

# FILM FIRST!

A FOURTH JOURNAL REVIVING AND USING VINTAGE AND CLASSIC CAMERAS. 2011



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“I’m starting this volume of photographic diaries – which I now feel have more of an approach of ‘Journals’ – after something of a watershed year. Having broken my ankle severely I have been laid up for four months since November last year (2010). This has, in one respect, given me time to catch up on many areas of housekeeping and reorganisation of computer files that I otherwise would not have had time for.

This process has included moving everything across to a new computer, fully updating my web pages, posting all existing diaries and catalogues on the web and organising recent pictures taken on the cameras to feature in this volume. I have at last bitten the bullet and purchased a film scanner which will scan all formats up to large plate cameras.

Whilst I have been in seclusion the world has moved on and digital cameras continue to gain megapixels, lenses of amazing optical zoom ratios, and new price tags. I noticed one other interesting development however on a rare visit to the local (still surviving quite happily) camera shop. A brand new updated design of Fuji ‘Instax’ instant camera was featured with a price tag of £69. I had bought one two years earlier at a car boot stall for £5. Pictures from it appeared in my last diary. Inside the shop I discovered that the camera was a new launch along with the film which is still fully compatible with the camera I have. Some things are obviously not quite as dead as they appear to be.

Earlier last year I also exhibited a selection of cameras from my collection at Prestwood Steam Rally. The vintage camera display in particular seemed to fit in well with the ancillary model displays at the show and was well received. I am hoping to repeat the exercise this year in July.

Over the last two years I have acquired some wonderful cameras which are featured in this journal. Several pictures from a classic Exacta Varex, the winter of 2009/10 with snowscapes shot on an Agfa Isolette and Pentax K1000 and holiday pictures covered on an absolutely superb Kodak Retina Reflex – a camera I have wanted to acquire for a long time which almost fell into my lap as a result of an enquiry at Prestwood.

I also purchased a Kowa Super 66 medium format kit with three lenses. This represents without a doubt the highest technical quality item I now have in my collection and, despite the complicated operation of such medium format Single Lens Reflex systems, I found it easy to use for the shots of Prestwood and Plymouth I have included.

Now that I am finally back on my feet I am doing some stereo investigations for this journal – using one of my existing 127 stereo cameras and some paired and matched Single Lens Reflex cameras mounted on an improvised bracket. I will present some of the stereo pairs and explore viewing techniques with a home-built stereo viewer and the ‘Anaglyph’ system where monochrome images are presented in blue and red colours viewed by filtered spectacles.”

John



*Fireworks, Plymouth Ho. August 2010. Kowa Super 66 Medium Format Camera. 85mm lens.*

“Why not start this volume of pictures with a bang! A firework festival happily coincided with our holiday to the west country. I had decided to take some cameras from my collection along to try instead of my usual compact digital, and the very best of these was a complete kit of the Kowa Super 66 with wide angle, standard and long lenses. A spare film back and Kaiser hand grip completed the set. I had paid a lot more for this than I usually do but the camera is immaculate and, despite its complicated mechanism, works perfectly.

Medium Format Single Lens Reflex Cameras are inherently clumsy things. The very best of them (and also the most expensive) are the Hasselblads. They are at least small and light but I can't afford one of those. In my previous job I used a Mamiya RB67. This was very far from compact, with its 6x7cm format, rotating interchangeable back, twin lever system for winding on the shutter and the film, and extremely noisy operation. Using the Mamiya was something of an adventure in uncertainty. Unfortunately it was also used by my ham-fisted boss who had managed to graunch the interchangeable backs. I never knew when I pressed the shutter release whether it would fire or lock up.



*Classic Ships Event, Plymouth, August 2010. Kowa Super 66 Camera. 55mm wide angle lens.*



*The 'Johanna Lucrezia' at the Plymouth Classics Boat event, August 2010. Kowa Super 66 with 55mm Wide Angle Lens.*

The Kowa Super 66 is a much sweeter animal. It was the last model produced by Kowa in 1975 before their demise, finding it impossible to compete in the professional market with the more well known manufacturers with their established reputations. Questions of reliability had also hovered over earlier models of this camera which did not help despite the Super 66 and its lenses receiving critical accolades.

Smaller than the Mamiya, it presents a smooth boxy shape to the hand which is difficult to manipulate without either a carrying strap or a side grip. A cheap Kaiser grip served the purpose here. As with most medium format SLRs, a complicated system of pins, lugs, gear wheels and triggers are employed to make the camera fail-safe and integrate the operation of the components of the camera, lens, and film transport.

For anyone new to this type of camera these systems are a nightmare. Before attempting to load and fire a film extensive reading of the instructions and exploring of the equipment is needed. Here's just how bad it is:

Each interchangeable lens has its own leaf shutter. This has to be tensioned by rotating a pin on the lens mount before loading onto the camera. If you breath on it accidentally the pin will shift 3mm and the lens will refuse to mount on the camera. If you are going to store an un-mounted lens you need to release the shutter tension pin. The body mirror mechanism also needs to be tensioned before you attempt to change a lens and the bayonet mounting ring needs to be set to exactly the right point.

Loading a film into the back – whether it is attached to the camera or not - is not easy. Changing backs on the camera is also fraught with danger. If it is not fully locked home it will disengage and launch itself precariously into the ether. Or, just as bad, the back will spring open whilst on the camera fogging your hard won pictures.



*Small Engine Exhibitor, Prestwood Steam Rally, July 2010. Kowa Super 66 with 55mm Wide Angle Lens.*



*Mr & Mrs Deane with 2 Hand-Turned Street Organs made by themselves to original designs. Prestwood Steam Rally, July 2010. Kowa Super 66 with 55mm Wide Angle Lens.*



*The Kowa Super 66 Medium Format Single Lens Reflex Camera and Removable Back from 1975*

When you have finally got it all together and loaded the Kowa up with film ready to go, the sequence of actions that take place when you fire the shutter are extensive and need some explanation:

The state of the camera just prior to firing, when the film has been wound on to the next frame and everything has been tensioned is like this. The viewing mirror is down, so that the photographer can view

find through the lens and focus. The film baffle built into the removable film back (which prevents fogging when the back is removed) is in place. The lens aperture is fully open to allow full aperture viewing and focussing and the shutter which is tensioned is open to allow through the lens viewing.

As soon as the shutter release is pressed a series of operations happen within a period of time of about  $1/25^{\text{th}}$  of a second. The Shutter closes first and the viewing mirror springs upwards to block light coming in through the viewfinder. These two operations make the camera body light tight. The light baffle in the film back then folds open to reveal the film. The lens aperture then stops down to its pre-set value and finally the shutter in the lens fires to expose the film.



*Vintage Tractor Owners, Prestwood Steam Rally, July 2010. Kowa Super 66, 55mm Wide Angle Lens.*

In practice, the noise generated by the camera action is relatively quiet compared to other similar makes. Because there is no wear with this camera the mechanical action feels totally positive and I gained a lot of confidence working this camera. It was easy to use for the static posed shots at Prestwood Rally, but not so for the moving Steam Engine at Bodmin. This is because the mirror reverses the image laterally in the viewfinder so the camera needs to be moved in the direction opposite to that indicated in the viewfinder to follow action.

As to the lens quality on this camera? Needless to say they are superb. All 3 lenses are brilliantly sharp with excellent contrast and, as can be seen from the 2 marina shots, a phenomenal ability to handle flare when shooting into the light.

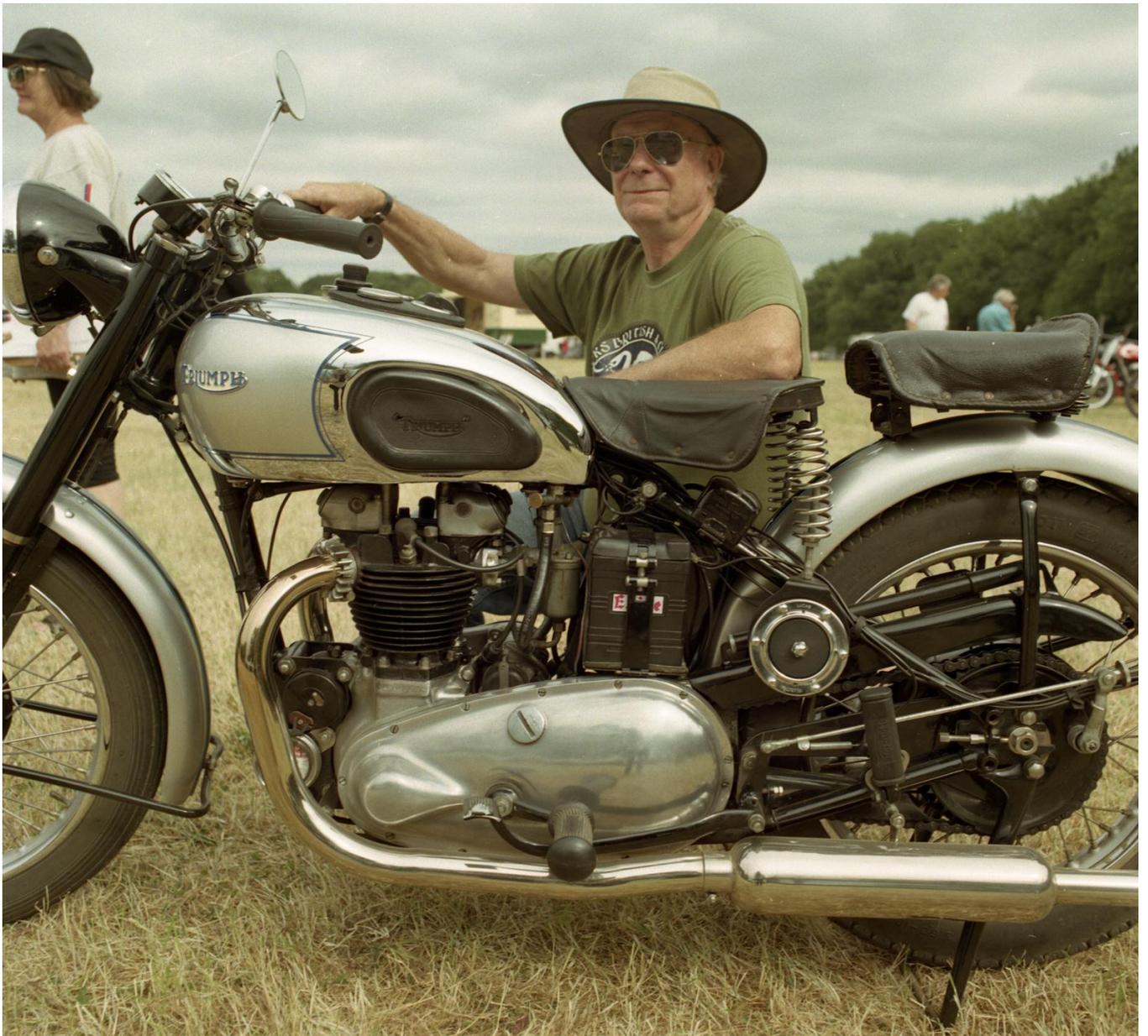


*Bee Keeping Exhibit, Prestwood Steam Rally, July 2010, Kowa Super 66 with 55mm Wide Angle Lens.*

I have never tried to photograph fireworks before so it was something of a hit and miss exercise when I prepared the Kowa for the Plymouth Festival. A classic and well tried method is to use a tripod and hold the camera shutter open from the moment of firing a salvo until the fireworks have fully burst. This gives a complete trace of the firework's path and explosion. Pictures of multiple bursts shot in this way can be very busy and full of impact, the skyline populated with traces.

Apart from the fact that I hadn't packed a tripod I wanted to try a different approach using an instant exposure to capture the essential point of the burst. I had no idea what exposure would be required so I decided on  $1/60^{\text{th}}$  of a second at full aperture. I figured that I would get the main burst with perhaps a little bit of trace but at that speed I would hopefully avoid camera shake. I shot 4 films, 2 colour negative and 2 transparency (Fuji Velvia).

It took quite a while to get the rhythm of shooting right to capture the multiple bursts at the right point. The first 3 films were relatively disappointing with only the occasional burst showing. The shot included at the start of this journal proved the best – from the 4<sup>th</sup> film - Velvia transparency. As I had hoped there is evidence of some trace of each burst and, best of all, the colours are evident and have avoided over-exposure.



*Classic Motorbike Owner, Prestwood Steam Rally, July 2010. Kowa Super 66 with 55mm Wide Angle Lens.*



*A Craft Work Stall Holder, Prestwood Steam Rally, July 2010. Kowa Super 66 with 55mm Wide Angle Lens.*

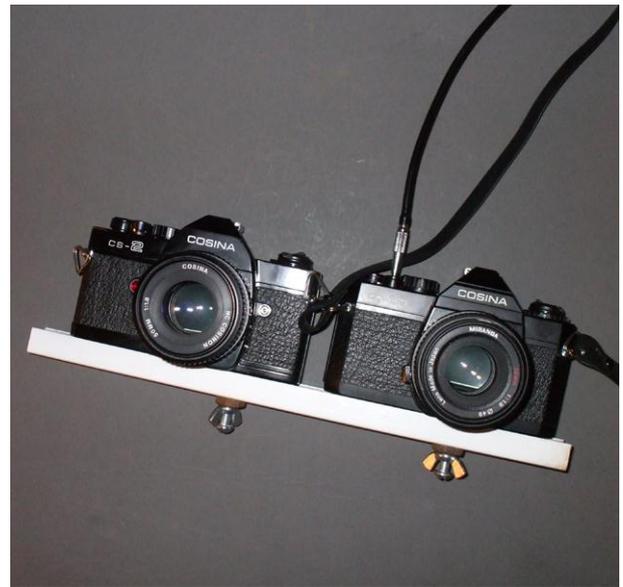


*Bodmin Steam Railway. August 2010. Kowa Super 66 Medium Format Single Lens Reflex Camera with 55mm Wide Angle Lens (both pictures).*



“Now, where exactly to begin with the Stereo Project? My starting point had been to explore the ‘Anaglyph’ system and also present stereo pictures side by side which could be viewed with an optical viewer. Beyond that I hadn’t really thought things out.

I have 3 stereo cameras in my collection. I didn’t want to risk the valuable Richard’s Verascope from 1920 and my other vintage (and also French) model needs repair. I also have a British Coronet Stereo camera from 1955 which takes 127 size film (luckily which I have some of) so I decided to run this. My other idea was to pick two sister single lens reflex cameras from my collection with standard 50mm lenses, mount them on some sort of bar and, firing them of simultaneously, take left and right stereo pairs. I chose a Cosina CS2 and Cosina CT10 which, according to the books, were manufactured 3 or 4 years apart around 1980. Nothing could be simpler so I thought. Sawing off and adapting a piece of shelving rail I constructed a rough mounting bracket with some standard 3/8” whitworth bolts and wing nuts – the standard tripod mounting socket on most small cameras.



*The Coronet 3-D Stereo Camera from Birmingham (1955) and the Cosina(s) CS2 and CT10 (c1980)*

On one of the first days out on my own following my convalescence I took these cameras up to a picturesque village called The Lee buried in the Buckinghamshire Chilterns. Views across the village green may well be familiar to television viewers since the location featured frequently in ‘Midsomer Murders’.

The Coronet 3-D is an interesting design of camera. No stereo camera is ever going to look beautiful but The Birmingham Camera manufacturers did their best here by combining their expertise in bakelite moulding technology with paint splatter. The final result is basic, interesting but still ugly. Controls are kept to a minimum with no shutter speed or aperture variations, a basic spring loaded shutter tensioning system, and two viewfinders; one eye level and one reflex. Rather than use two independent but synchronised shutters behind the two lenses – an expensive and unreliable method, the Coronet uses a single horizontally traversing sprung metal sliding plate with the exposure slots cut out of it. While it is tensioned back manually against the spring a blanking plate behind the lenses prevents film fogging.



*The Lee, Bucks. March 201. A Stereo Pair Shot on the Coronet 3-D Camera of 1955. The left and right pictures are reversed. .*

While the front controls of the Coronet may be unproblematic, opening up the back reveals a film transport mechanism which can only be described as agricultural. The fresh roll of film is wedged into a rough moulded chamber with the paper leader being pulled across to slot into the take-up spool which itself has to be guided very carefully onto the slotted wind-on lug. Brute force and ignorance are used to push the back plate back on which is only held in place by eyelet poppers!

Looking at the frame viewing window on the back you just know the whole arrangement is going to let in light and sure enough the processed colour film sported a healthy fringe of fogging which managed to ruin one of the four pairs of pictures shot. The other three pairs turned out quite well however. The internal moulding of the bakelite keeps the light from the images from the two lenses from bleeding across to each other and provides what appears to be a ready matched pair of pictures ready to load into a viewer.

Or so you would think. But when I tried to view these pictures they steadfastly refused to form a stereo image. This had me baffled for a week. Then it suddenly came to me. When a lens produces an image on film it inverts the subject – which appears upside down. By turning these films so that the images appeared the right way up I had inadvertently transposed them. The image from the left lens actually appears on the right – and vice-versa.

After a little rapid footwork in Photoshop to crop and switch the pictures round I was able to print out paired images which I could then view in a stereo viewer I had available.



*A stereo pair from the Coronet 3D camera ((1955) with left and right pictures correctly positioned and mounted for card cut-out and use on the 'Cavander Camerascope'. Shown actual size. The Lee, Bucks March 2011.*

The stereo viewer I am using here is an interesting concoction of stamped and hinged metal and glass from 1927 which goes by the sartorial description of the Cavander Camerascope – a name which belies the £2 price tag it sported at a car boot sale. Its evolution is worth describing:

In the '20s cigarette sales were very high with a great deal of competition between brands. The Army Club brand decided to promote itself by including collectable stereo picture card pairs in their packs. Each series consisted of twenty five pairs on subjects such as 'Distant Lands' – travelogue subjects being very popular in an age when most working people could not afford to travel abroad. Early sets were black and white with later sets of pictures being hand tinted. The Cavander Camerascope was the viewer they commissioned the manufacture of to support this project.



*The Cavander Camerascope (1927) shown open, folded closed, and with individual card inserts.*

The width of the viewer is around 5 inches and the individual card dimensions that are inserted into the viewer are 2 ¼ inches wide by 3 inches high. This is an unusual format for photographs (but not for cigarette cards) but it is not by chance that they are this size and shape. Let's look at some aspects of stereo viewing to see why:

The imperative of any stereo viewing system is to make (or trick) each eye into seeing just the one picture produced for that eye. If this is done successfully the brain will fuse the two views into one and

produce an image in which true depth is perceived, in the same way that the left and right eyes do naturally with the subject directly in front of them.

This is most easily achieved with an optical viewer. The simplest configuration for one of these – of which the Camerascope is an example - is to use two matched basic magnifying lenses (x2 magnification is ideal), one positioned over each eye, and lined up to focus on individual pictures. The magnification and limited field of the lenses will mean that each eye only sees more or less what is directly lined up in front of each one. The average distance between the eyes of an adult human is 2 ½ inches. This governs the spacing of the lenses in the viewer. If two pictures are lined up in parallel in front of the lenses it follows that each image can only be 1 ¼ inches wide either side of its centre point otherwise it would overlap with the adjacent image. So each picture is limited to 2 ½ inches in width. 3 inches vertically provides an optimum degree of accommodation that the eyes can comfortably make within the viewer.

Hence the 5 x 3 ½ inch folded dimensions of the Camerascope. By serendipitous chance the 2 ¼ x 3 inch dimensions of each inserted card are a perfect size for inclusion in a 20 pack of cigarettes!



*A Classic view of The Lee across the village green as featured in 'Midsomer Murders'. Cosina CT10 SLR 35mm Camera c1984. March 2011*

Once I had worked out the viewing issues between the pictures taken with the Coronet and the Camerascope Viewer I turned to the pair of 35mm films that I shot with the paired Cosina Single Lens Reflex Cameras:



*Left and right views of The Lee Village Green shot on the Cosina CT10 and CS2 SLRs respectively, mounted on a makeshift Stereo Bar. Note the horizontal positions of the foreground posts in relation to the house windows and trees. The left picture shows them shifted to the right in relation to the distant objects while the right picture shows them displaced to the left. This phenomenon is known as 'Parallax'.*

My agenda here was to try and make Stereo viewing a 'Fun' thing rather than just a 'real' thing. – Let me explain:

The boring thing about stereo cameras (apart from the fact that they are rare and thus valuable if you can find and collect them – which is not boring) is that the shooting lenses are set two and a half inches apart. This is because, as I have said, our eyes are set the same. So why is there a problem?

There isn't. Pictures produced with these cameras (such as the Coronet) and viewed correctly will give a very faithful replication of what we will see of a scene with our own two eyes from a fixed position. But life is not like that. In real life we move around. We will move towards and across the path of a scene. This movement informs our perception of the scene and its depth. We will use changes in perspective and parallax movement (where a subject nearer us appears to move relatively faster than something further away) to gain experience of the space. Sounds generated by dynamic aspects of the scene will affect our response. We will use Aerial Perspective (how the thickness of the air atmosphere filters and obscures the definition of distant objects) to evaluate distant scenic features.

None of these real life features can be offered by a static stereo photograph which is why standard stereo picture pairs tend to have a novelty value, but generate little lasting interest. After an initial burst of enthusiasm a newly purchased stereo camera finds itself consigned to a bedroom drawer in favour of a more convenient single shot camera, the results of which can be viewed without cumbersome secondary apparatus.

If you mount two SLR cameras side by side on a bar the distance between the two lenses becomes five inches. This increase from 2 ½ inches opens up a new world. Looking at the results the objects we view gain new solidity. We notice the stereo now. It's not real – it's bigger than real. If we look at just small pictures in the viewer they look amazing. Everything looks new. And it stays new!



The Lee (Coronet)



The Lee shot C



The Lee shot E



Four made-up cards actual size of The Lee, Buckinghamshire. Top left; from the Coronet Stereo camera. Top right and bottom left; Stereo pairs from the Cosina CT10 and CS2 Single Lens Reflex 35mm cameras. Bottom right – Vertically cropped stereo pair from the Cosinas.

I did manage to get the results from the paired cameras that I hoped for. But my expectation of it being problem free was sadly very naive:

For a start the two Cosina Cameras were not nearly as compatible as I hoped they would be. The one thing I had managed to get right was the two lenses which were of identical 50mm specification even if they had different brand names on them. Despite looking very similar however the cameras were different in all significant details. To start with they have completely different shutters. The older and heavier CS2 has a traditional horizontal travel cloth focal plane shutter. The CT10 has a vertical travel metal blind focal plane shutter. Each camera has battery driven automatic exposure control by adjusting the shutter. But the problem here is that there is no telling what each camera would decide would be the correct exposure. I wanted them to be identical.

So my bright idea was to put them onto manual shutter control – which for each camera meant setting the shutter to the flash synchronisation setting. This is because (as everyone knows) the default synch setting for a horizontal travel shutter is 1/60<sup>th</sup> second and for a vertical drop shutter, 1/125<sup>th</sup> second. – Of course they would be different for the two cameras. No problem I thought. I will just make a correction on the aperture to get the exposures identical across the two cameras. So I set the CS2 to f11 and the CT10 to f8. These setting should have given identical exposures across the two films in the cameras.

But it didn't. There was almost two stops difference between the two films with that of the CT10 being on the edge of acceptable exposure, and the much denser film from the CS2 showing an ominous quarter of an inch of under exposure on one edge of each frame. This feature is symptomatic of a slowing down of the leading shutter blind as it reaches the end of its travel at the start of the exposure of each frame.

It's not the end of the world. But the combination of these two differences meant that for each paired set of frames I chose, I had to do a lot of correction work in Photoshop. Bringing up the brightness and tonal contrast of the under-exposed film to match that of the other also revealed some slight changes in colour cast that had to be addressed - more time spent. Use of the dodging tool in Photoshop quickly and easily corrected the under exposed edges of the frames from the CS2 however.

Two other issues came to light in operating the two cameras on the stereo bar. One I had anticipated and that was the simultaneous triggering of the two camera's shutters. The two release buttons did not line up conveniently close to each other so I made sure I had one of the cameras connected to a good new cable release (in the picture). I was easily able to hold the stereo bar with one hand and position the cameras while firing one camera directly at the same time as pressing the cable release to fire the other.

The other problem arose when I actually mounted the cameras on the bar. The tripod sockets were in different positions on the two cameras and one of them seated itself at a slight forward angle when I tightened up its locking screw. This was enough to give a slightly different vertical viewpoint between the cameras. To make things worse my rough and ready horizontal line up of the cameras was evidently too rough. Some selective cropping of each shot of the selected pairs was needed to ensure that each view showed exactly the same subject area. If I had designed the stereo bar better and checked the line-up of the cameras with it mounted on a tripod this later corrective work would not have been necessary.

For anyone planning on exploring stereo photography using a camera mounting bar, please take heed and profit from my haste-induced errors. A few minutes thinking about the material and surfaces of a bar or bracket, tripod mounting positions, camera tripod positions and balance will pay dividends. Luck may be needed in obtaining 3/8 inch Whitworth bolts and wing-nuts which have largely been superseded in hardware

stores by the much closer pitched M series. Do not attempt to use these with your cameras as they will ruin the tripod sockets.

Just two other minor points here. If you check my earlier photograph of the Camerascope you will see that I have two separate cards in the viewing windows. The actual size pairs that I have included in the diary are mounted on a single double-pictured card. I found slotting individual cards into the viewer fiddly and, since I am hoping to let visitors use the device at Prestwood, I found that a single card arrangement allowed for much easier insertion since they simply overlaid the centre slot section. They also have the advantage of releasing a greater potential picture area for viewing at the centre slot area.

And, concerning the available picture area, it also makes sense to take advantage of the 3 inches of vertical depth available to each picture. Horizontally mounted 35mm cameras are at a disadvantage here since the pictures are horizontal in aspect (it would be easy to construct a vertical mounting bracket which placed a camera either side of the bar). Since the pictures cannot be much more than 2 inches wide for the viewer a horizontal 35mm frame will, of necessity be quite small. I have taken the opportunity with some of the frames to crop them vertically to give overall larger vertical pictures which spread over the bigger 2¼ x 3 inch viewing area

One final tip for anyone printing out cards for viewing. For my first attempt I used a standard business configured black and white laser printer. Despite having a high text resolution the printer had a non adjustable dot for continuous tone images of 72 Dots per inch. This dot pattern was clearly visible under the magnification of the stereo viewer. I would recommend any standard colour inkjet printer with photo quality printing capability set to its highest quality / resolution. Results from these should be good.

## **CONSTRUCTING A HOME-BUILD STEREO VIEWER**

It has occurred to me that not every person that reads this and wishes to make their own stereo photography investigations will have to hand, or easily be able to acquire a Cavander Camerascope or similar viewing device. I guess they are now very rare. Some very early Victorian stereo viewers may still be around and stereo viewing toys sometimes feature in large toy stores. With this issue in mind and with the intention of multiplying the number of viewers available for use at Prestwood I have constructed a home-made viewer based on the Camerascope basic design and I include basic guidelines here for anyone wishing to do similar.

The first thing to find is some magnifying lenses. Two places proved successful: Maplins Electronics Store and W H Smith. I was able to buy magnifying glasses at Maplins with 2¼ inch diameter plastic lenses in holders that were easily unscrewed (since they contained a lighting circuit) to release the lenses. The beauty of these is that, if you later wish to restore them to their original holders all the components can be reassembled. These glasses cost about £5 each and have the ideal magnifying factor of x2.



*(Left to right): The Cavander Camerascope with the combined double image inserts. The Maplins-sourced illuminated magnifiers with 2 ¼ inch plastic lenses. The close-up of the underside shows the lamps and securing screws seated in the retaining ring. A jeweller's screwdriver is needed to loosen these cross-hatched screws.*

The disadvantage of these selected magnifiers is their size at 2 ¼ inches diameter. No lenses over 2 ½ inches could obviously be considered since they would have to overlap to meet the maximum eye span of 2 ½". Butted together the Maplins lenses will just work but – as we will see – when mounted into the card they leave little room for manoeuvre.

I was able to obtain smaller magnifying glasses from W H Smith that were ideal. However they were more expensive and mounted into moulded frames that would need destructive force to prize them out. Also each lens had a secondary x5 magnifier set into the side of each lens which would need masking out when mounted in card.

One way I found of testing the lenses before purchase was to place one over each eye and try and focus on two identical subjects side by side. If you can comfortably fuse the two focussed images into one when doing this then the lenses will certainly work in a viewer. But don't spend too long doing it or you will get funny looks from the shop staff.

I have listed the other items you will need to have below. These can easily be obtained from any craft store, office supplier or model shop:

A medium size cutting mat

An 18" or longer steel ruler

A sharp craft knife

Sharp pencils

A small plastic right-angled set square

A thick sheet of black or dark grey mounting board

A heavy duty hand stapler – preferably with a deep throat.

A set of jeweller's screwdrivers or other tools necessary to remove the lenses from their original mountings.

Plastic or masking tape to cover staples and edges.

Mark off a 5 inch strip from the side of the mounting board with pencil and ruler. Make sure this runs for at least 18 to 20 inches for a safety margin. Cut it from the main sheet using the knife and steel ruler.

Mark off a right angle  $3\frac{1}{4}$  " down the strip and score it across the back to a depth of  $\frac{1}{3}$ <sup>rd</sup> of the board thickness. Fold it in and over to meet the rest of the strip.

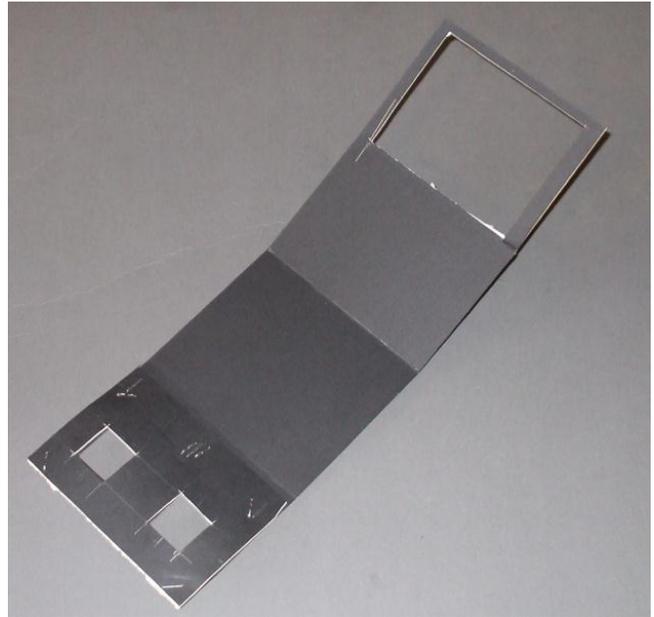
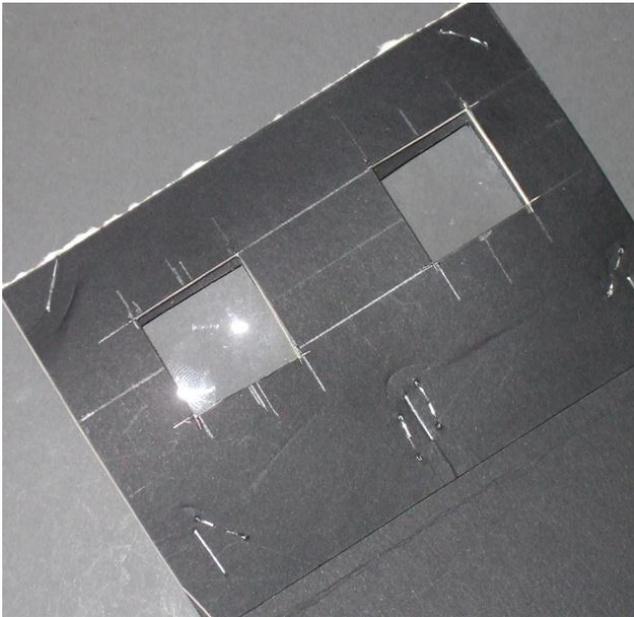
The windows for viewing through the lenses now need to be cut. They do not need to be circular as in the Camerascope and it is much easier to cut simple square apertures that function just as well. It also makes sense to cut through the double thickness of the folded down card rather than through each part singly. That way there are no issues about the registration of the four apertures.

From the folded point mark a thin horizontal centre line  $1\frac{3}{4}$  " below the fold. Create a thin vertical centre line at  $2\frac{1}{2}$  " and, where it meets the horizontal centre line mark off  $1\frac{1}{4}$  " in either direction horizontally. These two points give you the centres for each eye aperture from which you can mark off and cut the one inch square viewing windows through the double folded layer of card.

Now the tricky bit. Place the two lenses between the two card sheets so that their centres line up with the centres of the square windows. Bring the stapler in position and staple round each lens pinning the two pieces of card together to hold the lenses in an envelope. Take care that they do not shift position when you do this and beware of forcing them together so that they overlap. Make sure you position staples to separate the lenses from each other as well as enclose them in the card. Also have some staples near the fold so that it does not open out under pressure from the lenses.

Be very careful with the stapler. Each time you use it check that the exposed forks are fully home and not sticking out otherwise they will scratch you when you bring your face up to test the viewer. Once the viewer is complete all stapled surfaces and scored-folded edges should be covered in tape for personal protection.

Here the disadvantage of the large Maplins lenses becomes apparent. There is no free area within the card envelope to cut a triangular aperture for the nose. This is not serious but the lack of one makes the viewer slightly more uncomfortable to use. If you are using smaller lenses you may be able to cut a rounded triangle out at some point to improve this point.



*(left) The folded card envelope with the two lenses held in place with securing staples. All exposed staples should be checked and covered with tape before use. (right) the completed viewer consisting of 5 folded sections as seen from the inside (the first section has been folded to complete the lens holding envelope).*

Once you are happy with the secured lens folded section mark down from the back from the first fold to 3 ½ “ and make another horizontal line. Score (as before on the same outer side of the card) and fold inwards. You will find that by folding the first panel at 3 ¼” this will give you an inside clearance of between ¼ and 1/8” where the leading edge of the inner folded part of the envelope meets the new fold.

The next task is to find the correct focus point at which to mount the pictures. Using a single picture as a test, angle the viewing lens section at 90 degrees to what will become the bed of the viewer and slide the image along the bed being careful to hold it in the same 90 degree plane. Once you have found the best focus point mark it off on the card bed and score as before on the other side of the card. Fold inwards again.

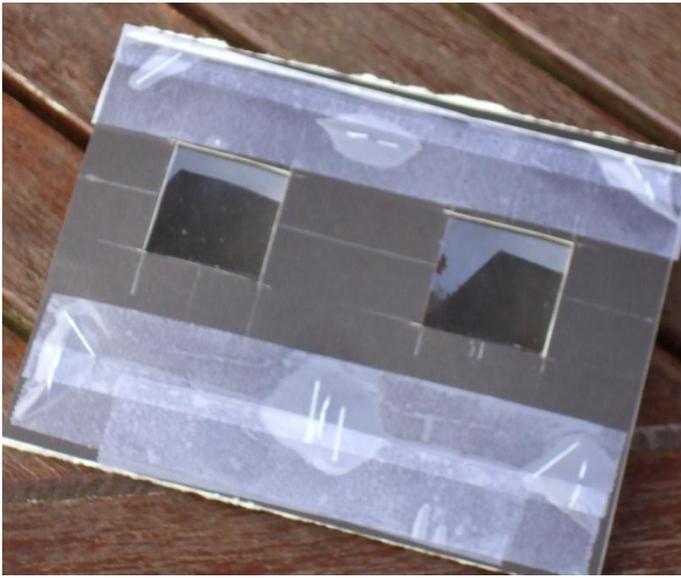
The focus point differs for different people so it does not have to be exact and can easily be varied in use by adjusting the plane of the lens panel and image-holding panel towards or away from the 90 degree plane.

We’re almost there now. We just have to make a mask to hold the cards in place and tidy it all up.

Go another 3 ½” along the card and score and fold across inwards as before. This gives us the top edge of the viewing panel that holds the pictures. With the last section folded fully inwards find the point at which it meets the inner fold at the bottom of the picture panel and mark across. Open it out and make a clean cut across.

On the last panel carefully mark out and cut a large aperture which leaves a clean card margin of about ¼” at the sides and bottom edge, but cuts clean across the point of the last folded section. This will give a ‘U’ shaped frame to help hold the viewing cards in place.

Your viewer is complete. Trim any nasty corners and cover sharp edges and staple points with tape and you are ready to have fun with stereo.



*(left) The home-built viewer with all staple points taped up for safety in use. (right) The completed viewer set for stereo viewing with a double picture card in place.*



*A stereo pair of photographs of The Lee, Buckinghamshire printed for 'Anaglyph' viewing using red and blue filtered spectacles. Cosinas CS2 and CT10 35mm SLRs. March 2011*

The Anaglyph stereo viewing system requires a full explanation:

Bearing in mind that the purpose of any stereo system is to present individual images to each eye exclusively, it does not always have to follow that the means to do this are through direct viewing optics. The current Imax cinema system uses polarised light. Viewers use spectacle fitted with polarised filters to reveal

and obscure the twin projected images. This system will only work with projected light images however, not those printed on a page.

Up to the minute technologically innovative stereo systems have been developed around High Definition Television which uses alternate pulses of left and right images synchronised with shuttered spectacles, and games consoles which use vertical slits or lenticular systems to show fragments of left and right eye images when the face is a specific distance away from the screen.

The oldest and most basic non-optical system however is the Anaglyph. It is based on the properties of coloured filters. If a red subject is placed upon a white background and viewed through a red filter then it will appear as if it were white and disappear into the background. Similarly with blue, green or any other colour printed onto white paper and viewed with a filter of the same colour. Primary colour filters – red blue and green will also have the property of blocking colours other than their own hue. So a red filter will show up a blue image printed on paper while making a red image printed over the same area disappear. Conversely a blue filter will show up the red image while making the blue image disappear.

In the three images presented here the left image is represented in blue (see the information following for colour revision) and the right in red. To view them you need to construct a pair of glasses with a red filter over the left and a blue filter over the right eyes. Or – for a crude makeshift solution - the filter material could be secured to your own existing set of correction glasses or taped across a pair of old or very cheap broken frames where the lenses have been removed



*The Cock & Rabbit, The Lee, Bucks., March 2011. Cosina SLRs with red / blue stereo Anaglyph.*



*The Lee, Bucks, March 2011. Stereo pair shot on Coronet 3D 127 format camera 1955. Red / Blue Anaglyph system.*

The anaglyph system is a far from perfect way of presenting stereo images however. For a start all colour information is lost from the pictures which have to either be of black and white origin or have the colour stripped from them before being translated into the single primary colours of the filters.

For anyone wishing to do this, the basic steps in Photoshop (\*) are to convert each image to greyscale, then select the 'Duotone' mode to change the black image elements into a specific colour. (That's IMAGE > MODE > GRAYSCALE followed by IMAGE > MODE > DUOTONE when working from the Photoshop Menu bar).

(\* I am using Photoshop version 6. Later versions may have slightly different pathways for achieving this).

From the Duotone Options dialogue box select MONOTONE and click on the filled square. This brings up the colour picker box. Locate a pure red or blue area from the vertical bar to the right and pick a point in the large graduated box right on the top edge at about the mid point along. This will give a de-saturated but pure duotone filter colour free from any black strengthening which will occur if you pick a point any lower. Any black tint to the printed image will reveal it to both colour filters so this must be avoided.

Click OK to close the two dialogue boxes and the image will pick up the new colour. Do a visual check between the computer image colour and the filter colour (remember they will be left / right opposed) and save the image.

I found the most practical way of combining the two images on paper was to print each one individually on the same sheet of paper fed for a second time through the printer. This result was then easily re-scanned to provide a combined image for inclusion in the document. It is probably quite easy to combine the two images in Photoshop if you know all the angles (one method would be to overlay the two images while reducing the opacity of the top image) but I did not want to compromise the integrity of the original tone selections.

And what of the final results? I had realised that they were unlikely to be perfect and I anticipated a little ‘ghosting’. By this I mean that when the filters are in operation it may be that they would not render entirely the invisibility of the printed ink of their own colour so a slight residual double image may persist. As it turned out the red filter was extremely good at excluding the red image. But the same wasn’t true of the blue (I also tried green but with no greater success). Reducing the saturation level of the blue tone helped but did not entirely eradicate the ghosting.

Only later, when I had seen some anaglyphs (and the viewing spectacles) presented in a completely different exhibition which did not have any significant ghosting, did I eventually realise what the problem was. The trouble with the colour blue (one of the 3 primary light source colours) is that, if you use a primary separation blue filter to make the printed blue image invisible, this filter is so dark that it effectively renders the viewing process unworkable. Certainly it can’t match the clarity of the image through the red filter.

I had been unaware of this. It had not occurred to me that the actual filter material used for the blue side of the spectacles was lighter than the blue primary colour and more closely matched the secondary colour: cyan. This filter certainly could not filter the magenta component of the blue ink hence the image ghosting.

When I had thought of red / blue anaglyphs I had thought of exactly that: red and blue printed images. I have now seen the light (excuse the pun) and realise that the blue printed image actually needs to be a cyan image – that’s the blue ink without its magenta component. This colour is rendered virtually invisible by the lighter cyan filtered spectacles. The Anaglyphs printed in this journal now have cyan rather than blue left - eye components. The previous ghosting problem has all but been eradicated.

The Photoshop settings for these duotone colours may be of use to other experimenters so I have included those that I finally used here. I found that at full saturation both the red and the cyan colours gave some ghosting when printed so I lightened them up by adding some measure of the other components to the point that gave optimum results.

Photoshop uses a 256 level scale for each colour running from 0 to 255. My best settings:

	LEFT EYE	RIGHT EYE
RED	133	255
GREEN	255	100
BLUE	255	100



*The separated out duotone colours selected for the left and right (respectively) stereo images. The blue left image is seen through the red filter worn over the left eye. The red right image is seen by the blue filter worn over the right eye. The original blue colour shown caused significant ghosting with the viewing spectacles which was eradicated when replaced by cyan printing (see 3<sup>rd</sup> picture).*



Technically successful or not, the Anaglyph system never was, nor ever will be a mainstream or popular method of Stereo presentation. Aside from the fact that it can't render colour in the image the reduction of the images to washed-out primary tones means that the final results will never sport a full tonal range and will appear muddy at the best of times. The primary-coloured filter spectacles also cut out a huge amount of light so the printed results can only be adequately viewed under strong illumination. Most significant of all, and something forming the corner-post of all other successful stereo systems, is that the printed combined images cannot be viewed comfortably in a non-stereo mode. They just look like poor photographs taken through a terrible lens.

But, rest assured, you will find Anaglyph stereo pictures cropping up from time to time in magazines in advertising and editorial promotions which will include a pair of special filtered viewing spectacles free! It's one more novelty (along with the tear-off scent patch) that the media men keep in their armoury of devices to use when times are hard or everyone in the team has run out of other ideas. They are always fun and the spec's are worth keeping.

Photographic Lighting Gels are the best means of obtaining sufficient filter material which is made of durable and largely heat resistant strong cellophane-type film. It does not need to be of optical quality which would be very expensive if purchased as photographic filters which are unnecessary. Gels are available in 20 x

24 inch sheets. Theatre equipment suppliers will also have them, possibly in smaller sheet sizes for use on theatre spotlights. You will need to check the net.

If you explore The Anaglyph Stereo System, I wish you well. I hope my experiences will be of use to you.”



*Found 120 format colour film in Agfa Isolette II (1948). Location and Photographer unknown.*

When collecting old cameras, it's always exciting to find an exposed film inside. If it can be processed and images recovered, wonderful! You get an immediate and personal glimpse into someone else's life without the need for intrusion or permission, so long as you treat what you find with respect. It's a direct line of communication to the past.

This was the case with an Agfa Isolette I picked up two years ago. The film had suffered progressive deterioration in camera storage with pictures at one end of the reel fairing worse than those at the other. The football shot I have included is at the poorer end of the reel but I have cropped and tidied it up because it shows such a decisive goal-scoring moment. One can imagine the absolute joy of a Sunday League amateur footballer as he finally finds himself in possession of the ball and an ideal scoring position ahead of two defenders. He may never have known his moment of triumph was recorded for posterity.



*Found Film 120 format in Agfa Isolette II (1948). Date, location and photographer unknown.*

The next two pictures from the same film are evidently a matched pair. A young man and woman, boyfriend / girlfriend, husband /wife? On holiday or at home? Whatever the case they are playing the classic game of 'I'll take your picture if you take mine'. Maybe the man is more interested in the woman than she is in him because he manages to frame her dead centre while she seems more preoccupied with the houses behind.

And what's the rough date here? 1975? – do the clothes give us the answer? What happened to the couple? Did they buy a new camera and forget the film in the old one? Did they split up and loose interest in their shared memories? Who knows.



*Found Film, 120 format. Agfa Isolette II (1948). Date, location and photographer unknown.*



*Lowndes Park, Chesham, Bucks, December 2009. Agfa Isolette II 120 format 6x6cm (1948).*



*Lowndes Park, Chesham, Bucks, December 2009. Agfa Isolette II 120 format 6x6cm (1948).*

I have several Agfa Isolettes in my collection. The one used here is the best quality and specification of this particular configuration of camera that Agfa produced in large numbers. The drop bed bellows camera taking a 120 film but orientating it horizontally and giving square pictures composed with an eye level

viewfinder and exposed with a body-located shutter release marks a significant update of the previously ubiquitous drop-bed design that produced large vertical pictures 6x9cm and was held clumsily at waist level while the photographer squinted uncertainly through a tiny reflex finder mounted on the front lens panel. Once the lens settings: focus, aperture, shutter speed and tension had been set on the lens ring of the Agfa, the photographer could bring the camera up to eye level and wait for the action to happen in the viewfinder before snapping the picture, just as if it were a Leica.



*Left to right: The Agfa Isolette II 6x6cm medium format camera (1948), The Pentax K1000 35mm Single Lens Reflex (1976) and the Vivitar K mount 28 to 210mm SuperZoom lens (1990).*



*Chesham, Buckinghamshire, December 2009. Pentax K1000 with 28 to 210mm Vivitar Zoom lens.*



*Chesham, Buckinghamshire, December 2009. Pentax K1000 with 28 to 210mm Vivitar Zoom lens.*

The designation II on the Agfa Isolette indicates that it is one of the more advanced models with a built-in rangefinder. This is of the rotating prism double image type and easily identifies the camera from the second window visible in the top body panel which accompanies the viewfinder. This particular camera was in exceptionally good condition and I was eager to try it during one of the heaviest snowfalls Chesham had experienced, in 2009 on the run up to Christmas. I feared that the delicate leaf shutter might freeze in the -7 degrees of daytime frost so I shot quickly keeping the camera under my anorak between scenes (yes – I am an Anorak).

The rangefinder on this camera is of the more basic non-coupled variety however – which means that it does not work in tandem with the lens focussing ring. You read the rangefinder results off a dial and transfer the distance value to the lens. I didn't bother to check its accuracy. As an experienced photographer (in my opinion at least) I reckon I can estimate distances accurately so I set the focus ring to my own judgement. It didn't make much difference anyway when the geese decided to come right up to the camera looking for titbits.



*Lowndes Park, Chesham, Bucks. December 2009. Agfa Isolette II 120 6x6cm camera (1948).*



*Lowndes Park, Chesham, Bucks. December 2009. Agfa Isolette II 120 6x6cm camera (1948).*

The Pentax K1000 represents a pivot point in the production of single lens reflex cameras by the innovative Asahi Optical Co. of Japan. In the post-war period they had been in the vanguard of technological camera development, being the first manufacturer to incorporate an instant return mirror into SLR design. Later in the '70s they were first with Through the Lens (TTL) spot metering. They were the first company to use a right hand film advance crank and left hand rewind crank. The general layout of controls and instruments on the camera was so ergonomically successful that it became the model for 35mm SLR design across most manufacturers from then on.

While Pentax Cameras have never been at the centre of professional use such as Canons and Nikons (and later – Olympus) they have always had a reputation for quality build, excellent handling characteristics and design. The M42 screw lens mount became the most common interchangeable lens mount in general use

and was adopted by many other manufacturers. Photographers of a certain era still go misty eyed with nostalgia at the memory of the Spotmatic series of Pentaxes and the K series that were developed with the new Bayonet Lens mount – which also became widely adopted. The K1000 was the fourth incarnation of this series with full open aperture matched needle through the lens metering. Launched in 1975 it was extremely popular and almost unbelievably continued in production until 1990 – one of the longest production runs of a single camera model ever. The earlier cameras were produced in Japan with production switching to China later.

The M series of Pentaxes that followed continued to use the K mount with additional electronic contacts. These cameras were still nicely built, but much more compact to resemble the Olympuses. Purely mechanical operation was replaced by electronic control systems to reflect general progressions in camera design. But Pentax had lost faith with the old brigade that valued full mechanical operation, accepting battery dependence only for peripheral activities such as metering.



*Chesham, Bucks. December 2009. Pentax K1000 35mm SLR (1976) with 28 to 210mm Vivitar Super Zoom (1990).*



*Chesham, Bucks. December 2009. Pentax K1000 35mm SLR (1976) with 28 to 210mm Vivitar Super Zoom (1990).*



*Chesham, Bucks. December 2009. Pentax K1000 35mm SLR (1976) with 28 to 210mm Vivitar Super Zoom (1990).*

I have been using Pentaxes, and especially the Pentax K1000 for most of my working life as a photographer. The layout of these cameras feels completely natural to me so when this early Japanese model came in to my hands I had no issues about trying it out.

But the 28 to 210mm Vivitar Super Zoom of 1990 was an unknown beast. This had come with the camera and, as with the Pentax, was in immaculate condition. I was wary of the quality this lens might (or might not) deliver and I'll tell you why.

Up until the '80s zoom lenses for 35mm cameras were fairly crude (and very long) lumps of metal and glass. With one ring round the lens barrel for focus and another for the actual zoom they were difficult to handle and had limited zoom ratios – normally about 1:2. Then along came the Vivitar 'One Touch' 70 to 210mm Zoom and the photographic press went wild. With an unimagined 1:3 ratio and a single large ring that was twisted to focus and pushed up and down the barrel to zoom it was a perfect vanguard for the new generation. And it delivered excellent picture quality.

Since then the basic design has been replicated and extended by other manufacturers and, in the most extreme cases, Super-zooms were developed that increased the zoom ratio particularly at the wide angle end of the spectrum, their selling point being that the one lens would do for all occasions and it wouldn't be necessary to keep changing lenses whenever you wanted to do wide angle shots. The problem was that none of these lenses performed very well particularly at the wide angle end of the scale. Zoom specification had been prioritised over optical performance quality.

Mind you the Vivitar 70 to 210 wasn't perfect. I managed to persuade my boss to buy one for our department and the first time I used it I fixed it to the camera, stuck it on a tripod (which wasn't easy since the lens barrel was much wider than the base point of the camera), lined it up to point down at the products we were shooting and went for coffee.

When I came back I found that the shot had changed. The one-touch zoom ring had slowly crept down the lens barrel under the influence of gravity and zoomed in extra close on the product!

The Vivitar Super-zoom has a staggering ration of 1:7.5 so I was sceptical as to how it would perform, specifically at the 28mm wide angle end of the range. I needn't have worried. The sledging shot which I have printed full page shows how the quality has held.



*Edgcumbe Estate, Plymouth. August 2010. Retina Reflex III 35mm Single lens Reflex Camera with 135mm lens.*

Of all of the cameras of the 1960's there is perhaps no more beautiful a camera purely just to look at than the Kodak Retina Reflex. It represents Kodak's last major excursion into the highly competitive precision end of the 35mm camera market with a complete Single Lens Reflex system based around their German manufacturing base and employing the very best of German optics to provide the lenses for the cameras.

Ergonomically the camera is not of the best layout, with its lever film wind, film counter and aperture adjustment all set in the base. But even this arrangement is turned to visual advantage with the fitted leather case which does nothing but add to the visual appearance of the camera in the way its leather and chrome edging segue round the front and base controls.

Technically the Retina Reflex is of the more complex leaf shutter configuration rather than focal plane. When wound on ready to fire the behind the lens shutter is open as is the aperture and the mirror is down for viewing. At the point of taking the picture the shutter and aperture close down. The mirror flips up and the shutter fires to provide the exposure. There is no instant mirror return. The camera stays in this state until the wind on is actuated. All of the shutter, aperture and focus controls are based around the lens barrel with two useful red markers moving in tandem with the aperture setting to indicate the depth of field on the focussing scale.



*The Kodak Retina Reflex III 35mm Single Lens Reflex with ever ready leather case (left) and base detail (right).*



*Totnes Town Centre, Somerset, August 2010. Retina Reflex III camera with 50mm lens (1965).*



*Slapton Sands, Devon. August 2010. Kodak Retina Reflex camera.*



*Edgcombe Estate, Plymouth, Kodak Retina Reflex 35mm Camera*



*Folly, Edgumbe Estate, Kodak Retina Reflex 35mm Camera.*



*The 'Ocean Princess', Plymouth. Kodak Retina Reflex Camera.*



*Dartmouth Harbour, August 2010. Kodak Retina Reflex 35mm Camera.*



*Dartmouth Steam Railway, August 2010. Kodak Retina Reflex Camera.*

I had bought the Retina Reflex with a superb f1.9 50mm Schneider Xenon lens and, as you can see from the pictures selected, it performed excellently even when faced with flare-inducing circumstances. I also managed to obtain a very good 135mm lens which came in very handy when I came across the deer in the Edgcombe estate. Mind you, by the time I had fitted it to the camera they had started to notice me.



*Penants at Plymouth Classic Boats Festival, August 2010. Exacta Varex 35mm SLR (1951)*



*Bow of the Johanna Lucretia, Plymouth Classic Boats Festival, Aug. 2010 Exacta Varex (1951)*



*Rigging on the Johanna Lucretia, Plymouth Classic Boats Festival, August 2010 Exacta Varex 35mm SLR camera*

The Exacta Varex is a single lens reflex camera of a generation before the Kodak Retina Reflex. From 1951 it was one of the pioneer designs of the Single Lens Reflex 35mm format. With its angular body shape, buttons, sockets, knobs and dials sprouting from all surfaces it can't be described as beautiful but it has a rustic charm and brashness in the way its chrome components are presented on the black fabric covered body.

Its layout is unusual compared to modern SLR design and it incorporates many innovations that have mostly been dropped in more recent designs. Its substantial genesis is sported on a large plate with the legend 'Exacta Varex VX, Ihagee, Dresden'. Behind that is a removable Pentaprism housing. A direct screen magnifying hood is also available for this camera and luckily I have one with another Exacta which I did not pack for the holiday.

Contrary to all modern SLRs the film is loaded not from left to right but from right to left in the body chamber with the lever film wind on the top plate but operated by the left hand in an awkward motion that has to bring it all the way round to the front of the camera to complete a full film wind on. The shutter release is also on the front of the camera operated by the left hand.



*The Exacta Varex VX Single Lens Reflex 35mm Camera 1951*

I purchased this camera as a kit with 3 lenses. A 58mm f2 Carl Zeiss Biotar was the standard lens with a 135mm Zeiss Triotar long lens. A much later Prinz Galaxy f3.5 35mm wide angle lens from Japan was also included, having been adapted with an Exacta Mount. In use these lenses weren't easy to use. There is no stop-down aperture system on the Exacta so each lens has to be focused at open aperture then stopped down to the desired aperture. This is semi-automated with a preset ring which fixes the stop-point of the aperture which you can run the aperture ring up to when focused prior to shooting.

The system is messy and made more awkward because of a relatively poor dim viewfinder. The wide angle lens in particular had so much travel on the focus ring it was almost impossible to pick the best point. Never the less the camera and lenses proved operable although I managed to jam the first film in such a way as I had to abandon it and the (no doubt brilliant) shots I had to sacrifice along with it.

Although the camera has a perfectly functioning cloth Focal Plane Shutter it does not have mirror return so, like the Retina Reflex, there is a blackout after the picture has been shot. The one unusual feature this camera does have is a built-in guillotine which can be used to cut a film mid-roll. The camera could possibly have been used in cassette to cassette mode (since the take-up spool is removable) which would have meant that, once cut, both the exposed and unexposed film cassettes could have been taken out without any fogging. This would have facilitated the switching of film types during shooting or the process of clip testing – where a portion of a film is processed to check exposure or filtration settings prior to exposing the whole film – a standard procedure in scientific photographic applications.



*Rigging Detail, Johanna Lucretia, Plymouth Classic Boats Festival, Aug. 2010. Exacta Varex 35mm SLR*



*(Left) A Pirate, (Right) Johanna Lucretia, Plymouth Classic Boats Festival, August 2010. Exacta Varex 35mm SLR Camera (Below) The Johanna Lucretia, Plymouth Classic Boats Festival August 2010. Exacta Varex.*





*Plymouth Classic Boats Festival, August 2010. Exacta Varex VX 35mm Single Lens Reflex Camera, 1951*

That's it for this volume of photographs. I hope you enjoyed them. More to follow soon."

John Bunyan

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Contact:

[johncbunyan@gmail.com](mailto:johncbunyan@gmail.com)

