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How to Avoid the Usual Clichés

Handheld Light Meters

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Sony a7S, Nikon D810 Tested

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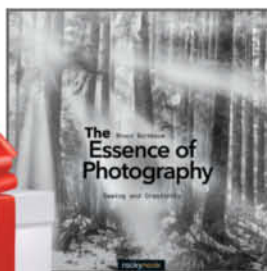
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What do soccer fans, Tokio Hotel devotees and hobby chefs have in common? They all get quite emotional when discussing their favorite subject. Even standard lenses can cause hot debate among photographers – a tendency that definitely spiced up this issue’s lens test.

When I asked our in-house photographer to take some shots of our 50mm Sigma Art-series test lens, he protested that we would never get him to mount a Sigma lens on his camera, even though I only wanted him to photograph it! He uses manufacturer’s own-brand or Zeiss lenses only and simply couldn’t believe that Sigma now creates lenses of comparable quality. He picked up the 50mm and looked at it from every angle, twisted it, tapped it and checked it out in detail until he finally discovered that if you press really hard on the barrel, the focus ring becomes less easy to rotate. If you look hard enough, you are sure to find something you don’t like, and he assured me this would never have happened with a Zeiss lens. But let’s face it, Sigma cannot hope to duplicate decades of Zeiss lens-making experience within a couple of years of starting its new quality initiative.

Prejudice disappears completely in the lab. We had to look hard to find the differences between the Zeiss Otus and the Sigma, but they do exist and you can find out all about them in our test on page 20. I have now added another third-party lens manufacturer to my list of those to check out when I am on the lookout for high-end lenses, and I am curious to find out whether experienced pro photographers end up feeling the same way.

Have fun with this issue, whichever brand of lens you prefer!

Sophia Zimmermann

Sophia Zimmermann



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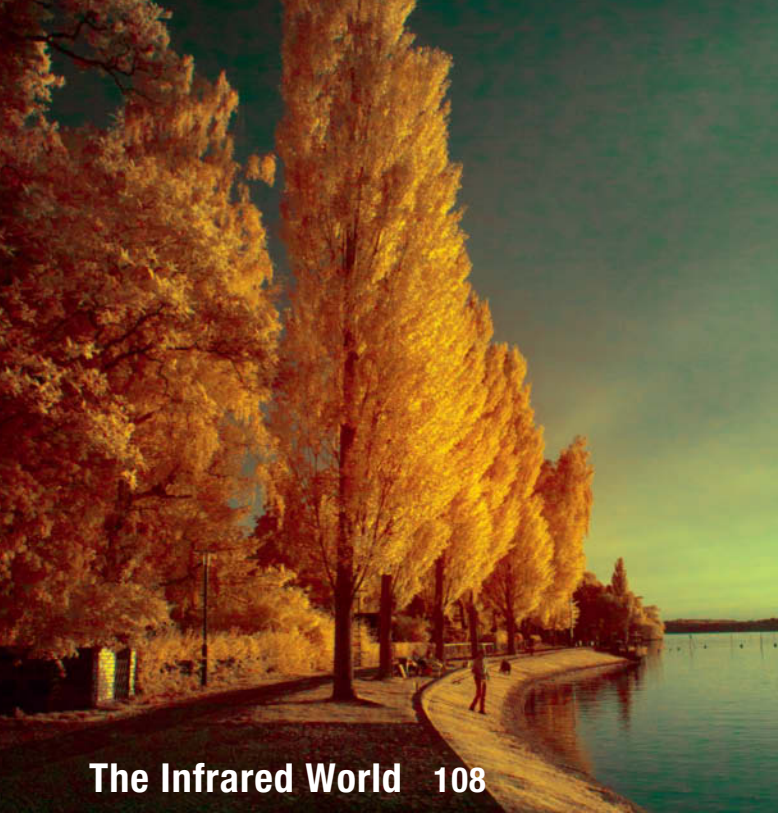
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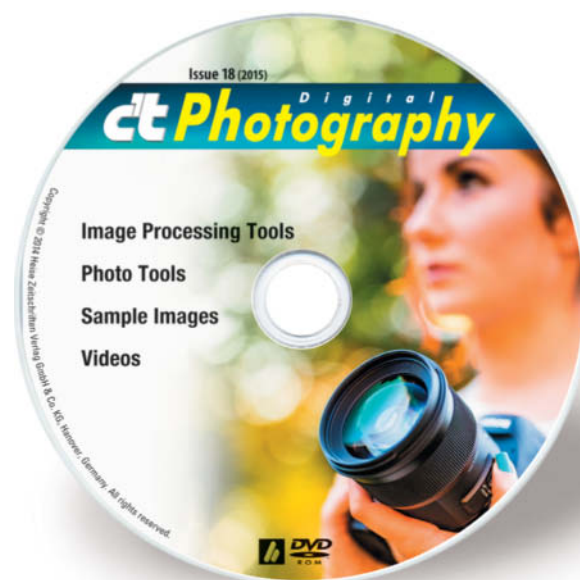
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Full Version Software: Photomizer Retro

Photomizer Retro provides you the tools you need to give your photos a cool old-school look

Videos

- X-ray Photography with Nick Veasey
- Creating an Analog Look Using Continuous Light
- Old Lenses on Modern Cameras



Readers' Letters



DSLR or Camcorder?

Is there a single camera (DSLR or Camcorder) that can produce both digital still photos and videos that are high quality (equal to or close to full frame sensor quality) that can also be manually controlled for both still photography & videos? I'm an advanced amateur (on a fixed income) but consider myself a "creator" not a "techie", hence the very basic questions... I know what's important for a DSLR and still photography but not certain what's important for a camcorder. Apart from frame size, frame rate and bit rate, what other items are important for control and quality in a camcorder? Should I consider something like the Sony Cyber-shot DSC-RX10 (marketed as a still camera) for still and video or the Sony HDR-CX900 (marketed as a camcorder) for video and still? Both have fairly large 1-inch sensors so I'm wondering if either will be able to deliver "output & control" that is equal to the other for both still images and video. Is this a dream or does this type of camera exist at this point in time?

Edward Michael

'All-round' cameras always involve compromises, but overall still and video image quality is improving all the time. A camera such as the Panasonic Lumix GMC-GH4 (see page 38

in Issue 17 for a review) includes true pro-grade video features while preserving high-end still image control and quality. Such features are quite expensive and the inclusion of high-end 4K video signal processing means that this particular model is no bargain. If you don't need true HD video, the previous GH3 model is a feature-rich camera that is nevertheless capable of capturing 60 full 1080x1920 frames at high bit rates.

Test Charts for Readers?

I just picked up my first issue of *c't Digital Photography* at a bookstore and I was very impressed. The in-depth reviews are well detailed and documented but are not so technical that I couldn't understand them. I didn't feel as though certain aspects were being "overlooked" in order to serve more as an advertisement for the company whose products were being featured. (That's the impression I often get when reading mags like *Popular Photography*.) I have yet to delve into the DVD, but I'm eager to do so. I noted several of the test charts used in the articles, like the Siemens stars TE 268 lens resolution chart but, when I searched online, I saw that such a chart goes for over €830, so I began to wonder. Could *c't Digital Photography* include a test chart which readers could print up on their own? Or would the resolution/color be too difficult to reproduce on users' printers to make it practical?

Joel Brondos

This is a fine idea that is unfortunately extremely difficult to execute. The test charts we use come from a certified lab called Image Engineering and, to ensure maximum resolution, are produced using a special printing technique on an appropriate substrate. It is simply impossible to achieve similar quality using a conventional inkjet printer. Additionally, the charts only work

properly when utilized in conjunction with custom analysis software, and the shooting conditions (especially the lighting) have to remain precisely constant. However, there is nothing to stop you creating your own test chart for home use using the sample images and test shots on the DVD we include with every issue of the magazine.



Image: George Lepp

Micro Photography

Your recent article on micro photography (see *Issue 16 - Ed.*) caught my interest but I am unsure where to find the RMS thread adaptor for my 77mm Nikon f/2.8 zoom lens. I want to buy the Nikon microscope objective mentioned in the article, but it is not clear where I can acquire the RMS adaptor to fit. Do you have more specifics on what I am looking for and where I may find it?

Richard Bryant

RMS thread adapters are available from a variety of sources through Google and on eBay. Your search should include the words "RMS adapter" and you need to purchase the thread size that fits the filter of the lens you wish to mate the microscope lens to. This may take two adapters – one for the RMS and another to step up from the lens filter size to the opposite end of the RMS. Most of the RMS thread adapters I came up with were 42mm to RMS, which means you would then need an adapter from 42mm to your lens filter size to finish the setup. (George Lepp)

c't Digital Photography Now on Android

The *c't Digital Photography* app for browsing and reading our top-notch content is now available for Android. The new app includes search, bookmarking and sharing functionality and is virtually identical to the

iOS version. You can use your subscriber login details to access all issues, regardless of when your subscription actually began. The app is compatible with Android 4.0 and higher and is available on Google Play.



Tell us what you think:

We are always happy to receive your comments and suggestions in a letter, an e-mail (editor@ct-digipho.com) or at www.facebook.com/ct-digipho. We reserve the right to abbreviate your input for publication. Our comments are printed in italics.

Focus Stacking

I was about to order the *StackShot* software referred to on page 57 of Issue 16 when I read Randy Lund's reader letter in Issue 17 describing how he used *Photoshop* for the same task. First, I was wondering whether he would have had 100% success had he used *Helicon Focus* or *Zerene Stacker*? Secondly, he does not state the length of the lens he used. I would have thought that the problem he had would be reduced had he used a 180mm or 200mm 1:1 or 1:2 lens.

Stanley Robinson

It's not an issue of focal length per se but of ratios. Consider a scene with a near focus plane A and an object of height X located at it, and a far focus plane B with an object of height Y in it. At close focus (i.e. at A), X has an image height of N, and Y an image height of M. The ratio of the sizes on the sensor is N/M. As you move the focus plane toward B, the value of N/M changes. The effect is different depending on whether you move the focus plane by adjusting focus or by moving the whole camera/lens assembly to keep focus constant. In either case, you cannot adjust the image size such that AX, BX, AY and BY completely align. In theory, this could be corrected only by using the appropriate thin slice of image as you move from front to back, thus eliminating the offending material. In my experience, Photoshop does not do this adequately.

A longer lens would help in some cases, as it impacts the apparent perspective and the ratio of initial sizes. If that is not an issue with the desired image, a longer lens helps. The math used to develop my earlier the arguments is based on optics equations and idealized targets, and the subject plays a role here too. The factors that impact how software renders a result are a) Subject clarity/contrast, and b) The 3D nature of the subject. Unfortunately, my test subject comes up short on both. Most stacked images are of naturally sharp, quite high-contrast subjects such as watch internals etc. My lily had quite low contrast and I can see how Photoshop may have had some issues finding 'best focus'. A lot of the pictures (like the watch) are actually fairly flat even if not aligned with the sensor. My flower was seriously 3D in that there are places all over the frame that would be in focus in a number of different planes. The complexity of the in-focus plane may have contributed to the issue. Final point: the math part is correct but we don't photograph equations. This is an issue that I think you need to be aware of and may require a bit of experimentation to get around if it becomes a problem. However, I don't think it's a killer and I plan to continue working with the technique. (Randy Lund)



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DVD Highlights & Contents

Photomizer Retro

Full version software: Photomizer Retro gives you the tools you need to give your photos a cool retro look.

Why not turn things around and add some of the imperfections that characterize analog images to your digital works of art? *Photomizer Retro* offers a wide range of preset looks for simulating images produced by historic camera models and films. If you are not satisfied with the effect of the preset profiles, you can use the built-in filters to add grain and

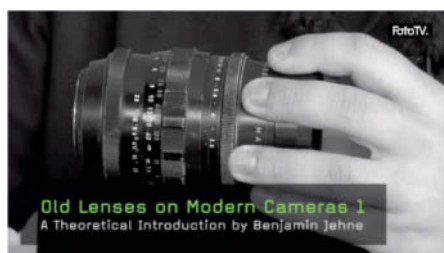
vignette effects. The program's interface is simple to use and enables you to select the desired filter effect with just a couple of clicks. A slider then enables you to compare 'before' and 'after' versions of your image. You can save your settings as default profiles that you can then apply to other images or sets of images in batch mode.



Use of the full version software requires registration from within the installer interface. Once you have registered, you will receive a free serial number from the manufacturer via e-mail and an upgrade offer for the *Photomizer Pro* image editing suite. This offer gives you a US\$40 discount and is valid until April 30, 2015. (tho)

Old Lenses on Modern Cameras

Video tutorial: Many analog lenses are still useful in the digital age. In this video, pro photographer Benjamin Jehne explains which models work best and why.



The market for used analog lenses is alive and well, and many optics still change hands regularly online or at real-world swap meets. Among various others, Benjamin Jehne names the Micro Four Thirds-format Olympus PEN and E-mount Sony NEX cameras as particularly suitable for this kind of use.

Using a 60-year-old 135mm Pentacon as an example, Jehne explains the pitfalls to watch out for when mounting a legacy lens on a

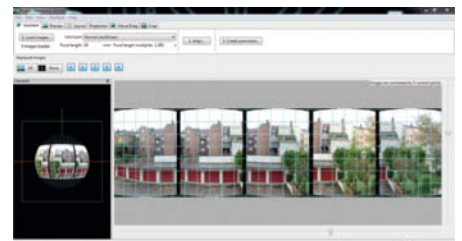
contemporary camera. In this case, he recommends using an APS-C camera body with the 35mm-format lens. This approach utilizes only the center portion of the image circle projected by the lens, thus eliminating lens errors such as unwanted blur at the edges of the frame. Jehne says, "The geometry of legacy lenses isn't as precise as those built using today's technology, but many models nevertheless offer excellent center sharpness, even at wide apertures."

Alongside sheer curiosity, low prices are another good reason to experiment with legacy lenses: a used 50mm Pentacon can often be purchased at eBay for as little as US\$40.

To round out his tutorial, Jehne explains how to use an adapter to mount an M42-threaded lens on a Canon DSLR and provides details on what to look out for when choosing an adapter for your own camera (sea)

Creating Panoramas with Hugin

Open source software: With its simple-to-use interface, *Hugin* is the perfect program for creating simple or complex panoramas.



Panoramas are a great way to give large subjects special emphasis and are often used to give landscape and architectural subjects extra punch. In analog times, you had to use costly special-use cameras with a rotating 'swing lens', such as the Hasselblad XPan or the cheaper Horizon 202, to shoot effective panoramas, but digital technology has changed all that.

Today's panoramas are created using a sequence of digital source images that are 'stitched' together using specialized software. Many photographers use the dedicated functionality built into *Photoshop* to create panoramas, but many prefer to use the pro-grade, open source *Hugin* package.

The hardest part of creating panoramas is making sure that perspective in the source images matches, and *Hugin* offers a range of powerful tools that take the guesswork out of the job. You can choose between various panorama formats, such as full spherical (equirectangular and cubic) and 'partial' (cylindrical, arc-formed, rectilinear and partial spherical). Full spherical formats display the entire sphere that surrounds us (360° along the horizon plus 90° up and down), although specialized viewers such as *PTViewer* or *SPI-V* are required to view them. Partial formats don't fill the entire sphere in one or the other direction and can be displayed directly by most common image viewing software if they cover 120 degrees or less along their shorter side.

The most commonly used formats are 'cylindrical' and 'rectilinear', although you can use the software to create partial spherical panoramas too. (sea)

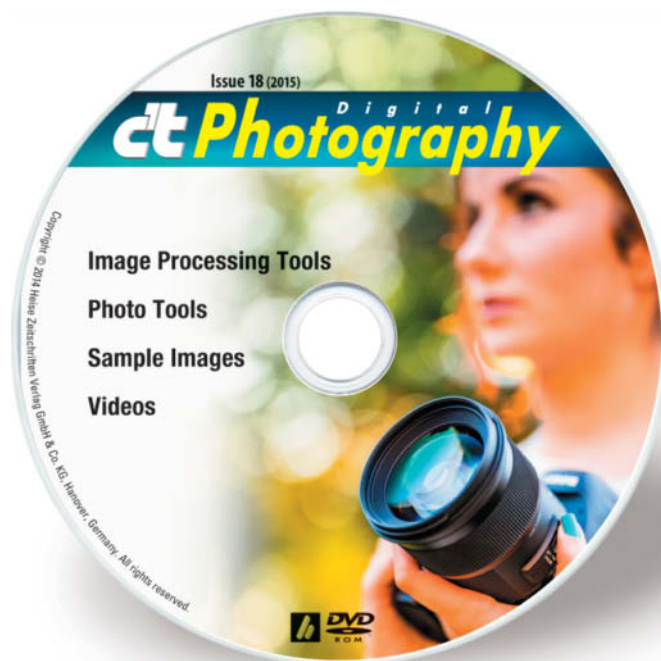


Image Processing Tools

Windows

Artweaver Free 4.5.4
 GIMP 2.8.14
 GIMP Portable 2.8.14
 GREYCs Magic Image Converter (GMIC) 1.6.0.1
 HeliosPaint 1.7
 Hugin 2013.0.0
 Photomizer Retro 2.0.13.308 Vollversion
 PSPI 1.0.7
 StylePix 1.14.4.2
 StylePix Portable 1.14.4.2

Mac OS

GIMP 2.8.14 for Mavericks and Yosemite
 GREYCs Magic Image Converter (GMIC) 1.6.0.0
 GREYCs Magic Image Converter (GMIC) 1.6.0.1
 64-bit
 HeliosPaint 1.7
 Hugin 2013.0.0

Linux

GREYCs Magic Image Converter (GMIC) 1.6.0.1
 32-bit
 GREYCs Magic Image Converter (GMIC) 1.6.0.1
 64-bit
 HeliosPaint 1.7
 PSPI 1.0.5 for Ubuntu
 PSPI 1.0.7 for SUSE 10

Photo Tools

Windows

AmoK Exif Sorter 2.56
 ExifTool 9.74
 Gallery 3.0.9
 Helicon Photo Safe 4.20
 IrfanView 4.38
 IrfanView PlugIns 4.38
 IrfanView Portable 4.38
 PhotoRec 6.14
 WordPress 4.0
 XAMPP 1.8.3
 XAMPP Portable Light 1.8.3
 XnView 2.24
 XnView Portable 2.24

Mac OS

AmoK Exif Sorter 2.56 32-bit
 AmoK Exif Sorter 2.56 64-bit
 ExifTool 9.74
 Gallery 3.0.9
 MacPorts 2.3.2
 PhotoRec 6.14
 WordPress 4.0
 XAMPP 1.8.3

Linux

AmoK Exif Sorter 2.56 32-bit
 AmoK Exif Sorter 2.56 64-bit
 ExifTool 9.74
 Gallery 3.0.9
 PhotoRec 6.14 32-bit
 PhotoRec 6.14 64-bit
 WordPress 4.0
 XAMPP 1.8.3 32-bit
 XAMPP 1.8.3 64-bit

Videos

Analog Looks in Continuous Light
 X-Ray Photography with Nick Veasey
 Old Lenses on Modern Cameras, Part 1
 Shower Curtain Diffusor – Soft Light on the Cheap

Sample Images

Camera Test Sample Images
 Lens Test Sample Images

Get in the Picture



c't Digital Photography gives you exclusive access to the techniques of the pros

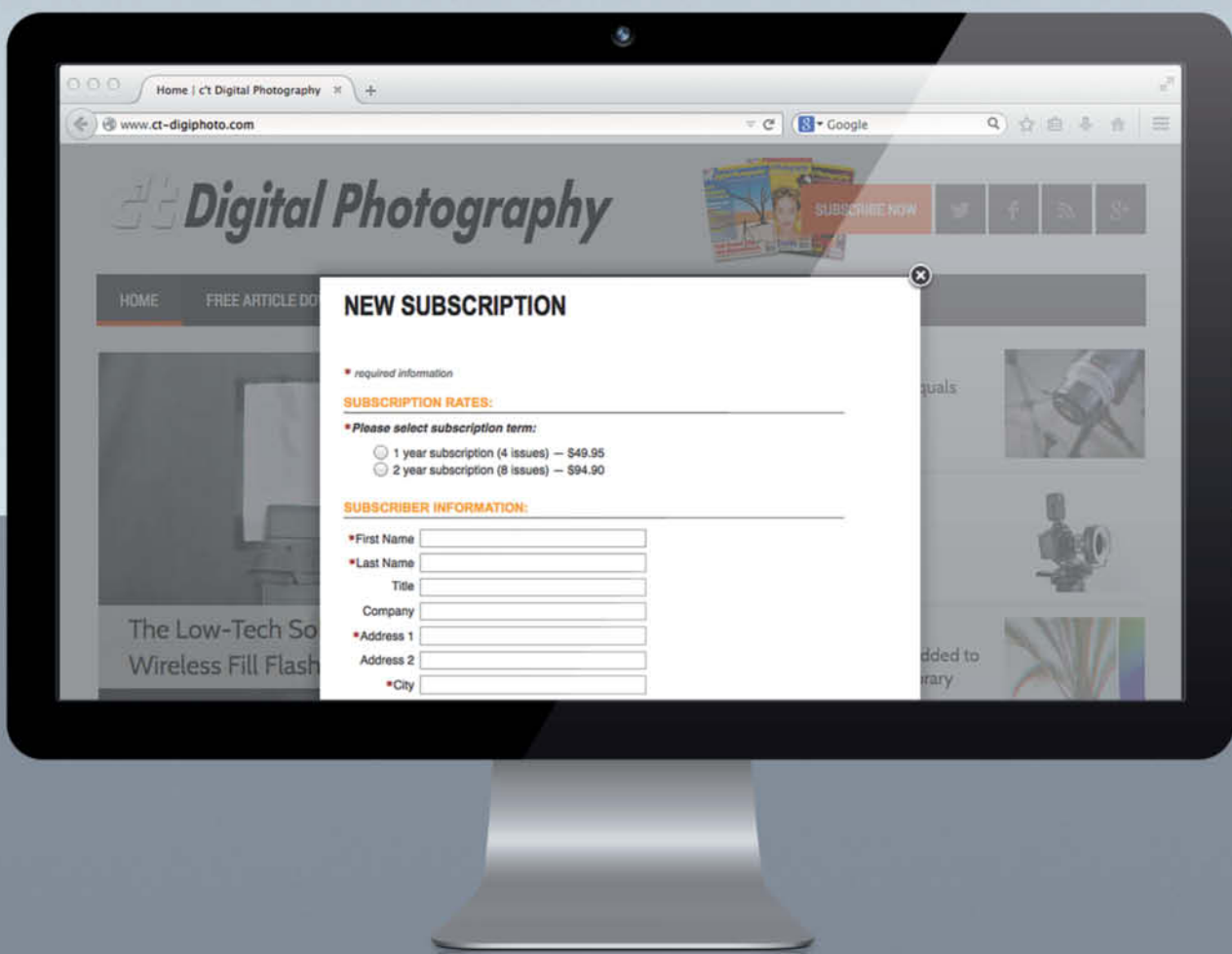
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Portfolio

Insa Cathérine **Hagemann**



What is it like to have a career that has dominated your every waking moment come to an end in mid-life? You stand on the stage for the very last time ... the final applause dies away, the curtain falls. What does the future hold? How do you feel?

When French dancer Karine Seneca performed a lead role at the Hannover State Opera for the last time, she was also stepping out into an unknown future. On stage since the age of 17, she performed in Zürich and Boston, as well as with the Deutsche Oper in Düsseldorf and Duisburg. Life was full and busy, and 'afterward' was something she did not waste time speculating about. "I've lived so many different lives, I don't want to start another new life from scratch and have to find new friends again."

Inevitably, she couldn't continue to perform for ever. Twenty years of pressure to remain at the top of her game took their toll; age and arthritis in her feet left her no choice. She had to admit "it was time to say goodbye."

German photographer Insa Cathérine Hagemann picked up the story at that point and accompanied Seneca for several months, documenting not only rehearsals and performances but also the private moments. The resulting sequence beautifully and compassionately portrays Seneca's life immediately prior to the end of her stage career and her preparations for a fresh start in her home city of Cannes, where she intended to find focus and a new direction. "It's the right time – it's time to make a new life," Seneca kept telling herself, still feeling somewhat out of place until she eventually found the way forward in her new role as a ballet teacher.

Insa Cathérine Hagemann, 31, studied photography under Professor Rolf Nobel at Hannover University of Applied Sciences and Arts between 2007 and 2013. She has freelanced for the local broadsheet (the 'Hannoversche Allgemeine') since 2011. (keh)

To see more of Insa Cathérine Hagemann's work, visit

www.insahagemann.de

In this issue's portfolio, Insa Cathérine Hagemann's sympathetic portrayal of the final days of a top ballerina's career demonstrates perfectly how to tell a striking story using serene, unruffled images.

