

DIGIT

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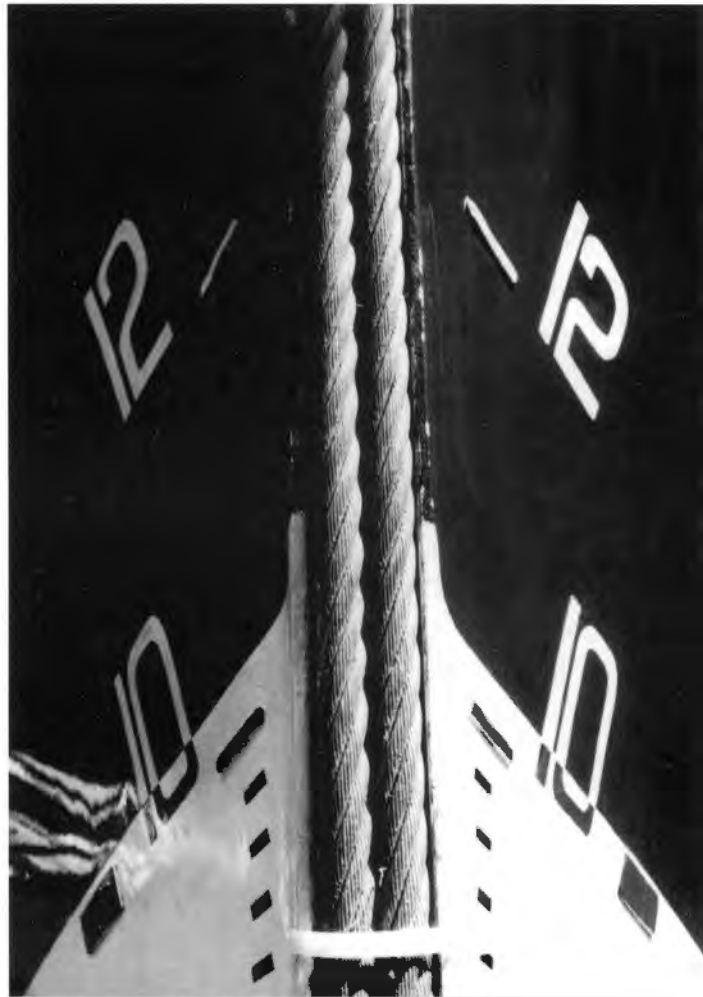
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The Royal Photographic Society
Digital Imaging Group

Digital all the way

"100% Digital Photography" and "100% Digital Imaging" (one of the same thing) Both names which I have chosen to apply to:- 'The creation of photographic images by purely digital means'.

Whilst having enjoyed (to say the least !) my period of 'wet' photography, I soon became frustrated by the limitations imposed by 'darkroom technology' and my inability to create the sort of imagery I saw in my own mind, so, some seventeen years ago, I turned my back on photography.

About five years ago I got 'into' computer graphics, manually creating 'artwork' on my home PC, this was incredibly enjoyable and to a great extent satisfied the 'artist' within me. Then the earliest little black and white hand scanners came out, and this added yet another new dimension to the 'creative' process.

Then the first hatch of 'mainstream' digital cameras came on the market. Talk about one-and-one-makes-two !! Digital Camera - Home PC - Inkjet Printer !! The potential was so blatantly obvious I simply had to get my hands on one as soon as possible. Having selected the Chinon ES-3000 from a short-list of three, I next sold my entire Mamiya 645 outfit, with lenses, to finance the purchase of this monstrously inferior chunk of plastic wizardry. (I can hear the gasps of horror and disbelief from here !!) I was well aware that the price of these 'fledgling' digital cameras would fall at a colossal rate, and that in time, they would be looked-back-

on as merely 'toys', as in the case of the ZX81 when compared to today's desktop PC's. But that didn't matter, I knew, even before it arrived on my doorstep, that this was what 'creative photography' had been waiting for. For the millions out there who, like me, have a need to create imagery, who require to express themselves artistically, who have a desire to investigate and experiment with potential possibilities, there can be no other equal to this new-age format.

Admittedly, as things stand at the moment, if your desire is to retain full photographic quality, there is little doubt that 'scanning-in' 35mm is the way to go, (what I call "75% Digital Photography") but that will not remain the case indefinitely. Mainstream digital camera images will, in time, surpass the resolution of 35mm film (and beyond), and processor speeds will be up to the task of manipulating them in 'real time'. At the moment however, the average home-PC setup struggles to handle the 'monster' image files, such as those produced by the likes of the Nikon CoolscanII from 35mm slide, and progress is painfully slow, especially if you're working your way through some seriously heavy-duty manipulations. For me the creative process require 'fluidity of movement', the ability to work in 'real-time', any significant hesitation in the 'flow' distracts from the natural progression of the 'piece', and the thing becomes forced and in some way 'unnatural'.

So for the time being I will stick with my 'diminutive' images files, but

don't get me wrong, it's not that I'm in any way disenchanted with the format, I can honestly say, with my hand on my heart, that I have never, but NEVER, had so much fun as I'm having at the moment. It is, for me, without doubt, what photography has all been about, all these years, only it's only just got here, and if you stop to think about it ,,," it's only just begun !!

It is simply the greatest thing to have happened to artistic expression since cave drawing !!

But what about my 'panel' ??? Compared to the overall effect that 'digital' will have on the future of photography, my panel is of little consequence. Thanks to 'digital' in general, and hopefully '100% Digital' as things progress, there will be an upsurge of interest in photography, the likes of which we have not seen before. As I've just said, this is what photography has always been about, only it's only just got here. The future is 'seriously' exciting !!

Barry Colquhoun ARPS

The first ARPS to be awarded for a panel produced entirely by digital means.

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The 100% digital panel

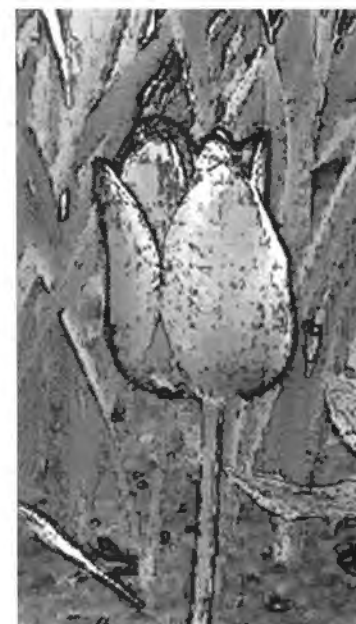
The selection contains a variety of techniques, each of which has been developed to satisfy the requirements of the individual image. From the earliest and smaller 'portraits', through to the later and much larger 'flower' images, the source of the base image has always remained constant, the Chinon ES-3000 640 x 480 pixel 24bit full colour digital camera.

I included, as well as the required 'panel layout' diagram, a printed page containing as many of the 'original' Chinon images as I could find stored on my hard-drive, in order that it was possible to assess the validity of contribution that creative manipulation has played in the development of the base images up into their final and completed versions.

I viewed my submission much more as an application on behalf of 100% digital imaging as a whole, rather than simply a personal desire for the recognition of my own abilities.



All these images were originally in colour. Some were included in Barry's ARPS panel. Visit his web site to see these and other pictures.



Gallery

Frosty Tree

This is a combination of two manipulated images. The tree slide was increased in contrast until the tree was black. The tree was then masked with a wide feather to produce the white "frost" surround to the black branches and then cut to the clipboard. The background was originally an evening recession view in shades of yellow. The contrast was increased and the hue adjusted to produce a range of night time blues. The tree was then pasted into this image. The software package used was Picture Publisher 5 which I find to work much faster than Photoshop with large images. (original in colour)



Geraint James ARPS AWPf



Orchestra

A combination of computer generated fractal patterns with a photo of a child's orchestra. The fractals are meant to emulate the mood of the music although much is left to the interpretation of the viewer.

Mike Brown ARPS



Red Riding Hood

Derek Dorsett FRPS AFIAPP

The nave of Winchester cathedral

The contrast and levels have been adjusted and three areas have been held back. The shaft of light was drawn with a paint tool on a new layer and rendered transparent and the shadow of the window on the floor was copied and pasted, altered in perspective, inverted and fitted to the floor. It has been printed on the Fargo Primera Dye sublimation printer. The package was PhotoShop 4 on Windows 95



Red Carnation (original in colour)

Taken from a photo CD image in colour of a room at Singleton folk museum and the red carnation, a scanned photograph cut out and placed on the table with its reflected image placed underneath. The reflection has been made transparent and faded. Photoshop 4 was used for the manipulations. I have a home built AMD 486 DX 4 100 with 32 MB RAM and 1.4 GB hard disk space. It runs Windows 95. I use an internal Nikon Coolscan. I started using Coral Photopaint 5+ and used DI in my A level Photography although I used conventional photography for the A level Exam.

Chris Stevens LRPS



Aldeburgh High Street
(original in colour)

A distracting building in the background was removed and a more interesting sky inserted. The shadows were amended to conform to the new position of the sun. The bicycle was introduced to add interest. The original prints were scanned using an Apple One Colour Scanner and manipulated in Photoshop 4.0 using an Apple Power Mac.

Bill Henley LRPS

Bryce 2 3D Landscapes

Earlier this year at Regents Park College London, I attended a seminar given by Kai Krause (of Kais Power Tools fame). He was demonstrating two new pieces of software, Bryce 2 and Kais PhotoSoap. More of Soap later.

I was so impressed at the potential of Bryce 2 that I purchased it, and I have been transfixed in front of my computer screen for almost 24 hours every day ever since. Beware... it is totally addictive.

Bryce 2 gives you the capability of creating your own landscapes, both realistic and futuristic, and your starting point for each image is a wireframe outline for each ingredient i.e. mountains, rocks and trees etc. And each time you call up a wireframe for one of these objects, Bryce changes the shape of the wireframe, and even these are infinitely variable. You can then edit each item for its material. For example for your mountain you might like it to be constructed like the Grand Canyon or a Swiss snowcapped peak, and your sea can be anything from calm reflective to mild turbulence. The alternatives are almost endless and that's where your creative ability and flair comes in.

With software packages like Photoshop, you usually start off with an image or picture that you manipulate. With Bryce 2 you start off with nothing but a blank screen and take it from there. When you have finished your masterpiece you save it as a Bryce file, and you can also export the image to Photoshop as a psd file and then add any final touches that can't be done in Bryce 2.

Now for some of the minus points. The people at Metatools (now Meta Design) who programmed Bryce 2 are obviously eggheads who all have degrees in maths and physics because it is incredibly complex. But they don't make allowances for lesser mortals like us who don't understand the special language that they use in the "instruction manual" (what a joke that is). A little example of the sort of thing that is supposed to make it all clearer. "...there are groups of derivatives for each primitive (such as the ellipsoid and squashed sphere which are derived from the sphere. " And this one..."the first thing we need to do is to arbitrarily decree a point which we will call the World Centre. That



point will be represented by 0. 0 and 0 for the x,y and z axis" And finally..." the dialogue deals in relative world coordinates, regardless of your chosen spatial option...". Doesn't that just suck?

After you have chucked the manual in the bin you will soon be aware of another problem. The programme crashes, and I don't mean just now and again. But two or three times every hour. There was nothing in the manual about crashing so I got on to their Technical Support on the Internet. They made lots of suggestions until I finally had to send them a complete breakdown of my system, memory, processor, graphics card etc. Back came the reply that the problem was almost certainly my Wacom Artpad and pen.

Bryce 2 and Wacom don't like each other, so I was advised to just use the mouse. It helped a bit but it still crashed. So I got on to their website again and looked up their problems forum and their FAQ's (frequently asked questions) was full of other users complaining about the programme crashing, and who were mystified that here were geniuses who could devise a wonderful complex programme like Bryce 2 and yet couldn't fix a bug. I expect de buggers are working on it.

In spite of all these complaints, I still love the programme and I have created enough images to enable me to put on an exhibition of my landscapes in Bracknell, Berks library for two weeks in September.

And finally just a few words about Kai's Photo Soap. This is another photo retouching package from Meta Design that is a cheap alternative to Photoshop, and which as the name suggests, will help you to clean-up your images, removing red-eye and

scratches. It has an interesting if gimmicky interface and is fun to use. But guess what? It has a bug as well, and even Meta Design acknowledge it is there. When you are using it you get a double cursor, and MD say that if you wave the cursor(s) over the menu bar one will disappear. They're right one does. But as soon as you start to do anything, back it comes. It's like a piece of sellotape on the end of your fingers that you can't get off. No doubt de buggers are working on this one as well. I just wish de buggers would get it right in the first place.

Digital Photography

Since the early 1990s digital photography has rapidly moved from a specialist discipline centred on scientific R&D applications and industrial manufacturing towards the domestic consumer. Today a wide range of digital cameras (almost exclusively using CCD image capture chips) are available for all sectors of the amateur and professional market with prices ranging from a couple of hundred pounds to several tens of thousands of pounds.

Currently digital cameras fall into three distinct categories. Firstly, there are the cameras which are based on the 35mm compact camera. These are becoming increasingly available through high street outlets and personal computer mail order companies. Around forty manufacturers have offerings including Canon, Nikon, Agfa, Kodak, Epson, Fuji, Sony, Olympus, Ricoh, Sanyo and Casio.

These cameras are characterised by having mostly automatic functions, with a fixed lens and no through the lens view finder. They capture colour images through a single camera exposure and frequently have built-in flash unit. The images captured are comparatively low resolution (in the order of 640 x 480 pixels) which makes them suitable for capturing images for full-screen display on a computer monitor. However, since most of these cameras use proprietary image compression systems to store images inside the camera, colour accuracy can be reduced. This is most noticeable if the images are used for printing. Most of the 35mm compact digital cameras can only produce sufficient digital data for an image 7 x 5cm to be printed at the standard 150 lpi resolution used by the printing industry. Tests have shown that there are significant issues with dynamic range and the gamut of colour that can be captured and reproduced.

A middle range of cameras based on 35mm SLR cameras is becoming increasingly established. These cameras have higher resolution around 1280 x 1000 pixels up to 3072 x 2048 pixels and can capture a full colour image in a single

camera exposure. These cameras have been used by photo journalists for a number of years. Printed images up to A5 size can be created by all of these cameras and the digital images captured by the top resolution cameras (which capture an equivalent amount of data to a 35mm transparency) can be printed up to A4 size.

These cameras, manufactured by companies such as Kodak, Fuji, Nikon, Minolta, Agfa, Canon etc. have the advantages of through the lens viewing and light metering. Again these cameras use image compression techniques to store images inside the camera.

Very few of the two types of digital camera outlined above can be directly connected to a computer at the time of image capture, though some of the low end cameras have LCD preview screens. Thus images must be loaded onto the computer for examination.

The digital cameras designed for professional photo studios, such as the Leaf DCB II, Megavision, Phase One, and Dicomed 'Bigshot' are in fact digital camera backs which attach to existing professional medium and large format studio cameras. Some of these cameras, such as the Leaf DCB II and the Megavision use a 2048 x 2048 pixel monochrome chip and full colour images are captured through three separate exposures through a Red, then Green and finally blue filter. The Phase One camera back uses a line scanning back principle in which a CCD is

moved over the image plane in the back of a camera to create an image. While such a technique enables significantly larger resolution images to be captured than with the Leaf DCB II or Megavision, line scanning digital camera backs cannot use flash light and require high quality (and thus expensive) continuous daylight lighting systems for extended camera exposures. With both types of digital camera back, the camera is attached directly to the computer and the image can be previewed in high resolution on screen before saving. These cameras produce excellent quality results and are

already having a significant impact in the production of printed catalogues.

Digital photography offers enormous potential in diverse application areas. However, it is important, as with any technology or imaging system, to be aware of the characteristics and limitations of the current crop of digital cameras. Similarly, it is essential to clearly identify the purpose to which a digital camera is to be put. Only with such an appreciation of both these facets can a suitable choice be made.

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Dr Anthony Hamber

Please send your contributions for publication in the DIGIT to the editor. Images should be saved as 200 dpi JPEG images in PC or Mac format. Published prints will not normally exceed 12 cm x 8cm. Please ensure that your name and any distinctions are clearly stated. Titles and a short description of each print would be appreciated. Longer articles are welcome but the right is reserved to edit them if necessary. Text and images can be scanned but digital files on disk or by email do save time. It is assumed that any material submitted may be published on the digital group's web site at:

<http://www.wycliffe.co.uk/rps-digroup>

Sample Manipulation Exercise: Image - "Catatonic"

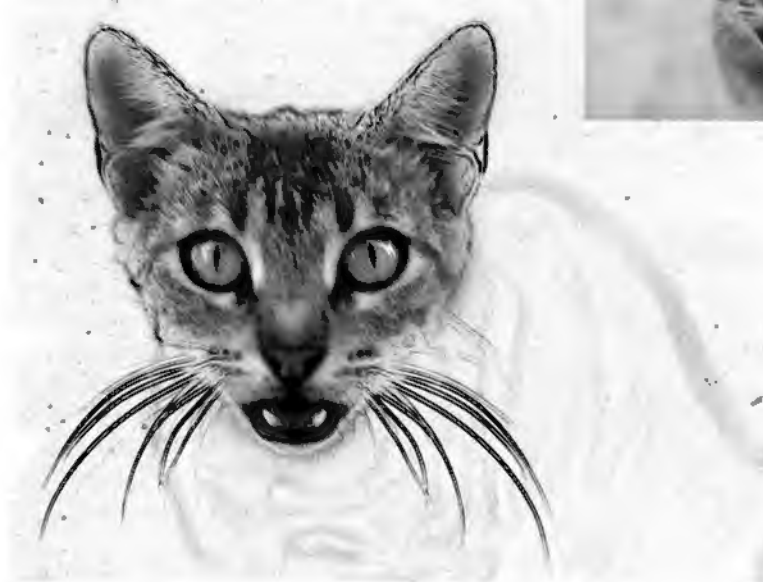
The original image was shot on 35mm transparency film and put onto Kodak CD. It was then manipulated in Photoshop 3 on a Pentium PC. To manipulate an original image, whether in a dark-room or on a computer is going to cost time, energy and materials. So the first question is why bother? For me, images which might merit the expense appeal to the senses: be it design, social message or simple gut reaction BEFORE the inevitable judgmental criticism

kicks in... 'the composition is unbalanced...', 'the picture lacks a good range of tones...', '... pity about the highlights at the edge of the frame...' etc., etc. If the criticisms are the first reaction then the spark is not there. With the cat picture, the fierce eye contact, a demand for attention - something almost primeval - appealed to my senses. So why manipulate it? In all the years I have been taking pictures there has hardly ever been a time when that annoying little judge in the left side of my brain hasn't wagged his finger on at least a couple of pretexts. This time his whinging went as follows:

* the vacant area to the left makes the picture unbalanced... * there is a basic lack of contrast given the flat lighting conditions... * the whiskers on the cat's right cheek become somewhat lost in the light background... * it's not as sharp as it could be... and okay, okay
The sequence of events in Photoshop was as follows:

1) Load the image from CD, crop it

for better balance (the Crop Tool) and alter the tonal range to provide more contrast (Image/Adjust/Levels).



Edges filter was applied (Erase Tool set to 'from saved': opacity 70%). Use soft brushes to 'paint back' some of the original tones, particularly the eyes, nose and mouth.

10) Enrich the colour selectively

using the Saturate Tool (Alt-Click the Burn/Dodge Tool to access this). I used 50% pressure, again majoring on the eyes, nose and mouth.

11) Selectively sharpen the image (Alt-click the Sharpen/Blur tool to access this). I set the effect to 50% and used soft brushes, particularly on the eyes.

12) Lighten the teeth and catch lights in the eyes a little with Dodge Tool (Alt-Click the Burn/Dodge Tool to access this).

Later adjustments - not included here - would perhaps add a little colour/texture to the background and a border. The image can then be resized if required and, of course, SAVED.

2) Save the file!

3) Trace the cat's outline (Filter/Style/Find/Edges)

4) Select the cat's left whiskers by:

- using rectangular marquee around the area
- subtract the fur tones (rendered very pale by the filter - no hard edges)

from the selection (Control + Magic Wand Tool)

- Use Quick Mask and various brushes to clean any misses areas

5) Copy the selection (Control+C) to the clipboard

6) Paste it (Control+V) to create a duplicate of the whiskers and invert the selection (Image/Flip/Horizontal) for the opposite cheek.

7) Position the new whiskers with the Move Tool and then the arrow keys for fine adjustment (use Control+H to hide the flashing selection boundary)

8) Deselect the new whiskers but DO NOT SAVE THE IMAGE

9) Selectively copy back the fur tones and image detail before the Find

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Restoration Exercise



The first participative project to be launched in the RPS Digital - North West Group is one to practice a basic skill of computer imaging, that of restoring a damaged image. Participants will be provided with a file on floppy disk of an old black and white photograph in need of repair (PC format; paper copy for Mac users). This can then be worked on between meetings. Time will be set aside at future meetings to review progress: different strategies and techniques used, problems encountered etc.

An offer to DIGIT readers keen to have a go! To obtain a copy of the file (image shown here), send a disk & stamped addressed envelope to Martin Avery at the address below. Members are invited to send disk copies of their repair work for possible publication in a future DIGIT. Please send a reference print of your work with brief notes on how your changes were made.



Restoration of Old Photographs

My method was to scan the original (Agfa Studioscan II) at 600 dpi in grey scale. Then Corel 5 Photopaint cloning tools were used to "repair" damaged areas. I did not attempt to restore the edges to preserve the antique quality of the picture. Some final adjustments were made in Photoshop 4 (which I had then just acquired) and the results printed on an Epson Stylus 600



(in colour mode). Production images (about half a dozen for the family) were made on glossy paper on the Epson after sepia toning using Adobe's Photodeluxe. This little program, which is very good, came free with the Epson. Although sepia toning with Photoshop is possible the Photodeluxe software is much quicker and easier for this particular operation.



I should welcome an answer to the following. I think I understand what dots per inch is, I do understand what pixels per inch means and I struggle with lines per inch. However what I do have difficulty understanding is what ppi should I scan at to get the best results from a printer with specifies output in dpi. I am sure I am not alone in this and I have read a number of books/articles but have not yet found an answer or any practical advice!!

David Robinson ARPS

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Digital Imaging with Military Precision

Military precision - an oft used phrase, yet demonstrated in its true meaning when applied to a regiment of the British Army on parade. Whilst straight lines of wheeling and marching troops, colourful uniforms, gleaming brass and the stirring music of a band is impressive, to a photographer confined to one place, it presents a great number of problems and frustrations. Well, that was my firm view until I became a devotee of Mr Adobe's Photoshop.

Confessing to having been a National Serviceman immediately dates me. To have served in a regiment swallowed up in one of the amalgamations of the fifties, places me firmly into the category of a geriatric! But, having served in a cavalry regiment (long after the demise of the horse I might add) and although that regiment amalgamated again a few years ago, I am still a member of the strange phenomenon, 'the regimental family'. I receive a biannual newsletter, and invitations to infrequent parades and functions. Over the past years I've attended regimental parades and decried the lack of photographic success. They never organise parades with a photographer in mind, the best I have ever produced always has some annoying military clutter within the frame. As readers will know all too well, a long lens may capture an image, but it also compresses what you don't want to include. But this year was different, I was into Photoshop.

Five years after formation, The Queen's Royal Hussars were presented with a Guidon by their Colonel in Chief, The Queen Mother. Armed with a longish lens and monopod, I made another attempt to record a little of the splendour of one of the few remaining line cavalry regiments of the British Army.

Arriving early, I found a seat in one of the stands erected on one side of the parade square, almost central to where events would focus. A

backdrop of matt black and green Challenger tanks lined the other side of the square. Whilst the parading troops wore khaki, colour was added by their scarlet caps. However the scene stealers were the escorts and markers. The cavalry has always considered themselves a step above the rest of the army, and although the bearskins and scarlet tunics of the Guards are impressive, they are a not uncommon sight. Not so the full dress of a Hussar. The navy blue uniform with yellow frogging and wide double 'tramlines' down each leg has changed little from the mid nineteenth century. A short bushy, sword and jangling spurs set off the outfit. From personal experience of years ago, I can assure the reader that the uniform is designed for looks as opposed to comfort.

When the Royal Hussars parade, they are led by the drum horse, a relic from my particular regiment. Two silver kettle drums dating from the battle of Dettingen are never sounded. The white drum horse Peninsula and rider, flanked by two escorts make a most impressive sight.

On that day last June, for the first time, I was confident the usual distractions that had caused me such heartaches on previous occasions were gone for ever with the knowledge that what I did not want would, thanks to Photoshop, would soon be removed. After the parade I enjoyed an excellent lunch, visiting displays, learning of life in the modern army and of course meeting people I had not seen for many years. As stated it is a 'regimental family', one of which I am proud to belong.

On receipt of the processed slides I spent time studying each on the light box and deciding which to use. Apart from a few which only required the removal of the odd item,



I enjoyed working on each with the various aspects of Photoshop's artistic filters.

I had learnt from previous years that The Queen Mother has a fantastic personality and her obvious interest in 'her regiment' comes over very clearly. On this parade, accompanied by the Colonel of the regiment and Duke of Edinburgh, she inspected the troops in an open Range Rover. Again, a bit of jiggery pokery allowed me to remove the crowd, replace them with an appropriate sky and slightly move an escort.

I the main my main photographic target had been the drum horse, for all accoutrements belonged to my old regiment. Removing surrounding people allowed me to transpose horse and rider into other situations. I solved the problem of a large expanse which had contained a Challenger tank and dozens of people, by filling the area with 'noise' the first time I had used this feature.

To date, the picture which pleases



A computer for a digital darkroom

Any description of a particular computer system should only be regarded as a guide. Models come and go, technology moves on and prices change. The first decision is which system, with the PC compatibles and the Apple Macs being the main but not the only contenders. Many pundits believe that the computer platform which is employed will become less important as there are moves towards using the internet technologies with common browsers on all machines. I have to declare my personal predisposition for the Mac operating system and will concentrate on that but that is not to 'knock' the PCs. Mac compatibles are now on the market using a licensed Apple operating system. Software emulators are available for WINDOWS 95 or some Macs may have a second DOS processor installed to run WINDOWS 95 native. However, for

Photoshop program on my Mac will even open Photoshop images which have been saved on a PC. MacLink translates text files for use in my word processor and a shareware program called Graphic Converter provides a whole host of options for different file types.

If money is no object then the decision making is much simplified. Go for the fastest machine with the largest possible internal memory (RAM) and largest hard disk. (Power Mac 9600 350MHz ?) However, even the low end Power Mac can be a very useful tool for digital imaging. This is currently the 4400 with a 200MHz processor and 2Gb of hard disk. The basic RAM of 16MB is too small for any worthwhile work with images and needs increasing to at least 32MB but preferably 64MB or more. Not only does this enable you to work with reasonably sized images it also increases the working speed of the system. Remember colour takes very much more memory than greyscale or black &

me most is: Guidon, Escort and Drum Horse. This was made up of two slides and, having to cheat, a scan of the Guidon from the souvenir programme. In all it consisted of five layers: the horse and parade square. An extra area of parade ground cut from another transparency. The sky made from Clouds, Pantone 625 with a lighting effect of Omni at the default resolution. The Guidon was cut out and using the texturizer filter changed to 'Burlap' with opacity reduced to 64%. Once cut out the Escort was brightened considerably. A little moving within the frame and I had a picture I was happy with. Before merging the file was 36.2 Meg, flattening layers reduced it to a manageable 7.7.

Apart from the pleasure of now possessing a number of images of the regiment I also have a number of different items for future use.

Equipment details: Canon EOS 50E 100-300 USM lens. Fuji Sensia 200 ISO Pentium 75 with 32 Meg RAM; Photoshop 4; Nikon Coolscan. Printer HP 870 Cxi soon to be replaced by an Epsom Colour Photo.

Alan Crosskill ARPS

most purposes it is sufficient to be able to open PC DOS files and run them on your Mac. The MacLink program is supplied with each Mac and any DOS disks are recognized by the Apple disk drive. It is therefore possible to save a document on a PC, transfer the disk to a Mac, open the document and work on it and then save it back to the PC disk for use back on the PC. The

white. Also if you are working in layers in Photoshop the size of the work file increases dramatically. The number of crashes is also reduced by having sufficient RAM. The standard 13inch monitor is adequate but a 17inch does help and if you can afford larger than that then go for it! The larger monitors will require an increase in the RAM used for the video (VRAM) which normally starts at 1MB and can be increased to 4MB. The VRAM also increases the number of colours you can process from 256 to thousands to millions. CD ROM is standard as is sound in, sound out, a printer port and modem port. A graphics tablet may be plugged into the keyboard using the Apple Desktop Bus (ADB). A SCSI port makes the connection of peripherals such as a scanner or a hard disk simple. PCI expansion cards may be installed, with Appleshare networking standard for linking to Macs and IBM compatibles.

If you are concerned to be able to keep up with the increasing processor speeds you may wish to consider a Mac with a daughterboard. This enables you to swap out the old slow processor board and plug in the later model. It could be an economical way to extend the all too short life of your machine. System upgrades should be available for years to come with Apple having an extremely good record for backward compatibility.

Bill Henley LRPS

Three composite images of Russia.



Khizi A composite image - photograph of window with interior 'pasted' into window panes and composed of room, young woman and church pasted into a second window.



Kerala Composite image Svir River and Cathedral of the Transfiguration Kizhl at 30% opacity.



Valaam Island - Lake Ladoga - North Russia Composite image of church and pool - cloning tool to enhance sky and to tidy up the reflections.



This photograph started as an image of back lit willows and a swan framed by a bridge but I found it impossible to get the subtle detail of the bridge stone work in the scanned image. This is part of the image that has been worked and re-worked mainly using the range of "sharpen" filters and "solarize". I think it still retains the main elements that made the picture worth taking in the first place but these are now much more emphasised.

Norman Hurst

Langstrath Beck

The original shot was on black & white film, taken whilst on a photo holiday in The Lake District. Flat lighting, a poor sky & stray photographers meant that I didn't do anything with the negative until I set up an electronic 'darkroom' about two years ago. Scanning was on Kodak Photo CD via Boots, still my preferred input.

After the usual cropping & sizing, contrast was adjusted in 'Image - Adjust - Levels' & then the photographers were removed using the Rubber Stamp tool. I had a more interesting sky on a colour transparency so after converting the colour to grayscale, under Mode, and cutting round the background mountains using the Lasso, the sky was pasted in as a layer to enable me to move it around for the best effect of the clouds.

Finally a little tweaking of the contrast in selected parts of the rocks and water together with some dodging and burning and, after applying the 'Unsharp Mask' filter, the new image was ready for printing. I use an Epson Stylus Pro A4 printer, usually with Epson Glossy Paper. Expensive paper I know but test sheets can be on cheaper paper and the Glossy certainly gives 'Photo Real' quality.



Roy Rainford ARPS

Clearing Storm-Marloes.

Marloes is a small village in Pembrokeshire, access to the rocky storm beach is via a steep but easy path. The picture is a combination of three images; the sea and rocks, the sky, and the seagull. {which follows me everywhere !} Photoshop 4, Epson Stylus Pro Printer, Power Mac 8200/100 Computer {only one year old, but now obsolete !} with 57 MB of RAM. The monitor is a 17" Sony Multiscan sfl1, and I also have a Zip Drive. The above replaced my B/W Darkroom a little over a year ago, following a serious illness. However I am delighted and amazed by the setup, despite having been a B/W worker for 40 odd years.



Derrick Thomas FRPS

My Way with an Acorn

Although it is only quite recently that affordable desktop computers which are sufficiently powerful for serious digital imaging work have become available, there is now a considerable choice of equipment and programs. The Photoshop program running on a PC or a Mac has been the standard for some years and has been regularly updated. However I have found the Acorn Risc PC computer with Photodesk as my main program to be a powerful alternative. I started with an Acorn BBC B computer some years ago and to retain compatibility with the programs I use regularly have continued to use Acorn machines as they have developed.

The current Risc PC uses a StrongArm processor running in excess of 200MHz. It has a reduced instruction set operating system (RiscOS) which is a system optimised so that much used program instructions are processed fast rather than giving equal importance to all instructions, with a consequent reduction in overall speed. The operating system is permanently set in ROM chips and does not have to be transferred to RAM when in use, leaving most of the total installed RAM for program use. The machine is designed to upgrade to 256MBytes of RAM (ie 2x128MBytes if you can afford it!), I currently have 32MBytes.

One special feature of the computer, as indicated by its name, is that it has a second processor slot which can be used to run a PC card. I currently have a 486 card but faster ones are available. In use it makes the computer think it is a PC and will run PC programs. I have not run Photoshop and I suspect I would want a faster PC processor for this to be satisfactory.

The Acorn windows system (WIMP) is also in ROM. In use it differs from the PC because only the frame around each individual picture space and a row of small icons at the bottom of the screen to call up any of the filling systems and currently loaded and available programs is permanent. The mouse has a third button to control the display of menus when required and will bring up a small window menu associated with any object on the screen selected by moving the cursor over it. Typically in a program say Photodesk clicking the menu

button over a picture brings up the main menu from which such actions as save, copy, rename and delete can be controlled. As another example from the menu for screen options, the screen definition and colour quality can be set. Menus can be selected moved around the screen and deselected at any time.

Image display is on a 17" high resolution monitor. I normally work with a resolution of 1024 x 768 pixels which is approximately the maximum resolution of the monitor screen itself. Most images are held in computer memory in '24bit' colour, ie the tones of red, green and blue stored in memory to define the colour of each pixel can each have a range of 256 values from zero to saturation giving a total of over 16 million colours. However the 2Megabyte video memory driving the monitor (VRAM) limits the colour quality of the display when using the maximum resolution above to 32,000 colours (16bit colour). The higher colour quality image can however be displayed at the lower resolution of 800x600. I have rarely found the difference in colour quality noticeable and then only in an area which should show a gently graded density but at lower quality tends to show slight step changes. From specifications I have seen PCs also appear to have a limit of 2 Megabyte VRAM.

Getting the image out of the computer is a general computer problem. Affordable colour printers have improved rapidly and are capable of results approaching photo-

graphic quality. My own printer is an A3 Epson Pro XL; already out of date after about 18 months! For pictorial work photographic quality is often not needed and pin sharp images may not be desirable; I often print on a slightly rough art paper. Compare this with many photographic prints currently produced through diffusers and patterned glass etc!

All my pictures are derived by modifying photographs and computer generated image components are rarely added. With any equipment the results are only as good as the programs available will permit.

Photoshop for PCs and Macs has been the leader with the advantage of several years of development. The equivalent program for the Acorn is Spacetechn's Photodesk which has all the standard features found on most art programs plus many special effects. This extensive range of facilities is the result of the basic design philosophy, permitting any application tool to be used to apply most of the effects. The effects available range from the simple colouring, tinting and contrast control to bas relief, posterisation and solarisation etc. Each of these can be applied with the user definable tools provided. For example paintbrush, spraygun, pencil (for producing geometric shapes) and magic wand (for highly selective application). All these effects can have superimposed textures and the image space being worked on can be set to produce gradations of colour or density as appropriate when the effect is applied. In addition masks can be painted in to limit the area and local density of an applied effect and any operation can be restricted to one or two of the red green or blue colour components of the image. A special and very valuable feature of the program is the ability to 'rub out'; any of the putting on tools will take off if the right button of the mouse is used instead of the left. At any time during image development the state of the image can be frozen with a single key stroke. A different key stroke later will then take the work back to the state when it was last frozen. There are as with Photoshop whole image effects such as zoom, speed filter, lens effect, outlining and etc which can be applied selectively using masks.

The provision of 'layers' in Photoshop is a new valuable feature enabling the positioning of different images one above the other to create a composite picture. This is not yet available in Photodesk but I understand will be included in the next update. I use



the cloning facility to combine images, in Photodesk any area of a picture can be selectively copied to the same or a different picture using any of the tools; usually the paintbrush or the spray gun when a density graded image is required. With the powerful undo facility available, a trial and error process to achieve a satisfactory combined image is easy and is in effect an alternative to the use of two layers. I have however a separate program 'Composition' which can combine images using the layering method.

There are other art programs available usually with a good picture editing system combined with special facilities, such as simulating textures as seen in paintings and creating pictures using for example fractals.

Add on equipment (scanners, printers, large capacity removable disc drives and etc) is usually sold with software for PCs or

Macs, but drivers for use with the Acorn RiscPC are available for most units including digital cameras and quite recently the Nikon Coolscan II for 35mm film scanning.

My colour transparencies are input into the computer either via a CD drive unit (having been put commercially onto a Kodak Photo CD disc) or more directly with my recently acquired film scanner. I usually work to a final image size of about 5Megabytes which defines the input image size depending whether all or only part of it is used. This more than fills the monitor screen and is about the size needed by the printer to produce an A3 picture. Final images are also captured by photographing the screen on to Fuji 100 ASA transparency film. The contrast of the monitor is reduced a little and the brightness increased. For my set up colour balance of the transparency is a very close match to the monitor image if

about 7X red is added to the image on the screen before copying. I use a long zoom lens to facilitate filling the frame on the camera and exposure is about 1/2 to 1 sec at f/8.

In conclusion I have found that to take advantage of the wide range of effects that can quickly and easily applied to an image I have had to develop a more critical approach to determining what I want to do and assessing the result. This experience has helped when taking pictures; it remains true that no amount of manipulation will produce a good picture from a poor starting image!!

David Christie ARPS



The book **Digital Imaging by Ron Graham** (ISBN 1 870325 12 5) is due for publication this Autumn. The press release states that it contains:

- an introduction to the technology and its uses
- a sound basis to allow an appreciation of future developments
- a complete appraisal of cameras, related hardware and software
- numerous examples of typical applications

The author is a consultant in aerial survey, remote sensing, part time lecturer at University College London and is an experienced author of technical papers. It is published in paperback by Whittles Publishing at £35.



Piglets

This picture was made from a small portion of the original slide, which was very messy with out of focus piglets, odd trotters, snouts etc., in the picture, and of course as they are pigs they had to be cleaned up rather a lot. Still pigs or not what more can you ask of life, food, warmth & love - except a computer to play with.

Glenys Taylor ARPS

“Hands on Day”
Wycliffe College
Gloucestershire
Sunday 29th March 1998

Western Region Members

The Western Region benefits more than any other Region by having easy access to all the Society's activities and resources in Bath. I am therefore writing to all Members locally to ask for help. Most Departments here are under pressure at times because of an overall shortage of staff, and there are some areas where it would be possible for volunteers to be of great help.

One such area is Reception, where we would like to build up a reserve of volunteers to assist our paid receptionists, and to provide some cover for special occasions, like Photo Forum, or in emergencies, for example, when staff may fall sick. If this is an area where you feel you would be willing to offer some help, I would be pleased to hear from you. If you have other interests or skills that you would like to offer as a volunteer, I would also be pleased to hear from you.

With best wishes from **Barry Lane**
Secretary General

Do you have an email address for publication on our web site?

The Computer Arts Magazine..

..published by Future Publishing in Bath has regular features on Photoshop and digital imaging in general. The 'free' CD ROM is dual format for Mac and PC. Issue 10 for October 1997 has a second CD ROM with the complete xRes 2 and a special upgrade offer. A number of DIGIT readers have recommended this publication.

Regional Groups

I am very pleased to report that the Regional Groups are going from strength to strength in most areas, the groups range from small "hands on" groups to larger meetings held in a central hall. There is a variety of topics dealt with, i.e. Restoring old prints and slides, showing of ones own work, question and answer sessions, visits to labs etc., even if no one in the group knows the answer to your particular problem there is no lack of suggestions and ideas on how to find the answer.

If you have not heard from your regional organiser, please get in touch with me and I will give you the name of the person in your area to contact, or may be you would like to form a small group yourself, it's amazing what the sharing of ideas leads to! As most of us live some distance from others who share our interest it is often difficult to know who else is involved with the DI Group, and live near us, so please do not hesitate to ask me, and if I can help I will.

Another excellent way of sharing our ideas and pictures is through this newsletter. For example, although most of us use 35mm slides there are others in the group who use a different format and would be interested to hear from enthusiasts with their special interest. So if you feel you are the odd man out, please submit your views to DIGIT. Also, remember that I have back copies of the journal which I shall be pleased to post to members on request.

Glenys Taylor
Secretary and Regional Co-ordinator

Swindon Imaging Group

This DI Group of Swindon Camera Club started in October 1996 with nine members at my home in Aldbourne.

We decided to meet monthly and members brought along slides to be manipulated on the computer. We scanned them in and learnt different functions of Photoshop as each member wanted an assortment of changes. We all tried cloning and used a tripod and T90 camera to copy the results directly off the screen. Further meetings concentrated on removal of unwanted features, changing colour to black and white, or adding colour to a duotone image, altering opacity, using filters, dodging and burning areas and generally learning more and more about what we could do. We had a meeting to compare Adobe Photoshop 4 with Corel PhotoPaint 6 and discussions about other programs.

We tried printing results using different types of printer paper. Our experimentation with video capture of images resulted in my computer slowing up considerably when I captured a large sequence of 250 frames of video by mistake instead of one frame. The Group is generally known as Swindon Imaging Group or SWIG, referring to the interest in all forms of images and to their second great interest - drinking lots of tea and coffee, etc. Newcomers are welcome but please check on the venue. There is a **Digital Day on Sunday 2nd November 1997** at the Links Art Studio at the Link Centre in Swindon.

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The digital imaging group consists of members of the Royal Photographic Society who have elected to pay an extra subscription to receive the group's journal DIGIT and to work together via meetings and a circulated portfolio to promote digital imaging.

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Please make this your journal.

Send your contributions to the editor by post or email.

