-driven, results-oriented interface to make the camera simple and approachable for new users.



Bluetooth. In addition to the usual remote control and image-transfer options, it's now possible to have all your images copy automatically across to your phone for sharing on social media. Moreover, the EOS M50 can sync images automatically to PC or Mac computers via Canon Image Transfer Utility 2.
In terms of design philosophy, the EOS M50 is very close to the firm's entry-level DSLRs, with a single electronic dial for changing exposure settings and a small set of buttons giving direct access to key functions. But this is all complemented by Canon's superb touch interface, which should feel familiar to new users graduating from smartphone cameras. The polycarbonate body also feels robust enough and fits quite nicely in your hand. Overall, it looks like a really well-judged little camera at an attractive price, and with Canon's huge brand-recognition behind it, well set to become an immediate hit.


# Bounce flash reborn by Canon 

## Michael Topham reveals how Canon's novel

 motorised 470EX-AI Speedlite works

## At a glance <br> £499.99 <br> Al bounce with full-auto and semi-auto modes - Guide number 47 (m,ISO 100) <br> Wide flash coverage ( $24-105 \mathrm{~mm}$ ) <br> Wireless optical receiver 19 custom functions

NCanon has unveiled a new Speedlite in the form of the 470EX-AI. It's the first flashgun ever to be equipped with what's called Al bounce - a new Auto Intelligent (AI) function that's been cleverly designed to work out the optimum position of the flash head before automatically manoeuvering it to create the best possible results. In its full-auto mode, the 470EX-Al first requires a test flash to be taken to calculate the ideal angle for natural, flattering illumination, something that is achieved using the AI.B button at the rear of the Speedlite or from a customised button on a compatible camera. After this, the motorised flash head moves into its optimal position, with a green light indicating you're ready to shoot.
Alternatively, it has a semi-auto mode, which might appeal to more advanced photographers who prefer to set the angle


The AI.B function switch is located above the LCD panel
and position of the flash head manually. What's particularly clever about this mode is that the flash automatically registers the position of the flash head and automatically readjusts it to create the same lighting effect when the orientation of the camera is changed. This takes the hassle away from manual adjustment, while ensuring excellent precision and alignment. AI bounce can be turned off when it isn't preferable.
Regarding power output, the 470EX-Al has a guide number of 47 (ISO 100) and is capable of recharging to full power in 5.5 sec using $4 \mathrm{AA} /$ LR6 batteries, or 3.5 sec with rechargeable NiMH batteries. It features a standard focal length coverage of $24-105 \mathrm{~mm}$ (wideangle 14 mm coverage possible using the built-in adaptor), and there's a high-speed sync function, enabling the flash to be fired several times in rapid succession, thus permitting higher shutter speeds than normally possible.

## Firstimpressions

Canon has created something very special with its new Al bounce innovation. It worked faultlessly during the brief time I got to use it and nailed the lighting and exposure with every shot taken indoors. The motorised head goes about its business of automatically rotating and tilting silently, and no damage was inflicted when the head was manually adjusted in auto or semi-auto modes. The way the head moves based on your shooting orientation is a stroke of genius, and it has great potential to be a game-changer for wedding photographers who switch shooting orientation regularly. The only thing holding it back is camera compatibility. Canon will need to release a series of new firmware updates for its existing DSLRs to make sure they can be used with the 470EX-AI, including any future models with AI.B functionality.

# Exhibition <br> Sixties Style: Shot by Duffy Proud Galleries, London 

## Work from Brian Duffy, one of The Terrible Trio, is showing at Proud Galleries in London, much of it rescued from a bonfire the photographer lit in 1979

Sixties Style: Shot by Duffy runs at Proud Galleries, London, until 18 March 2018. Entrance is free For more details, visitwww. proudonline. co.uk

]n the 1960s, David Bailey, Terence Donovan and Brian Duffy were often referred to as The Terrible Trio. These elite fashion photographers were known for their rebellious and provocative work, and seemed to delight in breaking the rules whenever the opportunity arose. The Trio often took their models out onto the streets and adopted a looser, more relaxed approach than the studio-based photographers who had dominated the 1950s. They predominantly used 35 mm cameras, which gave them greater flexibility in their working methods. If Duffy's name seems less familiar than Bailey and Donovan, there's good reason. In 1979, feeling disillusioned with the industry he decided to give up photography, and set fire to his work. In Duffy's obituary in 2010, fellow photographer Eamonn McCabe
described him as 'argumentative and awkward, but never grumpy' (The Guardian). The photographer had high expectations not only of himself, but also of his sitters. Former model Joanna Lumley, who posed for him in the 1960s, remembers the mixture of exactness and professionalism he exuded. 'He was very scary, but he was the business,' she recalls. Others who braved a session with the perfectionist included Jean Shrimpton, Michael Caine (see right) and, perhaps most famously, David Bowie. Duffy's work on Bowie's Aladdin Sane album cover became a cultural icon.
Duffy actually never set out to be a photographer. In 1950, he attended Saint Martin's School of Art in London, with the intention of making a career as a painter, but switched to dress design because of the large contingent of

> 'Duffy's work on Bowie's Aladdin Same album cover became a cultural icon'


Actress, singer and model Jane Birkin, photographed in 1965


Duffy's work with models such as Jill Kennington captured the essence of the Swinging Sixties

female students on the course. Having completed his studies, he soon found himself working for Victor Stiebel (Princess Margaret's dress designer). By the mid-1950s he was carrying out freelance work as a fashion artist for the likes of Harper's Bazaar.

On one occasion, he came across some contact sheets on an art director's desk. He was instantly inspired and decided to seek work as a photographer's assistant. The rest, as they say, is history.

Duffy went on to work for magazines such as, among others, Vogue, Esquire, Glamour, and Elle Magazine, as well as shooting a Pirelli calendar on location in the south of France. In the latter part of his career, he stopped taking stills and moved on to producing commercials.

Duffy's efforts to destroy his negatives in 1979 were somewhat thwarted by a local council employee who complained about the acrid smoke being emitted from his bonfire. While much of his back catalogue was lost on that day, what remained now forms the Duffy Archive, founded by his son, Chris Duffy. Until

2007, Chris's father had been reluctant to share his pictures with the wider public, but having been diagnosed with pulmonary fibrosis, he finally relented. In 2009, the first exhibition of Duffy's photographs was held at Chris Beetles Gallery in Mayfair, London. Shortly afterwards, he became the subject of the BBC Four documentary The Man Who Shot The 60s.

In March 2012, Proud Galleries in London hosted Duffy: The Lost Portraits, which comprised images salvaged from the fire, as well as many pictures found among his friends' collections. The show boasted some of Duffy's most iconic remaining fashion and celebrity portraits. Fast-forward six years and an exhibition titled Sixties Style: Shot by Duffy is now live at Proud Galleries. Many of the images on display have remained unpublished since the 1960s, and comprise fashion editorials, celebrity portraits and shots from international advertising campaigns. It's a rare opportunity to see work from the Swinging Sixties shot by a true master of the craft. Tracy Calder

## Also out now

The latest and best books from the world of photography


The East End in Colour 1960-1980
By David Granick, Hoxton Mini Press, £16.95, 128 pages, hardback, ISBN 978-1-910566312


Receiving a package from Hoxton Mini Press is always a joy. This indie publisher believes books should be celebrated as objects, and the quality of its publications reflect this passion. Most of its titles are about East London, and this offering is no exception. In 2017, photographer Chris Dorley-Brown was browsing Tower Hamlets Local History Library \& Archives, when he stumbled across a collection of slides taken by local photographer David Granick. These small, cardboard-mounted pictures feature the East End post-war, and consist of street scenes mostly devoid of people. Shot on Kodachrome 64, they have cool, muted colours. Cafés, corner shops, river barges and buildings scarred by war make an appearance. Dorley-Brown was determined to share the collection with the public. This book and accompanying exhibition (at Tower Hamlets Local History Library \& Archives until 5 May) are the result. $\star \star \star \star \star$ Tracy Calder

## Close-up and Macro Photography

By Robert Thompson, Routledge, $£ 36.99,320$ pages, softback, ISBN 978-1138658479


Natural history photographer Robert Thompson is an active conservationist, and his respect for nature shows in the beautiful close-up pictures he creates. Thompson has a special interest in dragonflies, butterflies and moths, and these subjects are well-represented in his latest book. Close-up and Macro Photography focuses on fieldcraft techniques and is divided into four neat sections: Digital Fundamentals, Fieldcraft \& Methodology, Portfolio Case Studies and Digital Workflow \& Presentation. Each section is generously illustrated with the author's wonderful images, and the text is full of hard-won knowledge: who knew, for instance, that the pupae of some moths resembles polished wood? The Case Studies section is a highlight and offers insight into Thompson's methods. Whether you are a keen close-up photographer or a passionate naturalist, this book will satisfy your needs. $\star \star \star \star \star$ Tracy Calder

A week in photography
 should remember one individual who was an exile, photographer and pioneer

Enjoying a spot of winter light, I came across this inscription on a gravestone in Edinburgh's Grange cemetery: 'He came as an unknown refugee and left a respectable citizen.' Human history is a story of migration. Empires were founded by people who moved. Countries have been shaped by people who came from elsewhere to live in them. We have numerous words to describe those who find themselves somewhere other than where they expected to be - for example, refugees, émigrés, expatriates, and economic migrants. Humans do not only experience the pain of exile because of persecution, punishment or flight, but countless humans also feel alienated because of loss, illness, oppression, the breakdown of relations, betrayal and cultural isolation.
In such circumstances art can be therapeutic. Photography is a creative outlet - a private moment where you, the subject, and the creative act create the image. Many exiles have found solace in some form of creativity: look how many

Grange Cemetery (Edinburgh EH9 1TT) runs alongside Grange Road and Beaufort Road in Marchmont
eminent 20th-century photographers fled Europe. Exiles, keen to 'make a life' in their new homeland, often make a big contribution to their place of exile.
Photographers also document exile; most of us have been moved by images depicting the Mediterranean refugee crisis in recent years. Photographer Andy Spyra's images of the persecuted Christians of Iraq document a tradition and sub-culture under terrible pressure, with all the clarity of gritty black \& white. Digitally, Mahtab Hussain has documented the social and cultural isolation of young British Asians, just as Dorothea Lange and others once documented, on film, the plight of rural Americans and John Bulmer photographed 'the North'. Cultural outsiders frequently perceive what they encounter in a different way, which can make their subjects feel uncomfortable: photography often reveals what we cannot see or choose not to see.

## The legacy of Ivan Szabo

 The 36 -year-old whose 1858 epitaph I quote at the beginning of this column was Ivan Szabo. Born in what was then Hungary, Szabo served in the Hungarian revolutionary army, and came to Scotland in 1849 when the revolution against the Habsburg Empire failed. He opened a studio at St. Andrews and moved to Edinburgh where, like his contemporaries Hill and Adamson, he was an early adopter of Fox Talbot's calotype technology. Szabo participated in several photographic exhibitions that took place in the 1850s. He photographed Fox Talbot, among others.This pioneering early film user must have made his mark as a photographer and as a man. Grange Cemetery contains the graves of many of Scotland's most eminent people. Another inscription on the grave says 'Praise him for what he did for the art of photography in his short life'.

David Healey ARPS chairs the RPS's Analogue group and tutors photography at King Edward VI Aston and Handsworth schools. See www.facebook.com/
groups/rpsanalogue/

Do you have something you'd like to get off your chest? Send us your thoughts in around
500 words to the address on page 55 and win a year's digital subscription to AP, worth $€ 79.99$

## Innext week'sissue

On sale Tuesday 13 March


# Breaking the rules 

James Paterson suggestsa few ways to break free from the shackles of photo rules


## AP ATwards 2018

Our pick of the best cameras, lenses and accessories that we tested last year

## Lookgreat on paper

Matt Richards explains how to
guarantee printing success every time

## APOY 2018

Get your entries in for AP's prestigious competition for amateur photographers


## NEVER MISS THE MOMENT

With 5-axis in-body image stabilization and impressive functionality, the
FUJIFILM X-H1 is poised and ready for any pro stills or video occasion. The feather-touch shutter button and touchscreen control keep the action at your fingertips, so you'll never miss the moment.


## KIT LIST

$<$ Cassette end cap remover
These are moulded to the top of a 35 mm cassette and allow you to quickly remove the end cap. A bottle opener can work just as well. An alternative is a film retriever to pull the film back through the felt opening.

## 4 Household items

A number of household items will come in useful, including scissors to cut the film from the spool and pegs/clips to hang the film. Specially made film clips include a hook. You will need two clips/pegs per filmstrip.

## $\nabla$ Developing tank and spiral

This is a light-tight container that allows you to develop film in daylight (once the film has been loaded into it in


## \& white essentials Processing your own film is a rewarding exercise and all part of the fun with black \& white film photography. Matt Parry explains all




## Matt Parry

Matt Parry is an award-winning travel photographer and a regular contributor to magazines and blogs. He is also the marketing manager for Harman Technology (ILFORD Photo), a role that has reignited his love for film photography. See www.mattparryphotography.com


Ilford Ilfotec DD-X brings out the full range of tones Ilford HPS Plus, Canon EOS 3000v

## -f

 ew up with film photography then you will no doubt remember the plethora of processing labs in supermarkets, high street chemists and photo retailers. These labs were geared towards processing and printing the large volume of colour film that was being shot.Despite evolving into online or mini-lab services catering primarily to digital prints, there are still many colour facilities on the high street, whereas the options for black \& white film have always remained relatively limited. This is mainly because black \& white film requires different chemicals and high street lab equipment was rarely configured for this process justifiable given the once significant market share of colour film.
While colour films would be

## 4 Measuring cylinders

Use a smaller cylinder to measure the chemical and a larger cylinder to hold the diluted solution. Use individual cylinders for developer, stop bath and fixer. A jug will also come in handy for the wash cycle.

## Accessories

You will also need a timer, a thermometer to ensure the mixed solution/water is at the right temperature, a squeegee to remove residual liquid from the film, something to stir the chemicals, and a pipette to add a few drops of wetting agent.


## 4 Photo chemicals

A developer is required to make the images appear on the film; a stop bath stops the development; a fixer makes the developed image permanent; and a wetting agent helps the film dry quickly and evenly.


0processed in store, a black \& white film would typically be outsourced to a specialist lab, or in larger chains sent to a central-processing facility. This often meant that the swift turnaround you could expect from your local lab was just not possible with black \& white film.

## Black \& white labs

While you may not find dedicated black \& white labs on the high street, there are some excellent options that offer processing, prints, scanning and enlargement services. Some, such as harmanlab.com or metroimaging.co.uk, also offer true black \& white prints from digital files, thus avoiding metamerism: colour shifts under different lighting caused when printing a black \& white image using colour.
You may wonder why, in an article about processing your own film, I have started by talking about labs. Well, I have started this way because, typically, this is the path that most photographers take. It is therefore important to understand the options available as well as the context and merits of each. While the number of black \& white labs is still fewer than colour ones, it is far easier to process a black \& white film at home than it is to process a colour film. This makes home processing an excellent choice that all black \& white film photographers should try.

## When to retain control

As photographers we know that capturing the image is only part of the process. That final image is rarely concluded in-camera, and in both film and digital photography we have further options and

# 'It is far easier to process a black \& white film at home than a colour film' 

control over how that image will look.
While people are generally familiar with the concept of darkroom printing as the precursor to certain Photoshop techniques, many don't appreciate that when processing your film, the choice of chemicals and development times can also affect the final look of the negatives (and therefore your images).
Labs will typically use the same
chemicals regardless of the film stock (with processing time adjusted to the film speed and any push/pull instructions from the photographer). While this achieves a consistent and balanced output and removes any risk of processing error, you may like the way a certain chemical works with your preferred film stock, that is, exploiting the film's speed or reducing its grain structure. Processing your own film retains that option.
Sending a film off to a lab is certainly easy and the wait to get your negatives is not excessive. However, for those who need quick access to the negs (driven by deadlines, impatience or just

## MATT'S TOP FIVE TIPS



## Label the cylinders

It is best to prepare all your chemicals in advance for efficient processing. It is worth investing in three sets of measuring cylinders and label them 'Dev', 'Stop' and 'Fix' to avoid contamination. If you have to reuse the same cylinder, wash it thoroughly between chemicals.



The chemical packaging and manufacturer's website contains the health and safety information

## Working safely with chemicals

Photo-chemicals are not hazardous; however it is always worth taking sensible precautions, such as wearing goggles or rubber gloves, to avoid skin irritations or splashes.
It is common to get drips when agitating or pouring chemicals, so clean your work surfaces thoroughly. If you use household containers to mix chemicals please do not use them again for preparing food (even after washing).

If you have any doubts or concerns when working with chemicals, check the labels on the bottles/boxes as these should contain all the necessary health and safety details as well as information on the safe handling and disposal of the chemicals. These should also be available on the manufacturer's website in a 'Material Safety Data Sheet'.


Correct temperature
If you are working in a cold area then you will need to keep your prepared solutions at the correct temperature until you need to use them. To do this you can stand them in a tray or bowl of water that is a couple of degrees warmer than your working temperature.


## Loading the film

The trickiest part of processing film is loading it onto the spiral in complete darkness. Practise doing this in the light with old or wasted film. Once you have mastered this, then try doing it with your eyes closed before attempting it in the dark with real film.


## Reusing chemicals

Some chemicals can be reused - please check the manufacturer's guidelines on this. You will need suitable storage containers, and of course, like all chemicals these will need to be kept out of reach of young children. Ensure you label your containers too for future use.

# 10 steps for processing film 

Beginners' guide for processing black and white film at home

## 1 Before you start (in light)

 Until the film is developed it cannot be exposed to light. Make your workspace light tight or use a changing bag (beginners may find these slightly awkward to use at first).
## 2 Preparation <br> (in light)

Processing a film requires severa steps, so get your equipment and work space prepared and organised - especially for the parts that take place in darkness.

## 3Mixing your chemicals

 (in light) Find the required volumes and temperature (normally $20^{\circ} \mathrm{C}$ ) and then mix your developer, stop bath and fixer solutions into labelled containers.
## 4 Opening the

## cassette

 (in darkness)In a light-sealed room (or in a changing bag) open the film cassette with your end cap remover (or film retriever) and find and cut the film's leader.

## 5Loading the spiral (in darkness)

Locate the lugs on the spiral and holding the end of the film, pull it onto the spiral between the lugs. Hold one side of the spiral while rotating the other back and forth until the film is loaded.

## 6 Load the development tank (in darkness)

Cut the film from the spool and give the spiral a couple more twists to ensure it is fully loaded. Place the spiral into the developer tank and screw on the top.

## 7Development (in light)

Pour your prepared developer solution into the tank and invert/agitate following the recommended times and guidelines provided by the film manufacturer.

## 8 Stop bath

 and fixer (in light) Empty the developer solution and repeat the process with the prepared stop bath and, finally, with the fixer. You now need to wash and remove the residual chemicals.
## 9 Wash (in light)

For an economical wash fill the tank with clean water (at $20^{\circ} \mathrm{C}$ ) and do five inversions. Repeat x10 inversions, repeat $\times 20$, and finally $x 5$ (adding a drop of wetting agent for the final set).

## 10 Rinse and prepare for drying (in light) Open the tank and

 remove the film from the spiral. Hang with your pegs at either end and remove excess water with a squeegee. Leave it to dry somewhere clean and dust-free.
## 'The kit required to process your own film is simple and affordable'

0eagerness), then home processing definitely wins out.
The kit required to process your own film is simple and affordable (see 'Essential kit list' on page 14). This makes the DIY route a very cost-effective method. The standard kit comprises a few specialist pieces of equipment plus a number of regular household items, which can be upgraded as needed. The only true ongoing costs are the chemicals (see 'Working safely with chemicals' box on page 17).

## What can go wrong

Processing your own film is not without a degree of risk, but like anything else the more you practise, the better and more confident you will become. With that in mind I would never advise jumping into home-processing for the first time with an important roll of film.
While the process is certainly straightforward enough, and there are plenty of resources online for you to watch and learn from others doing it, understanding what can go wrong is the first step to avoiding it happening to you. There are a number of things to watch out for. Perhaps the most common problem is uneven development. This can occur for a number of reasons: the film isn't loaded to the spiral correctly, there's not enough chemical solution in the tank, or the tank hasn't been agitated properly. To ensure you don't get bubbles on the


Capturing candid moments on film. Abersoch, North Wales IIford HP5 Plus, Olympus OM-1


A fast film is perfect for sunny days. Middlewich, Cheshire Ilford FP4 Plus, Olympus XA3
negatives, tap the tank on your work service after each set of agitations to dislodge them. Scratches are also an issue. They can be caused by dirt in changing bags, an old squeegee, or retrieving the film from the cassette.
Despite the above, if you are well prepared and follow the process carefully you can easily avoid these mistakes. If this article has piqued your interest enough to give it a go, read the step-bystep guide and watch the new 'how-to' video guide I have produced for Ilford Photo's YouTube channel: https:// youtu.be/aPQ7OPy8T2w.

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## Technique IMAGE SHARPENING



## James Paterson

James is as skilled a photo editor as he is a photographer. His work has appeared in countless magazines and books, and in 2014 he was appointed editor of Practical Photoshop magazine. His subjects range from portraits to landscapes, architecture and underwater scenes. For James, Photoshop is


SHARPENING TIPS AND TRICKS IN PHOTOSHOP


## The High Pass technique

In Photoshop, hit Cmd/Ctrl+J to duplicate the layer. In the Layers Panel, right-click the layer and 'Convert to Smart Object', then go to Filter>Other>High Pass. Set amount to about three pixels and hit OK, then change the layer Blend Mode to Overlay for a lovely sharpening effect. If you need to tweak the strength, double-click the layer's smart filter.


## Sharpening for print

When sharpening for print, you should always do so after resizing. The correct resolution for prints is 300 pixels per inch. So a 10 in print should be 3,000 pixels wide. Prints have a higher crispness threshold than on-screen, so in general, push the sharpening effect slightly further than you would with an on-screen image.


## Settings for landscapes and portraits

Several sharpening tools offer a Radius slider, which controls the distance from an edge in which sharpening occurs. In general, we should use a smaller radius in images with high detail, such as landscapes, and a slightly higher radius in images with less detail, like close-up portraits.


## Confused about sharpening controls in Lightroom and Photoshop? James Paterson explains how to get the most out of them and avoid the pitfalls

Sharpening is one of those image-editing tasks that can be frustratingly ambiguous. For those new to the idea of sharpening their photos, several questions arise: When do we sharpen? What tools do we use? And crucially, what is the optimum amount of sharpening to apply? The sharpening tools in Photoshop and Lightroom can be powerful, but for the uninitiated, the terms can seem confusing. For instance, 'Unsharp Mask' - one of the best tools - sounds like the opposite of what we're trying to achieve (in fact, it's called this because it blurs and then subtracts the blur, resulting in enhanced edge details). Elsewhere, settings and sliders with names like radius, threshold, detail and masking are hardly selfexplanatory. Even those who have been editing and sharpening images for years would be hard-pressed to come up with a simple explanation for these controls.
To muddy the waters even more, there are different sharpening stages to think about, such as Capture Sharpening and

Output Sharpening. Capture Sharpening usually occurs near the beginning of the image-editing process, and here the aim is to make the image appear sharp to the eye. Digital images are inherently soft, so some initial sharpening must take place just to make them look acceptable. For JPEGs, this can sometimes take place in-camera. For raw photos, this stage usually takes place in your chosen raw editor, like the Details Panel within Lightroom or Photoshop's Camera Raw plugin (by default, they both set a sharpening amount of 25 and radius 1.0).
By contrast, Output Sharpening should be undertaken at the very end of the image-editing process, upon resizing and outputting the image to a different format. If, for example, you resize your image from the full-resolution camera version down to a much smaller 600-pixel wide for a web page, then the Capture Sharpening applied to the full-resolution version will not be relevant to the much smaller 600-pixel image. So the aim is to sharpen with the specific output


Soften everything else
If you want to emphasise the sharpness in a certain area of an image, one trick is to blur everything else. Duplicate the layer in Photoshop and apply a blur filter (Filter>Blur) such as Gaussian or Lens Blur. Next click the Add Layer Mask icon in the Layers Panel, and paint black over the parts you want to keep sharp.


UnsharpMask sharpening
Found under Filter>Sharpen, the Unsharp Mask command is one of the best sharpening tools in Photoshop CC. It has three adjustment sliders. The 'Amount' slider controls the overall sharpening strength. 'Radius' determines the width of the edges that are sharpened. 'Threshold' lets you exclude sharpening from fine details and noise.


Smart Sharpen command
Smart Sharpen (found under Filter>Sharpen) is another Photoshop method that should be considered alongside Unsharp Mask. It has similar settings to Unsharp Mask, but also lets you apply sharpening independently to shadows and highlights (using the Fade sliders for each), and uses a slightly more advanced method for edge selection.

Oand resolution in mind to ensure that the image looks nice and sharp when viewed in its end format, whether that be a print, online gallery or another type of media.
The tools you use at the Output Sharpening stage depend on your workflow. If you exclusively edit and output your images in Lightroom, then the Lightroom Export controls offer sharpening settings that, while deceptively basic, apply a finely balanced level of sharpening for the chosen output. If you prefer to use Photoshop to finish editing your pictures, then there are several cherished sharpening filters that are more than up to the task.
With all the information available about sharpening, not to mention the multitude of tools and (often contradictory) advice out there, it can be easy to overcomplicate something that should essentially be very simple. We should sharpen an image to a point where it looks crisp, and no further. It's
tempting to think there's an optimum setting, perhaps a magic number that will produce the very best sharpening effect - but this number doesn't exist. Here's the secret: eyeball it.
Your eyes are the best judge, and you know what needs to be crisp and what doesn't. As with most image-editing tasks, it should be about what you want to get out of your image. That being said, there are things we can do to help us to judge. We should zoom in to $100 \%$ to check the effects of sharpening, so that we can judge the fine detail at its output size. Another trick that some find useful is to begin by setting a very high sharpening strength, then dial down the settings until it looks right. The theory here is that it's easier to recognise over-sharpening than under-sharpening. There are also several sharpening pitfalls to avoid. Watch out for haloes appearing along edges and be careful not to over-sharpen fine detail in noisy images, as it can amplify the noise.


## Localised sharpening

Most images have unimportant parts, out-of-focus areas or smooth surfaces without any detail. Why bother sharpening these parts? Instead, apply sharpening only to the bits that matter. There are several


Apply local sharpening with Adjustment brush
different tools for this. Camera Raw and Lightroom both offer the Adjustment Brush. With this, you can simply load the brush with a sharpening effect, and then paint over the image to selectively apply it. Photoshop also offers plenty of methods for local sharpening. The simplest is the Sharpen tool, which has been improved in recent versions of Photoshop and is now very good. A layer mask is also an effective tool for localised sharpening. We can simply apply universal sharpening to a duplicate layer - be it through the Unsharp Mask or Smart Sharpen filters, or the High Pass Sharpening method described above - and then paint with black or white on a layer mask to either hide or reveal the effect over parts of the image.

SHARPENING WITH LIGHT


## 1 Sharpening amount

Head to Lightroom's Develop Module (or open it in Photoshop's Camera Raw) and go to the Detail Panel. Sharpening is best judged at 100\% view (double-click the Zoom tool in Camera Raw or click 1:1 in Lightroom's Navigator Panel). Begin by dragging the Amount slider across to increase the sharpening strength. But note that too much sharpening will increase noise.


## 3Set a detail threshold

This controls what is detected as an edge. Set a low detail and the sharpening will be restricted to the most obvious edges within the image. By contrast, set a high detail and even the finest edges will be sharpened. High detail is good for pulling out texture, but can lead to increased noise. I tend it keep it under 50. Hold Alt for a grayscale detail view.


## 5 Reduce image noise

Sharpening and noise reduction are two sides of the same coin. Sharpening enhances edge details, while noise reduction reduces grainy noise, sometimes at the expense of fine detail. As such, strike a balance between the two. For noisy images, begin by applying noise reduction, which is found in the Detail panel, too, then go on to sharpen the image.

## ROOM'S DETAIL PANEL



## 2 Control the edges

Sharpening is effectively just a very localised shift in contrast - where dark edges meet light edges, the dark side becomes darker, the brighter side lighter. The Radius slider determines the area in which this shift in contrast occurs. For instance, when set to 1.0, the contrast change happens for a distance of one pixel from the edge. I recommend keeping the value set between 1.0 and 1.5 .


## 4 Mask the sharpening

This slider is useful for removing sharpening from areas that don't need it, such as smooth expanses of sky. After applying Amount and Radius settings, hold Alt and drag the Masking slider. As you drag, areas of the image will start to turn black - these parts will be excluded from the sharpening effect. The softer the background, the better the results.


## 6 Apply Output Sharpening

 Output Sharpening is found in Lightroom's Export dialog (File>Export) or Camera Raw's Save dialog. After setting the image size, go to the Output Sharpening section below. Choose between screen, matt paper and glossy paper, then select one of the three sharpening strengths. You'll also find similar settings to the right of Lightroom's Print Module.

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# binsel Adams 

## There are legends, and then there is the god-like genius of Ansel Adams

Ansel Adams is considered one of the most important and influential landscape photographers of the 20th century. He is best known for his iconic images that document US national parks, including, most famously, Yosemite National Park and other protected areas of the great American West. Adams (1902-1984) was born in San Francisco and grew up in the Golden Gate area; his love for nature was developed exploring
as a child. His grandfather founded a successful lumber business which his father later inherited, but it collapsed in the financial Panic of 1907.
Adams had a troubled school life, and it is thought that he suffered from dyslexia and was even diagnosed as hyperactive. When he was 12 years old, he was withdrawn from the education system and tutored at home. It wasn't long before he found his first passion. He taught himself to read music and play the piano, which
became his focus and intended profession over the next decade. However Adams's other passion - nature and photography - was ignited in 1916 on his first trip to Yosemite National Park with his new Kodak Brownie Box camera. He was transfixed by the beauty of the national park, and in 1919 joined the Sierra Club and spent the first of four summers in Yosemite Valley, developing a keen interest in its conservation. This was the beginning of his photography success.

## Style evolution

Throughout the 1920s, Adams worked as the custodian of the Sierra Club's lodge in Yosemite National Park, where he created his iconic landscape photographs. In 1926 he came under the influence of Albert Bender, a patron of the arts in San Francisco, who played a key role in Adams's early career. He commissioned

Adams's first portfolio, Parmelian Prints of the High Sierras, which included his famous image 'Monolith, the Face of Half Dome'. In 1930 Adams met the American photographer Paul Strand; this meeting was to be the start of his evolution from a pictorial style of photography towards a purer and more realistic form.
Soon after, in 1932, he founded Group f/64 with fellow photographer Edward Weston, which brought national attention to their West Coast vision of straight photography. By 1941, the US Department of the Interior commissioned Adams to tour and document America's national parks. Adams visited Yellowstone and Grand Teton in 1942, where he created some of his most iconic images, including this scene of "The Tetons and the Snake River'. Made famous by Adams, this viewpoint is named Snake River overlook.
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## LETTER OF THE WEEK

Glossing over it
In the article 'Get your best-ever prints' in AP 17 February, you infer that Epson does not have 'gloss optimizer' in its earlier models of photo printers. I have to point out that Epson does have cartridges of this 'ink'. I have used Epson printers 1290 and R1800, both of which hold cartridges of gloss optimizer, and I guess subsequent models do so as well. If the gloss optimizer box in the printer drivers is set to 'Auto' it appears to even out the glossy surface of the print on both gloss and lustre papers. I use Ilford Galerie Smooth and PermaJet 280 papers exclusively. For the sake of Epson printer users, could you clarify this point?

## R King

What I wrote was this (apologies if it didn't come through clearly): 'some of the latest pigment-based printers, like the Epson SC-P600 and SC-P800, deliver much better smoothness on glossy paper than pigment printers in the past. Canon edges ahead with its Pixma Pro-1, Pro-10S and Pro-1000 models, adding a cartridge of "chroma optimizer" to the ink line-up. It is like a coating of clear varnish that has been laid over the top of the ink when using glossy paper, to boost the uniformity of reflectivity.' No doubt, Epson's latest pigment inks look better on glossy and lustre paper compared to older printers. However, some of Epson's earlier pigment-based printers used a 'gloss optimizer' to get around the problem. Most of Epson's current pigmentbased printers don't use a gloss optimizer, including the SureColor SC-P600 and SC-P800 printers. However, Epson released an SC-P400 printer last year, which uses a reduced range of Photo Black, Matte Black, Cyan, Yellow, Magenta, Red and Orange inks, along with a gloss optimizer. Even so, Canon's Pixma Pro-1, Pro-10S and Pro-1000 models are currently the best pigment-based printers for top-quality, smooth and uniform-looking output on glossy and lustre papers, while the dye-based Canon Pro-100s is the outright winner - Matthew Richards, printer reviewer



In AP 24 February, we spoke about photography's psychological benefits

## Praise for the mental health feature

Full marks to AP for the article on how photography can help to improve one's mental health ('Photography can save your life' in AP 24 February). As someone who works in the community, youth and social work fields, I can vouch for the positive benefits that photography can have on mental health and well-being. I often run and commission photography workshops for young people with challenging behaviours, and have found it a great tool to build self-confidence, improve self-esteem, and other positive changes. Taking pictures helps them to not only learn and explore the world around them, but can also change the way they perceive themselves. When used in a therapeutic environment this can often lead to growth and healing.
There are different therapy and photographic activities you can use in workshops. Schools of practice include: PhotoTherapy and Therapeutic Photography, and also the more broader Social Action and Participatory Photography techniques. There is a great deal of information on the internet covering these different schools of practice.
To learn more about this topic and as a good introduction, I suggest checking out the website of Judy Weiser: a psychologist and one of the earliest pioneers of PhotoTheraphy techniques. Visit www.phototherapy-centre.com

## Stuart Meikle

I was reading about mindfulness and mental health in AP
('Photography can save your life', 24 February). The statistics really surprised me. I noticed you mentioned Buddhist influence in photography. For me, talking to God and relating to Jesus Christ has helped. The power of praying, photography and friendship must not be underestimated. If you have suffered don't give up. I have experienced depression, and I empathise. I was inspired a few years ago to think of myself as a capable photographer and it's a lot easier this way actually.
Depression is one example of a severe and debilitating mental health illness. But I say if you have suffered similarly, then find the courage somewhere to ask for help and help yourself. You are as good as anyone else.

## Thomas Latcham

The depression that descended on me following my wife Lynne's death from a heart attack in January 2006 was terrifying Unable to sleep, eat or work I quickly came to realise the devastating effects of this horrible illness. Just the day before Lynne died I'd bought a Fujifilm FinePix S5600 digital camera which I didn't pick up again until a year after her death. When I eventually did, there were three pics of Lynne on the memory card taken the day prior to her death. She was lying on our sofa in what she used to describe as her 'slob gear' - an old grey tracksuit and trainers. I cried when I compared how healthy she looked in those pics to when I'd last seen her looking so ill in her hospital bed. I had one of the pictures enlarged and framed, and through editing them on my PC my interest in photography began to take hold again. I found walking around my home town of Gateshead engaging in street photography hugely therapeutic.
My pictures were pretty rubbish, but being out on crisp cold winter days was such a refreshing change from the almost claustrophobic environment of my home, which I hadn't left for months. After printing out a few suitable pics of Lynne shot in happier times, I realised more than ever the true power of photography to evoke memories. Just think how awful it would be if photography hadn't been invented and we had to rely on our memories - which can fail us - to recall lost loved ones. M Durrant

I have just read your articleon how 'Photography can save your life' (in AP 24 February). I have been an enthusiast photographer for 35 years, but last year I had to have carpal tunnel surgery on my left hand. Unfortunately, although the surgery went well I have been left with Complex Regional Pain Syndrome in my hand which has left me with very limited mobility in my hand. I have been away from my job for eight months now, but in that time I was advised by my hand therapist and consultant to try to continue with my photography. My therapist explained that doing my photography would make me use my hand for a longer period as I would be concentrating on taking photos and not thinking about the pain in my hand; therefore I would be exercising my hand more than if I was just doing the exercises given by my therapist.
I found the photography difficult in the beginning as I do wildlife photography, but I persevered and started to use my macro lens in my garden a little bit a time. This gave me the opportunity to gauge how I was progressing with the mobility and strength in my hand, and also gave me the chance to get out of my house as being stuck in there 24/7 was affecting my mental health. Although my treatment will be ongoing for the foreseeable future, I feel my photography saved me from a downward spiral of depression and mental health issues. If I hadn't had my photography I have no idea how I would have coped with the situation I found myself in. Photography certainly was what the doctor ordered and was the best medicine for me.

## Odette Barber

Thanks very much to everyone who wrote in about our recent feature. It is wonderful to see that it touched and inspired people to share their stories with other AP readers. Rest assured we will return to this important topic in the future - Geoff Harris, deputy editor Mr Clean
In your reply to Mike Dodman's letter ('Dust Up' in Inbox, AP 24

David Travis would like to clean his Olympus E-M5 Mark 2 sensor himself February) you point out that the sensors in mirrorless cameras are easier to clean than those in DSLRs. I'd like to clean the sensor in my Olympus OM-D E-M5 Mark 2, but half the internet tells me not to go anywhere near the 'floating' Olympus sensor, while the other half suggests I should be more bullish. Can AP give a definitive answer on whether it is safe to clean an Olympus sensor oneself?

## David Travis

In six years of using E-M5s, I've never needed to contact-clean the sensor - everything just blows off. It is certainly possible to clean the sensor yourself, but of course, any attempt to do so is entirely at your own risk. If in doubt, get it done by a qualified person. Olympus often offers free sensor cleaning at The Photography Show and similar events - Andy Westlake, technical editor
Poet's corner
You look, you smile,
You take your pick.
When the timing's right
It's go... click, click, click.
You look, you grin,
There's lots to pick.
What a puzzling sight
Then it's... flick, pick, tick.
You look, you wince,
You've made your move. It's kinda' hard now
When the truth's... improve!

## Mark Butler

Thanks, Mark, we are suckers for rhymes here at AP. So if there are any other readers who have a bardic urge, you know where we live - Geoff Harris, deputy editor

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# Reader Portfolio 

Spotlight on readers' excellent images and how they captured them


## Yasir Mehmood

A designer by profession, Yasir Mehmood has been an art lover since an early age. In 2009, he bought his first DSLR, an Olympus E-410, and his passion for photography - in particular, nature - took off. 'I see insects as objects of genuine beauty,' he says. 'For me, photography is more than a hobby - it is a tool for gaining an insight into the natural world.' Yasir likes to experiment with techniques and visit various locations in search of new macro subjects. He is also keen to stress that the lack of a macro lens should not inhibit your creativity. 'I sometimes use a Sigma $70-300 \mathrm{~mm}$ lens with extension tubes and close-up filters,' he explains, 'And I love the results.' Visit www.facebook.com/yasirwildlifephotographer

Butterfly heart
1 As a designer, Yasir is often drawn to graphic shapes, and this butterfly sitting on curved foliage ticked all the boxes. He used a green sheet to create the smooth background Nikon D5200, 90 mm macro lens, $1 / 40$ sec at f/16, ISO 320


Praying mantis 2 This praying mantis seemed to be posing for the camera when Yasir framed the shot. He used flash to add some rim light Nikon D5200, 90 mm macro lens, $1 / 50$ sec at $\mathrm{f} / 16$, ISO 320


3


衣 Lightweight and portable, the Manfrotto PIXI EVO boasts two different leg angles with a sliding selector enabling
Submit your images
Please see the 'Send us your pictures' section on page 3 for details ※ you to shoot ground-level images. It's adjustable, with two-section legs featuring five different steps that adapt萣 the footprint to uneven surfaces. With a payload of 2.5 kg , you can tilt the camera $90^{\circ}$ to capture incredible images.


## Damselfly and

 butterfly3 Yasir was about to head for home when a friend drew his attention to this damselfly and butterfly sitting on a curve of grass lined with beetle eggs Nikon D5200, 90 mm macro lens, $1 / 50$ sec at $f / 16$, ISO 250

## The chase

4 Waking in a wild area of Guiar Khan, Rawalpindi iistrict, Pakistan, Yasir noticeda a praying mantis chasing a spider. He quietly set up his equipment to catch the action Nikon $55200,90 \mathrm{~mm}$ macro lens, $1 / 50$ sec at $f / 16,150250$

Hiding lizard 5 yasir was shooting bugs in his native hometown of Gujar Khan, Rawalpindi District, Pakistan, when he spotted this lizard hiding behind a branch Nikon D5200, 90 mm macro lens, $1 / 50$ sec at f/11, ISO 250


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The winning entries from each of the 15 participating EISA countries will then be judged together at the Association's general meeting in June 2018. The final results of the International Maestro contest will be revealed at the EISA Awards Gala on 31 August 2018.

Results will be published in the September or October issues of all 15 EISA photo magazines/websites. All three winners will be invited to Berlin at the official EISA Awards ceremony on 31 August

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# LOCATION GUIDE 

 Ribblehead Viaduct> The Grade II listed railway viaduct at Ribblehead offers superb photo opportunities and is one of Michael Topham's favourite locations

KIT LIST
$\checkmark$ Walking boots
Walking boots are advised if you plan to go off the path around Batty Moss, where the ground is uneven and can be slippery. Walking poles are a good idea and offer extra stability.

## $\checkmark$ Waterproof jacket <br> It's not uncommon for the

 weather to turn quickly in North Yorkshire. Make sure you save some space in your camera bag for a complete set of waterproofs and preferably a jacket with a hood.
## Backpack

Head out with a backpack designed for landscape photography, and it should have an all-weather cover that can be pulled out to keep all your contents inside safe and dry.


The North of England is home to many areas of outstanding natural beauty, mixed with famous landmarks that go back hundreds of years. One of the most impressive is Ribblehead Viaduct in North Yorkshire, which crosses Batty Moss in the valley of the River Ribble. Built by the navvies between 1870 and 1874, it's made up of 24 arches and is still used today for its original purpose of carrying passengers and freight traffic across by rail.
The viaduct is accessed via an off-road track from the B6255 Low Sleights Road, which is a stone's throw from the Station Inn pub. Follow the track for half a mile and it'll take you to the foot of the impressive structure where there are opportunities to capture shots of the arches looking up. To get the best out of this location, time your visit to coincide with when a steam train passes across, and there are a few of these each year. Take a punt and visit during winter, and you might be rewarded with the sensational sight of the sun setting through the arches while a train passes over the top. It's a shot that takes meticulous planning, but is totally worth it when it all comes together.


# Shooting advice 

## Best time

Personally, l've always found the viaduct best to photograph later in the day during the winter months as the sun starts to set. This presents the chance to silhouette the arches and create a striking backlit image of a train sweeping across the top. Don't totally disregard a visit on a gloomy or cloudy day though, as there are some very moody, atmospheric black \& white shots to be had - just remember to pack your ND grad filter. Attempt the treacherous journey to the viaduct in the snow and you'll be rewarded with a stunning panoramic shot of the outline of the arches against a blanket of white.

This shot, captured on the eastern side of the viaduct, was taken in late January, 2012 Canon EOS DDS Mark III, 1/125secat $/ 111$, , 50400


## Michael Topham

Michael is AP's Reviews Editor and has a passion for all genres of photography. When he's not testing cameras he's often found exploring new locations around the country or closer to his home in Kent.
www.michaeltopham.co.uk

## Steam trains

There's no better sight at Ribblehead Viaduct than watching a steam train pass across. It's quite rare that steam trains travel over the viaduct in winter and your chances of seeing one are much higher in the summer. Expect the locomotive to emit more steam travelling in the northbound direction as there's a gradient towards Blea Moor tunnel. Visit www.uksteam.info/tours for Cumbrian Mountain express excursions for information about dates and timings.

## Parking

You'll find several lay-bys near the ' $T$ ' junction of the B6255 and the B6479. Additional parking can be found close to the Station Inn; however, parking in the pub car park is restricted to patrons only. It can get very busy during the summer and at weekends.

When you're 83 m under the water and you haven't taken a breath for nearly three minutes, it's hard not to panic. The pressure on your body is nine times what it is on the surface, your lungs are shrinking, and your heart rate is slowing down. Levels of carbon dioxide in your body are rising, and your spleen is contracting to squeeze extra-oxygenated blood into your circulatory system. You have lost your natural buoyancy and you are effectively sinking. If you don't know what you're doing you are seconds away from drowning.
If, however, you're an experienced freediver like Wendy Timmermans you can relax, let your body find its natural equilibrium, and enjoy the privileged sensation of exploring the ocean without any breathing apparatus. 'Humans have a natural response to water known as the mammalian dive reflex,' she reveals. 'We all have it, but because we live on dry land it's not very strong. If you train to freedive this reflex becomes stronger and it helps you adapt to being underwater comfortably.' But even Wendy experiences moments of unease under the surface. ‘Competitive freedivers, like myself, do long or deep dives, and we get to a point where we start to build up a lot of $\mathrm{CO}_{2}$ in our bodies, which leads to the contraction of the diaphragm, she explains. 'It's not a pleasant sensation, and the mind can kick in at this point making it hard to stay relaxed and not use more energy and oxygen than needed.'
As a freediving instructor based in Dahab, Egypt, Wendy has plenty of opportunities to strengthen her mammalian dive reflex. The waters here are remarkably clear and the town is famous for its proximity to the Blue Hole, a natural sinkhole about 100 m deep. This curious phenomenon attracts hundreds of divers every year, but has earned itself the grim moniker 'divers' cemetery' for the number of lives it has claimed. 'Your body needs to be very flexible and adapted to the water,' warns Wendy. 'If you push yourself or are stressed you can really injure yourself.'

Born and raised in Rotterdam, Wendy has enjoyed a deep connection with the ocean since her childhood. She was a competitive swimmer until her teens, but she didn't discover freediving until she embarked on a trip around the

world in 2006. 'I sold my house, I was between jobs, and I had some spare money so it seemed like the right time to go travelling,' she explains. While exploring Southeast Asia she took up scuba diving, and became transfixed by the marine life she encountered. By sheer coincidence one of the diving sites she visited was also home to a freediving school. 'Until then I had never even heard of the sport,' she admits. 'In my country, nobody

Far right: To obtain a shot like this you need to move slowly and show respect for your subject, in this instance a turtle in Marsa Alam, Egypt

## Right: Swimming

 alongside a dugong grazing the sea bed, Marsa Alam, Egyptreally had. My scuba diving instructor talked me into trying it, and I was hooked straight away.'

## Passion for people

In recent years there has been a lot of talk about mindfulness and the way it benefits physical and mental well-being, and Wendy points out that, once mastered, freediving can result in feelings of peace, calm and tranquillity - just some of its many attractions. 'When you're


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underwater you are disconnected from the world above the surface,' she says. 'It's peaceful and it's quiet - you are in the moment. People talk about mindfulness, but freediving is like super mindfulness!' Being aware of her environment and the workings of her body allows Wendy to respond mindfully to the marine life she encounters. What's more, the absence of bottled air means there are no bubbles to disturb skittish subjects. 'You still have to think about how you move in the water,' she says. 'If you go down splashing around then the turtle, or whatever, is going to flee, but if you are gentle in the water you can get very close.'
It was Wendy's love of marine life that led her to take an underwater compact beneath the surface some 10 years ago. 'To begin with I took lots of pictures of fish,' she recalls,
'but I was also attracted to macro subjects like nudibranch and hermit crabs. The desire to take pictures of other freedivers, or people in the water, came much later.' Wendy currently uses a Sony Alpha 6300 with a Nauticam housing, and relies on natural light to achieve the look she desires. 'I'm inspired by the light underwater, particularly light beams,' she explains. 'At some point I might get some strobes, but I don't feel the need at the moment - the natural light changes throughout the day, and from day to day, and there is so much you can do with it.' In 2017 Wendy won the One Shot - Primary Colours category of Travel Photographer of the Year with her image of a freediver surrounded by beams of light (see below).
Unfortunately freediving and photography are not natural bedfellows. Even a small mirrorless camera such as the Alpha 6300


Right: It's a thrill to photograph where two continents meet. Here the ice cold, clear water of Silfra in Iceland creates a surreal playground for freedivers

Below right: Wendy's partner Guillaume moves very naturally underwater, but a freediver can only look serene when his/her state of mind is the same

Left: This beautifully composed silhouette won Wendy the One Shot - Primary Colours category of the Travel Photographer of the Year in 2017


Wendy Timmermans is a record-breaking freediver and photographer based in Dahab, Egypt. To see more of her images visit www.seadropsphotography.com or www.totalfreedive.

feels bulky in an underwater housing, and the combined weight creates significant drag, which makes swimming harder. 'It can feel like double the workout,' confirms Wendy. 'It's one thing doing a freedive for yourself, just swimming around and enjoying it, but it's quite different doing the same thing with a camera.' Wendy shares her passion for photography (and love of freediving) with her boyfriend Guillaume, and they often work together on a project. 'We tend to alternate: either I'm taking pictures and he is in front of the camera or the other way around,' she explains, 'but we are also each other's safety. You cannot safely freedive alone, so we watch each other and are careful to stay within our limits.'

## Technical considerations

Generally speaking, the deeper you go in the water the poorer the light, which is one reason why Wendy and Guillaume's pictures are often taken at depths of 20 m or less. Rather than push themselves too far on a single dive they carry out multiple

short dives, holding their breath for anything up to two minutes. 'When we are taking pictures there is a lot of repetition, with shorter breath holds,' explains Wendy. 'We rest a bit between each dive, but it's still a pretty good workout!'
Having so much to contend with on every dive, Wendy keeps her camera settings simple. 'You don't want to be fiddling around with your settings in the water,' she advises. 'Sometimes you have to accept that the settings you use might not be perfect. We shoot a lot in shutter priority and try to keep the ISO between 100 and 400 . My camera has an automatic underwater white balance setting, but it doesn't generally work well for us, so I set this manually.'
Looking at Wendy's pictures reminds us of the profound connection we all have with water, and the powerful mammalian reflex that lies dormant in most of us. Her images remind us that there is still a place where silence, peace and light coexist; a place that's both
alien and familiar: the sea.
'When you're underwater... you are in the moment. People talk about mindfulness, but fireediving is like super mindfulness!'


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The $12-100 \mathrm{~mm}$ renders an impressive amount of detail right across the frame Olympus OM-D E-MIMark II, 2 mmm , 1/25sectat//5.6, ISO 100

# Olympus M.Zuiko Digital ED 12-100mm f/4 IS Pro 

# Olympus has made probably the best superzoom lens on the planet, says Andy Westlake 

t's widely understood that cameras with larger-format sensors should give better results than those with smaller ones, and that fixed-focal-length prime lenses are sharper than zooms. When we compare zooms, those with relatively short $3 x$ ranges are best, while 'superzooms' with zoom ratios of $7 x$ or greater require considerable optical compromises to achieve their range.
So what are we to make of Olympus's $12-100 \mathrm{~mm} f / 4$ lens, launched alongside the firm's flagship OM-D E-M1 Mark II at the end of 2016? It's an $8.3 x$ superzoom for Micro Four Thirds cameras, which have sensors somewhat smaller than the common APS-C format found in most enthusiast DSLRs and mirrorless cameras. Surely this must be a marriage made in hell, at least in terms of
image quality? Well, sometimes it turns out that what we think we know is wrong.
The giveaway that things are different here is in the lens's name, not to mention price. The 'Pro' designation means it's in Olympus's top line, with premium optics and weather-sealed construction. Meanwhile, the $£ 1,100$ price tag suggests the firm hasn't skimped in solving the problems posed by such an ambitious design. To cut a long story short, the result is probably the best superzoom ever made.

## Features

The $12-100 \mathrm{~mm}$ is one of a handful of such lenses starting at a 24 mm equivalent, compared to the more usual 28 mm ; in return, it extends less far at telephoto. The closest comparable optic is Sony's FE 24-240mm
f/3.5-6.3 OSS for full-frame mirrorless, but at $£ 750$ it has less lofty ambitions.
An indication of how unusual the lens is lies in its optical formula, which comprises 17 elements in 11 groups. But this includes 12 special elements: three aspheric elements, one dual-sided aspheric (DSA), one element made of high-refractive (HR) index glass and two of Super HR glass, and five of extra-low dispersion glass. Olympus has also employed its Z Coating Nano to reduce flare and ghosting. The lens boasts a minimum focus of just 15 cm at wideangle. More practically, it's still capable of focusing on an image area of around $82 \times 62 \mathrm{~mm}$ when set to 100 mm , giving a magnification equivalent to $0.42 x$ on full frame. A petal-type lens hood is included, and the lens accepts 72 mm filters.
The really big deal, though, is the addition of optical image stabilisation. This is only Olympus's second lens to feature this; previously, the firm has relied on in-body


s
stabilisation. It makes the $12-100 \mathrm{~mm}$ an attractive option not just to Olympus users, but also to owners of older Panasonic cameras that don't include in-body stabilisation.
Crucially, though, the lens is compatible with Olympus's Sync IS, in which optical stabilisation and the in-body sensor-shift stabilisation work together for increased overall effect. As a result, when used on the flagship OM-D E-M1 Mark II, the system is rated to provide an improbable-sounding 6.5 stops of stabilisation. With older OM-D and PEN cameras, the stabilisation won't be quite so marked.

## Build and handling

The $12-100 \mathrm{~mm}$ is built to essentially the same pattern as Olympus's other Pro lenses, with a tough metal barrel that's sealed against dust
and moisture. It has finely textured zoom and focus rings, and accented rings around the barrel in gunmetal and blue. A couple of ridged barrel sections next to the mount provide extra grip for mounting and removing the lens.
With a 77.5 mm diameter, length of 116.5 mm and weighing 561 g , this is one of the largest lenses in the Micro Four Thirds system. It's a good fit for high-end bodies such as the E-M1 Mark II or Panasonic G9, but on smaller cameras it can feel somewhat front-heavy. Owners of E-M5 and E-M10 series cameras may prefer using it with an accessory grip. The zoom ring falls perfectly to hand, and rotates through about $90^{\circ}$ from one end of the range to the other. In front of it is the dualmode manual-focus ring (more on this later). On the side of the barrel is a very large image-


## 'With this lens, I've shot handheld at speeds as long as four seconds'

stabilisation switch; potentially confusingly, this controls both the in-lens and in-body IS systems simultaneously, so switching it off disables both. Below it is an L-Fn button, which interrupts AF but can be reconfigured to operate other functions such as depth-of-field preview.

## Autofocus

When it comes to static subjects, the lens focuses quickly, accurately and silently, regardless of the focus distance, or where you place the subject. Likewise with continuous AF, the lens kept up with whatever the E-M1 Mark II asked of it during testing, holding focus on moving subjects at 10 fps or faster.
For manual focusing, the lens is equally well behaved. As with Olympus's other Pro lenses, pulling the focus ring back towards the camera enters MF mode, revealing a distance scale, and with hard end stops to its travel. Alternatively, if you switch the camera body to MF mode, the focus ring can operate in a focus-by-wire mode, which I found offers finer adjustments. The lens behaves as if it is parfocal, that is, the focus distance doesn't change as you zoom; this is achieved by the lens automatically adjusting the position of the focus group.

## Performance

So how does the lens perform in real-world use? This is where things get interesting,

because the $12-100 \mathrm{~mm} \mathrm{f} / 4 \mathrm{IS}$ gives unusually fine image quality for a long-range zoom. Coupled with its implausibly effective image stabilisation, this turns it into a unique and really useful photographic tool.
Optically, it's impressively sharp across the frame at all focal lengths, with just a little smearing in the corners at the wideangle setting. It's pretty much at its sharpest wide open, but l'd avoid using apertures much smaller than $\mathrm{f} / 8$ due to diffraction softening. Unusually, it's nearly as sharp at its minimum focus distance as it is for more distant subjects.
As usual with Micro Four Thirds, chromatic aberration and distortion are automatically corrected in software, so you won't see much hint of either in normal use. Vignetting is too low to be of any practical consequence.
With its $\mathrm{f} / 4$ maximum aperture, this lens isn't going to be your first choice for shooting with shallow depth of field: it'll give similar results to using $\mathrm{f} / 5.6$ on APS-C or $\mathrm{f} / 8$ on full-frame in this respect. But you can still get attractively blurred backgrounds, particularly when shooting close-ups and towards the long end of the zoom.

It's the image stabilisation, though, that sets the $12-100 \mathrm{~mm}$ apart, at least when used on current Olympus bodies. With other IS systems, I wouldn't usually expect to get sharp images at shutter speeds longer than $1 / 2 \mathrm{sec}$; with this lens, I've shot handheld at speeds as long as four seconds and achieved perfectly usable results. This does demand optimum shooting conditions and good technique, but incredibly, it really works. Crucially, it means that when shooting static subjects in low light, you can continue to use low ISOs where you'd have to raise the sensitivity considerably on other cameras. This in turn means that despite the camera's smaller sensor, you can get at least as good or better overall image quality.

## Verdict

I've always liked the idea of superzooms; I shoot quite a lot at wideangle and telephoto, and it's great to be able to do so without swapping lenses. Previously, I never found one that quite makes the grade with respect to image quality. However, Olympus has changed all that with the $12-100 \mathrm{~mm} \mathrm{f} / 4$ IS. I was really impressed when I first used it while reviewing the OM-D E-M1 Mark II, and a year on I still can't believe how good it is.
This lens brings with it an unparalleled combination of high image quality, robust construction, compositional versatility and near-magical image stabilisation. It's not one for shallow depth of field, but it can do everything from sweeping landscapes to close-ups with ease. It's an outdoor photographer's dream. Many will balk at the four-figure sum, but this superzoom really can do it all unexpectedly well, and potentially replace two or three other lenses in your bag. It's a great addition to any Micro Four Thirds shooter's arsenal.


## Data file

Price $£ 1,099$
Filter diameter 72 mm Lens elements 17 Groups 11 Diaphragm blades 7 Aperture $\mathrm{f} / 4-\mathrm{f} / 22$ Minimum focus 15 cm Length 116.5 mm Diameter 77.5 mm Weight 561g Lens mount Micro Four Thirds


## Olympus M.Zuiko Digital ED $12-100 \mathrm{~mm}$ f/4 IS Pro

## Resolution

Like most superzooms, the $12-100 \mathrm{~mm}$ is sharpest in the image centre at wideangle, as confirmed by our Applied Imaging MTF50 tests. It gets progressively softer as you zoom in, but not to a troublesome degree. It's also much sharper in the corners than lesser-quality high-ratio zooms, especially at longer focal lengths. In general, best results are obtained at $\mathrm{f} / 4-\mathrm{f} / 5.6$.


12 mm centre
35 mm centre
100 mm centre
12mm corner ................. 35 mm corner $\qquad$

## Shading

Smaller sensor formats usually suffer less from vignetting, and that's exactly what we get here. At first sight, things might look bad, with a precipitous drop-off into the corners, but it's the numbers that matter and at less than 0.7 stops, vignetting is barely visible in real-world use. Closing the aperture down a stop eliminates the effect, too.


## Curvilinear distortion

With software correction automatically applied at every stage in Micro Four Thirds, most users won't see evidence of distortion. If you go out of your way to look, you'll find an underlying distortion pattern of barrel-type at wideangle and pincushion at telephoto. But it's really only of academic interest.



From shoot planning to powerful editing controls, phone apps are essential tools for photographers today. James Abbott looks at six of the best apps around


Pinpoint accuracy
Mapping and planning apps allow you to check where the sun will rise and fall at any location for the best shot possible.

## Editing

 All apps have an image window to view edits and offer pinch control for zooming in and out. Some apps offer raw support, too.Ease of use
Editing apps often provide one-touch effects for speed and ease alongside a range of manual controls.


## Data file

OS Maps
The Photographer's Ephemeris

| The Photograpier's Ephemeris | Light and location <br> planning <br> Light and location <br> planning |
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| Android 4.1 and above | iOS 8.1 and above | Yes | No | Yes | Android $£ 9.99$; iOS £9.99 |
| Varies with device | Varies with device | No | Yes | No | Free |
| Android 4.4 and above | iOS 9 and above | Yes | No | No | Free |
| Android 4.1 and above | iOS 9.0 and above | Yes | LRand ACR versions | No | Free with in-app purchases |

## OS Maps

- Free and paid options
- www.ordnancesurvey.co.uk

When you head out on a shoot, never underestimate the importance of having a map. Not only does it help you to find locations and plot routes, it's also invaluable when trekking in areas where adverse weather conditions could seriously impede your ability to navigate. In short, if you're in the hills or mountains, having some kind of map and compass can mean the difference between life and death.

OS Maps is a navigation app that offers three types of subscription to help you plan, edit, record and view routes on your smartphone. The basic free account allows you to import GPX files (pre-plotted GPS
routes), and provides access to Standard, Explorer and Satellite maps while online. This last point is important - you must have a data connection for mapping to work. Mobile signals can, of course, be sporadic at best in remote locations, so the free subscription is better for planning and shouldn't be relied upon for navigation.
The second type of subscription is a code that comes with paper maps and allows you to download maps to your device for offline use. You get all the aforementioned functionality, too. The third is the Premium option, which ranges from a seven-day free trial to $£ 3.99$ for one month, up to $£ 25.99$ for a 12 -month period. This option provides access to $1: 25 \mathrm{k}$ and $1: 50 \mathrm{k}$ map scales of Britain online with the ability to save
areas for offline use, alongside the functionality of the free account and additional browser functionality.
To get the best from the app while on location you have to be using an offline version of maps, which means a download code from a paper map or premium subscription is essential. The free subscription is only useful where there's a strong phone signal, and for planning shoots. Downloading maps couldn't be simpler, although the premium subscription can be glitchy. Overall, the app is easy and intuitive, and the ability to use GPS to plot your position with an offline map is extremely useful. Although, when doing this it's essential to carry a battery pack because it will drain your phone battery.



## The Photographer's Ephemeris

- Android $£ 2.79$; iOS $£ 8.99$
- www.photoephemeris.com

The Photographer's Ephemeris was first released as a desktop/browser app in 2009, and then an app for iOS in 2009 and Android in 2010. Since then, it has cemented itself as a photographer's favourite when it comes to planning outdoor shoots.
The developers of the app describe it as, 'a map-centric sun and moon calculator: see how the light will fall on the land, day or night, for any location on earth.' And with a number of map options including satellite imagery from Google Maps and

Apple Maps, you can choose your preferred map type to plan shoots. When using Google Maps, you can press a button to open Google Maps itself or to use it for directions/ sat nav to reach the location. If you do intend to use this feature it's always worth downloading the UK as an offline map within Google Maps itself to avoid problems if your data connection is lost.
The Photographer's Ephemeris is incredibly easy to use, and this is one of the features that makes it so appealing. Plus, you can save favourite locations and select them from a personalised menu. Once the location pin is dropped on to the map, the app shows time and direction of sunrise, sunset, moonrise and moonset, with a slider
to see additional information. You can also set a specific date or move along a day at a time to receive information for that date.
For offline use, you have to keep the required map tile open in the app. So, if you know you're going to be in a poor signal area, make sure you have the desired location set while you have a data connection. Even if you close the app or restart your phone, it remembers the last location, which is really handy. The moon phase, moon illumination and twilight information are extremely useful, as is the light-pollution map, but star and Milky Way information aren't included as they are with Photo Pills. Despite this, it remains one of the best and easiest-to-use apps of its type.

## Photo Pills

- $£ 9.99$ www.photopills.com

If you were to describe Photo Pills in one sentence, it would have to be The Photographer's Ephemeris on steroids. This location-planning app is incredibly comprehensive with a wide range of features designed to help you get the very best from any location in the world, at any time of the day or night. Whether you're shooting a local sunrise or heading to a dark sky area to capture the Milky Way, Photo Pills has everything you need to achieve your shots.
The app offers a planner with maps to see how the sun will rise and set, alongside moon rise and set, phase and supermoon dates. Widgets for both Android and iOS allow you to see instant information
about your current location, which is incredibly useful when out on location or scouting. The planner also allows you to save locations for access at a later date, alongside adding images and notes. Plus, you can open a location on Google Maps to find the best route to a location using the directions feature. This is an essential app for astro and night photographers, thanks to the functionality of the Planner, and also the augmented reality view that allows you to visualise the Milky Way. Other features include a depth-of-field calculator, an exposure calculator for use with ND filters, time-lapse planner, and other features. It certainly feels like the aim of the developers was to create a single app that could do many things outdoor photographers
need. But while some elements are easy to use, others, such as Milky Way planning in the Planner, could be simplified.

Photo Pills is an unbelievably feature-packed app with everything you need and much more for planning and shooting outdoors. With so much functionality comes a degree of complexity, and while with The Photographer's Ephemeris you can simply work your way through the app to find what you need, Photo Pills is less intuitive and requires more time to learn how to use it. There are fortunately extensive tutorials on the Photo Pills website that are essential viewing, and once you understand how it works it really is a fantastic tool.



## Instagram

- Free - www.instagram.com

If there's one app that needs no introduction, it has to be Instagram. It quickly grew in popularity thanks to its one-click photo filters and the ability to share photos and follow others. The ease of its social-sharing aspect led to older filter-based apps falling out of favour.
Today, while the functionality of image editing has been extended far beyond filters, Instagram's greatest attraction is still the ability to follow and be followed. This social element of the app has made it the premier image-based social network for individuals, professionals and companies.

Getting back to editing, many professional and enthusiast photographers process their images on their computers using Lightroom and Photoshop before sending them to their phone to then upload to the app. If you have an image taken on a DSLR or mirrorless camera, this makes a lot of sense, and you can of course still use the filters and editing tools within the app to apply additional effects.
If, however, you're uploading shots taken on your phone, the editing tools and filters are conveniently placed within the interface, providing a seamless workflow from capture to upload. As well as applying filters at varying strengths, you can crop and rotate, and change brightness, contrast, structure, warmth, saturation,
colour, fade, shadows and highlights, vignette, and add a tilt-shift effect.
Since Instagram is a mixture of social network and image editor, there are other editing apps available that provide a great deal more control over your images. While you can achieve fantastic results within the app, competitors such as Snapseed definitely have the edge here. But, where these apps fail is in the social element - Instagram has this covered better than anyone else right now. So, if you're looking for a quick and easy way to share images online and view the work of photographers, share Snapchat-style stories and videos, with the ability to edit images as and when needed, then Instagram is the app for you.

## Snapseed <br> - Free - N/A

Where many apps have tried and failed to emulate Instagram, Snapseed - originally launched in 2011 - has taken a more in-depth approach to editing alone. It was originally launched by Nik Software, but after Google took it over, the app was continued with a host of new and improved features and functionality in later updates.
Functionality has been improved so much that the app can handle both JPEGs and DNGs, which is great if you shoot raw on your phone. With the latter you can, as you'd hope, edit images non-destructively and export them as a JPEG. The controls
are simply too numerous to list here, but here are a few that stand out.
There are 29 filters and tools, including colour effects and grunge overlays, which have always been one of the most popular aspects of Snapseed. These are textures and effects that can be overlaid on any image. They're so good, in fact, that landscape photographer Julian Calverley produced a book called \#IPHONEONLY, which features images he'd taken on his iPhone and processed with Snapseed's grunge overlays.
Other advanced processing tools include healing, local adjustments, structure, HDR, filter brush and perspective control. The localised adjustment with the Brush is incredibly easy to apply, and the
option to toggle the visibility of the mask makes it possible to produce ultra-precise adjustments to brightness, contrast, saturation, temperature, and dodge and burn. Then there's double exposure, where you can blend two images.
Editing is based on touch, and within an editing area you swipe left or right to increase or decrease an effect, or up and down to scroll through sub-editing options within it. Layout is great, and it's easy and intuitive to use. There's no gallery or image organiser built-in as there is with Lightroom Mobile, so you import images individually, work on them, then export the edited version. This is an essential app for all mobile workflows.


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- Free with in-app purchases www.vsco.co

Unlike the other apps here, VSCO filters are also available as Lightroom Presets and ACR Presets for Photoshop CS6 and CC. These filters can be purchased from the VSCO website, and seek to emulate a wide range of classic colour and black \& white films, plus there are themed packs available aimed at specific types of photography or based around an editing style.
The app itself is available for free and offers 20 presets that can be applied to images that you load into the app, or take using the app's camera function. Once images have been
imported or shot using the app, they remain in the gallery/organiser, where they can be accessed quickly.
There are also controls for editing photos, and these can be used exclusively or to personalise one of the presets. They allow you to do all the things you'd expect, such as crop, and control brightness and contrast, but following the overall aesthetic created by the presets. Other controls are aimed at creating retro-style film effects. A great feature is that you can change the order of these manual controls to speed up your workflow.
Just like the Adobe-compatible presets that are available to purchase, you can also buy additional presets through the app. These range from free to $£ 3.49$, and are aimed at specific genres of
photography such as portraiture and landscape, or based around an editing style. The fact that there are quite a few options available that cost just a few pounds helps to make them a compelling purchase.
There is also a community, but it lacks the finesse of Instagram. You can create a profile, follow other photographers and be followed yourself. The platform isn't as popular, but still boasts over 30 million active users. The strength of the app is the stylish retro effects it allows you to apply. Unlike the other editing apps, this is one that makes its money through selling features and functionality to users in the form of preset packs and VSCO X - a $\$ 19.99$ per year subscription service that provides enhanced tools and community content.


## I AM $\star \star \star \star \star$



Over 100 industry leaders were at the prestigious Amateur Photographer Awards recently to see Nikon scoop the top prize of the night, Product of the Year, for the Nikon D850, which AP's Technical team described as 'the best DSLR ever made'.

## Instax Share SP-9 <br> Easy to use

## Amy Davies takes a look at a fun

 instant printer from FujifilmSimply align two yellow markings and shut the door to load the film.

INSTAX is Fujifilm's instant camera and printer brand. The SP-3 is a wireless printer that connects to your smartphone or tablet to print any photo stored within (whether taken on your phone or otherwise). If you have one of Fujifilm's newer cameras, such as the X-E3, you will also be able to send your shots taken on the camera directly to the printer.
Images are printed at $800 \times 800$ dots at 300 dpi , which Fujifilm says is designed to show detailed gradations. However, high clarity is not the point of products such as this; rather, they are designed to produce quirky mementos. The full size of the film is $86 \times 72 \mathrm{~mm}$, but the 'window' in which the print appears is $62 \times 62 \mathrm{~mm}$.
If you're not familiar with Instax film, it uses chemicals that react inside the paper to produce colours. You can buy a 10-pack of Instax Square film for around $£ 8.95$, making it roughly 90 p per shot. With a full battery, you can expect 160 shots - given that equates to 16 packs of film (costing more than $£ 143$ ), it's unlikely to run out during a printing session.
There are only two physical buttons on the SP-3: Power on and Reprint. The rest of the operation takes place via the free app (for iOS and Android). The app offers a variety of options, including simply printing a shot as is, creating a collage and adding digital filters. If you've got shots in non-square ratios, such as $3: 2$, you'll be given the option to select your own crop.
You can also connect the app to the likes of Facebook. While this is handy, images are harshly compressed when uploaded to social-media sites, so it's preferable to print the original file.
The shot will be printed and ejected in fewer than 15 seconds, but you'll need to wait for it to develop, as it takes a few minutes for the full colour to properly appear.

## Verdict

Prints from the SP-3 display a good level of vibrancy, and are reasonably detailed. Images with areas of high contrast can suffer from a loss of both highlight and shadow detail - which is something to consider. As long as you don't expect \% complete accuracy, then you should be happy with the finished result.

Although fun, prints like this are a little gimmicky, and at a relatively high price of 90p a go, it's debatable how much use you'll get out of the SP-3. Still, it makes for a nice addition to special events, such as weddings or birthday parties.

At a glance

- Uses Instax Square film ( $62 \times 62 \mathrm{~mm}$ )
- Available in black or white
- Prints wirelessly from phone, tablet or Fujifilm camera
- Rechargeable battery

USB charging
Give the SP-3 a power boost by charging via USB.

Print display LEDs indicate how many prints you have left.

Film slot
The Instax print pops out of


## CHOICE OF SIZES

Instax now has two film sizes to choose from. The original Instax Mini format produces smaller, credit-card style prints that measure $2.1 \times 3.4 \mathrm{in}(54 \times 8 \mathrm{mmm})$, with an image window of $1.8 \times 2.4$ in ( $46 \mathrm{~mm} \times 62 \mathrm{~mm}$ ). These can be used with the Fujifilm Instax Share SP-2 printer, as well as a range of instant cameras. The newer Instax Square format, reminiscent of traditional instant prints land, of course, modern square Instagram images) as used in the SP-3 can also be found in the Instax Square SQ-10 camera, which is essentially a low-resolution digital camera with an inbuilt printer.


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QIn a local charity shop, I saw an old film camera - a Voigtländer Vito B, priced just £5. I fell in love with it and bought it. It's the first film camera that I have ever owned, or even held, come to think of it. I believe it uses 35 mm film but don't have any yet. I am a bit worried that the camera is faulty because the shutter button doesn't do anything. I know this camera is entirely mechanical and doesn't use batteries. My father pointed out that a lever needs to be used to make the shutter work, but it doesn't seem to work. He used to have a film camera, but not like this. Do you have any suggestions? I don't want to order some film if the camera doesn't work. If the camera needs repair, will it be expensive?

## Zane Hanning

Ahe Voigtländer Vito B was produced between 1954 and 1960 and is a very good choice for starting out in 35 mm film photography. There were two versions made, with the older having a smaller viewfinder. You can run an internet search to find photos of the two versions


Try as we might there just wasn't enough information to read the text
and compare them with yours. Hopefully, your experience with the shutter not cocking is simply because there is no film in the camera. When you advance the film wind lever, it pulls the film across the sprockets, which is the rotating cylinder inside the camera that has pegs sticking out at the top and bottom. It's the rotation of this that cocks the shutter. You can still cock the shutter without a film loaded by gently rotating the sprockets manually. If that still doesn't work, it could mean the camera needs to be serviced. It's difficult to estimate the cost of servicing a camera. A good place to start is Luton Cameras, whose repair service has an excellent reputation. Give them a call on 01582458323 for best advice.

## Deblur

QI need to deblur the text in an image. I've attached the image (see bottom left). Can you tell me what the writing says? I was just helping out a friend who wants to know if this person is her classmate from high school or not.

## Nancy (AP forum)

ASadly, the answer is no. The photo you supplied has probably been reduced in size. Even if it was the original camera phone image at highest resolution, it still would have been tricky to deblur because of the overall sharpness of the image. It doesn't look like it's in focus, and/or there is shake blur. The lighting doesn't help and nor does the reflection off the mirror. We are all used to amazing feats of optical resolution thanks to the imaginations of TV and movie directors, but in reality the scope for extracting details in this way are quite limited unless you're using the right equipment.

Q\&A compiledby Ian Burley


Nikon D500 MultiCam AF sensor module

## Getting to know Nikon AF

QI have used Nikon cameras for many years, and have been very pleased with the improvements in autofocus (AF) over the years. The latest incarnation of the AF module installed in my D500 has 153 AF points and 99 cross types. The technical notes say that it is the most advanced AF system ever produced by Nikon, and that its performance is outstanding. My question is, does all this really matter if I only use back-button focus? And the supplementary question, if I use back-button focus, do I need to understand the intricacies of the multi-cam AF module?

## Jeremy (AP forum)

ABack-button focusing is still autofocusing. It's just that you make the camera focus using a nominated button on the back of the camera, so you leave the shutter release free to do one job instead of two. In one sense the camera industry, including Nikon, has purposely developed AF systems to be as smart as possible, so you don't need to worry about how they operate. However, if you take the trouble to understand the intricacies of the AF system of your camera, it can help your photography. For example, the reliability of the AF can be affected by some lenses. Cross-type AF points will work reliably with certain target shapes compared to non-cross type AF points. You can configure the camera to shoot whether an AF point has locked or it has not. I can go on. In the end if you are happy not to know these tricks and you get good results, that's fine. Otherwise, there are benefits in getting to know your AF system better, regardless of whether you use back-button focusing or not.

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(ome cameras have obscure or esoteric names, for example, the Olympus Ecru that I wrote about in AP 2 December. But there's no mystery with this offering from Agfa - its onomatopoeic name sums it up perfectly. The Clack is dumpy, chunky and boxy. Also, at first sight, you might think the Clack takes square photos, but in fact it shoots $6 \mathrm{~cm} \times 9 \mathrm{~cm}$ negatives, giving eight exposures out of a roll of 120 film.

I'm in my fifth decade of camera acquisition, and really can't remember where this one came from. It resurfaced in a box of 'junk' cameras that l'd consigned to the loft many years ago, before I set about using a different one each week. My guess is that it came from a jumble sale in the early 1970s.

The Clacks were made in Munich from the mid-1950s to the mid-1960s; earlier models were made from metal, but later examples, like mine, were plastic. The specifications are pretty basic, though simpler cameras do exist. Two focus distances are marked: 10ft to infinity and 3-10ft, the latter being achieved by swinging in a supplementary lens rather than by moving the lens forward.


The Agfa Clack gives only eight exposures on a roll of 120 film


Kemplen used post-processing to clone out some intrusive posts and a chain
The single-speed shutter also has a ' $B$ ' setting, allowing for long exposures if needed, but there's no provision for the use of a cable release, which rather limits its usefulness.
Two metal protrusions on the top of the camera are for attaching a proprietary flashgun, so it would have been possible to take photos indoors if you were so inclined. There's a short strap on the side which you can slip a couple of fingers under to help grip the camera when shooting.

## Shooting with the Clack

 Although colour film would have been available 60 years ago when the Clack was in production, most users of these simple cameras would have stuck with black \& white, so that's what I decided to do, loading it up with Fuji Acros ISO 100 negative film. With only eight exposures to play with, I had to resist any urge to be trigger happy and chose my subjects carefully, also sticking to lighting conditions which such a simple camera could cope with. I found the lens to be surprisingly sharp,
## 'At first sight, you might think the Clack takes square photos'

and it would certainly have been more than adequate for contact prints, which were quite possibly the norm for Clack users, given that enlargements are pricey and more demanding when it comes to lens quality.
Considering that without exception, my negatives are scanned rather than darkroom printed, it will come as no surprise that I'm not an analogue purist and have no qualms about low-level post-processing adjustments to my images. Generally it's nothing that you couldn't do in a chemical workflow, but occasionally I go beyond what would be practical in the predigital era. In the photo above, for example, I cloned out some intrusive posts and a chain that was placed to prevent visitors from getting too close to this sculpture at Chatsworth House in Derbyshire, which also ruined the scene for photographers!

Tony Kemplen's love of photography began as a teenager and ever since he has been collecting cameras with a view to testing as many as he can. You can follow his progress on his 52 Cameras blog at 52cameras.blogspot.co.uk. More photos from the Agfa Clack at www.flickr.com/

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Vision, in the sense of 'a unique personal way of seeing', is easier to recognise than to define. If you need help in recognising it, go to www.photomh.com - the 'mh' stands for Michael Hassoun. Just about every picture on the website betokens a unique and powerful vision.
As happens so often, it was difficult to choose a single representative picture. I hesitated before choosing this one because it is so spectacularly Jewish: the young man on the left, the old man on the poster/ advertisement in the middle, the young-to-middle-aged man in the shtreimel (fur hat) on the right. And, of course, the Hebrew writing is a big giveaway. But then there's the rainy street, traffic lights, pedestrian crossing, weather-shredded notices on the utility pole: stuff we've all seen a million times, whether we're Jewish
or not. I didn't want to focus only on the Jewish aspect of his photography because there is much more to it - but it worked. We all live our lives against backgrounds, and it's a good idea to think more about the backgrounds that unite us than about the clothes that divide us. In the 1990s I lived in Minnis Bay on the Kent coast, a favoured holiday destination for Hasidic Jews. Why? I found out when I asked one. It was one of the first seaside resorts to be served by the railway, in 1863 . This meant that it was easy to get kosher food from London. And the Hasidim kept the habit. But they liked the beach as well.

## Uniting familiarity with unfamiliarity

 It was the interplay between people and backgrounds that repeatedly fascinated me in Michael's pictures. Both the people and backgrounds are often, to a WesternEuropean eye, 'exotic'. But equally, to quote a Greek I met in Bristol, 'We are all just peoples.' The combination of (near) absolute familiarity and (near) absolute unfamiliarity, all united by Michael's (near) unerring eye, makes for a wonderful website; though I'd be even more delighted to see an exhibition of original prints.
He still uses what I regard as real (film) cameras, though he scans his negatives rather than makes wet prints. Knowing that you have 'only' 36 pictures on a roll, instead of 200+ on a memory card, concentrates the mind: utter familiarity with your equipment leaves you free to concentrate on taking pictures. Too many of us are distracted, too often, by changing cameras, lenses and even media. Or perhaps that's just something we need to tell ourselves, to make excuses for why we're not as good as he is.

Roger Hicks has been writing about photography since 1981 and has published more than three dozen books on the subject, many in partnership with his wife Frances Schultz visit his new website at www.rogerandfrances.eu). Every week in this column Roger deconstructs a classic or contemporary photograph. Next week he considers an image by Jack Delano.

# The latest new Canon products coming soon to Park Cameras! 

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[^1]:    

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