



February 2010

Newsletter of North Cheshire Photographic Society

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### **Science and Photography**

On Tuesday 24 November John Ranson took the broad subject of Photography in Science as his theme. He noted that the pin-hole camera concept (an inverted image in a darkened room) was in use as far back as the 5th century BC in China. Canaletto used this Camera Obscura method to produce images with perfect perspective. The largest pin-hole camera was produced in an aircraft hanger in California. Here the negative film was 107 feet long by 37 feet high and the pin-hole a quarter of an inch diameter. The pin-hole size is important. It determines the amount of light entering the system. A smaller diameter increases image sharpness until diffraction effects begin to dominate. A rule of thumb indication of the optimum diameter is given by 0.036 times the square root of the distance from the pinhole to the film plane. Thus for a 100mm gap the pinhole diameter should be about 0.36mm.

Zone plates, an alternative to the lens, make use of diffraction. John used several examples (water waves and sound waves in air) to illustrate waves constructively and destructively interfering with one another. This effect is the basis of the Zone Plate. Binary Zone Plates (alternate clear and opaque rings) have several points of apparent focus whereas the Sinusoidal plate (where the density of opaqueness varies with radius sinusoidally) has one clear focus point. Zone plates can be used at many frequencies outside the visible spectrum, where glass is not an option – X-Rays being a good example.

The Fresnel lens is an alternative; a flatter version of the usual glass lens, where the surface curvature is maintained, but the whole lens “flattened” by effectively removing glass in the middle. However, using too many sectors leads again to diffraction problems. John gave several examples of the common use of the Fresnel lens; from the

overhead projector to the “map reader” magnifier to the Lighthouse lens.

John discussed the importance of the anti-reflection coating of the camera lens and how, by gradually increasing the opaqueness at the edge of the lens diffraction effects can be reduced. Apodization was the name given to this process.

John reviewed the spectral response of the eye (effective over the range 400 to 700 nm wavelength) and compared it to the different response of the Cathode Ray Tube phosphors and the tri-colour filters used in colour film. He briefly discussed the Bayer matrix of RGB filters used with digital sensors. X-Ray photography has proved useful in recovering data hidden within documents and paintings, whilst infra-red photography has proved useful in detecting hidden features in the ground. Fibre optics have proved invaluable in medicine (the endoscope).

John discussed the advent of the liquid lens for camera phones, where the curvature of the oil/water interface can be altered to produce zooming effects, and considered how “autofocussing” was achieved by detecting an abrupt change of contrast at focus.

High Speed photography had been an important part of his job early on at Pilkington’s, where the strength of CRT glass, the shattering of car windscreens, and the growth of internal laser damage of optical glass were important problems to be solved.

John considered a range of early hoax photographs, and how the hoaxes had been uncovered before turning his attention to UFO’s and the Loch Ness Monster. He concluded with a famous shot of the largest cat in Canada, almost the size of its owner.

In his Vote of Thanks Graham Johnston said he had been interested, fascinated, and mesmerized, in turn, by the wealth of information presented. He felt the audience could all relate to parts of the talk. He himself had sat in the dentist’s chair, watching on a screen, as the dentist proceeded with his root filling (just one of John’s many examples). It had been good to sit back and take in the wider picture of scientific photography, and he called upon the audience to say thank you in the usual way.

Bill Chadband

### **3<sup>rd</sup> Digital Workshop – 1<sup>st</sup> December 09**

We welcomed Mike Lawrence DPAGB, AFIAP, to this our third workshop of the session. This was a return visit, from the same time last year, with the objective of both refreshing and furthering his teachings on selections in Photoshop. He said that he had only scratched the surface previously and added that his way was not

necessarily everyone's but any other was less right than his! This we were soon to appreciate as his knowledge of Photoshop takes some beating. However, at half time Roger allowed Jon Allanson 15secs to comment and provide a paper on the topic!

Mike started by emphasising that to make selections, one had to learn to use the various tools with the Mouse or tablet whilst using the four fingers of the left hand on the keyboard. The understanding of this was paramount to being successful at making good selections. The main keys were Shift, Alt and Ctrl plus the Space Bar and he outlined the functionality of each, in respect of their relationship to the various selection tools.

Using an image of a Robbie Williams look- alike Mike demonstrated the use of the Lasso and Marquee tools and used the different types on this image and one of an aircraft. This he expanded into the use of the Magic wand and changing of its tolerance. Throughout, he related to the various layers and masks and how Quick Mask and layer masks work. He covered the destructive eraser tool which, he didn't like using. After his final selection of Robbie, he placed him in the Aircraft scene to demonstrate the objective of the process.

After the break, Mike selected an image of a girl singer and demonstrated at length the various ways to select her outline whilst maintaining the detail in her hair; this took us into paths and colour channels and if we tried and remembered a fraction of the processes, we would be pleased with the results.

Tony Redford proposed the Vote of Thanks. He first said Mike was an absolute master of selection and found it good that the chosen images were not easy ones, as he had demonstrated the degree of difficulty and perseverance required even by an expert. He was sure that if we could use just some of what we had learnt, our Photoshop skills would be enhanced.

John Garner

## **Second Projected Image Competition 8 Dec 09**

John Royle of Crewe Camera Club was our judge for this competition. John set the tone by saying what a privilege it was to visit one of the best Clubs in the region. He thought it was next week when he would be visiting that club! More seriously, he explained that he was responsible for the L&CPU Web site and he was intrigued to note that nearly half of the log-ons came via the NCPS website – a testament to the popularity and efficiency of the NCPS website.

John had 8 Intermediate and 102 Advanced images to consider. He thought titles were important in guiding the judge. In an image "Tree Detail" he discerned the head of a horse, and wondered if

the author had spotted this. It might have added to the overall impression. He subscribed to the general view that three was better than two, particularly when it came to pints of Guinness! Threes led to triangular forms which tended to define a Composition. Equally, having a foreground item, or person, helped to establish the 3-dimensional nature of a landscape. Bright Reds and Whites tended to attract the eye, even, he surmised when that wasn't the intention of the author. In particular, he commented upon broad white borders which (particularly when projected on the large screen) distracted the eye from the main picture. Occasionally he thought images looked elongated, as though they had been distorted to fill the screen. He held a few images back for more consideration, and eventually awarded "Best Image" honour to a monochrome by Ian Bramham.

In his vote of thanks Jonathan Bawden praised the judge's approach. He had been easy to listen to and very instructive, without needing to be disrespectful of any of the images. He thought we had all enjoyed the evening. The audience clapped in approval.

Bill Chadband

## **Christmas Special, 15th December**

More than 40 members and visitors gathered in the Civic Hall Council Chamber for the Christmas Special this year. After a brief introduction from the President, Tony Redford started on his programme of digitally projected AV sequences. Members enjoyed a two part set of sequences covering a recent trip made by Tony and Dorothy accompanied by Brian and Valerie Bower to the south western USA. We saw landscape, natural history and reportage images, many using the power of the software to scan across a scene and all exactly in time with the accompanying music tracks. They were followed by "Trains", a sequence starting at a model railway exhibition then progressing through real steam train scenes to scrap-yard images. The mood of the presentation then changed with a sequence of images taken on club outings. Early ones were "doctored" by Tony by the addition of supposed speech in "balloons", mostly greeted by hilarity from the audience. Later in the sequence Tony had added "Santa Claus" type white beards to club members, succeeding in making them appear funny rather than disguised and provoking even louder laughter. The climax of the evening was Tony's renowned and very aptly named "X-Certificate Christmas Cards" sequence. The earthy humour evidently appealed to the majority of those present with laughter so loud that it was fortunate that NCPS were the sole users of the building that evening. A brief but sincere vote of thanks from the President and announcements about the first meeting of the New Year (and handing-

in for our Annual Exhibition) closed the formal part of the evening. The chairs were then quickly packed away and all present tucked in to the extensive spread of eats and drinks with a Christmas party flavour that had been provided by members, making a suitable end to the first half of the society's session.

Roger Dye

## **The First Meeting of 2010**

5th January 2010 saw Hazel Grove and Poynton under 15cm or more of snow and freezing temperatures. Understandably most members decided against venturing out. 15 brave (or perhaps foolhardy) did make the journey to the Bowling & Tennis Club in Hazel Grove for the "Image Appraisal" evening of our Digital Workshop series, including one visitor and one new member. Fortunately all the necessary equipment also made it to the meeting. Those using four-wheel transport and the north access to Douglas Road made it all the way. Some had to complete their journey on foot as the small hill at the south end proved too much for the typical car. Colin Pickles came on foot all the way not, much to the disappointment of us all, on skis.

A range of images were shown by various members, all in projected form. Tony Redford led the discussion on each image presented giving the "judges" point of view and he also drove the computer as Barry's much admired skill with photoshop tone curves was not enough for him to negotiate the up hill 'S-bend' in his front drive; and as Roger was reduced to cracking the presidential whip with his left arm only. All the images seen were of competition standard and evoked favourable comment whatever the grade of camera used or the author's length of membership. Members found the evening helpful and enjoyable, and thought such sessions should be repeated. For once, the "social break" was unhurried and it was possible to finish slightly earlier than usual. As far as is known, no member was reported missing on the journey home!

At the time of writing the snow cover in Poynton is undiminished, but hopefully by next Tuesday road (and front drive) conditions will have improved enough for us all to make it to the Civic Hall

.Roger Dye

## **The Time Machine and all that Jazz**

Brian Bower FRPS gave, what has become a regular after-Christmas presentation, on Tuesday 12<sup>th</sup> January, This time Brian looked at early significant images by the early photographers, before going into some detail about the evolution of Leica cameras towards the present digital age. After the interval Brian entertained us with digital AV

presentations of recent trips he had made to the Caribbean and to Memphis,

Brian noted that camera images record, for posterity, a moment in time; and in this sense are time machines. Early cameras were bulky with large emulsion plates and the emulsions were slow (ISO values in single figures), So relatively static scenes were the ones that could be recorded, Frank Meadow Sutcliffe recorded for posterity many scenes around Whitby as early as the 1870's. Some remarkable images from war; the Crimean war, the relief of Mafeking, and the Spanish Civil war were produced. Robert Capa in a famous image recorded the moment a soldier in the Spanish Civil War had been hit (1935), and went on to capture instants of the D-Day landing (1944) and the faces of victims of the Hiroshima bombing. We saw pictures of early cars (1905), Ascot, just after the death of Edward VII (everyone in black); the Abdication of Edward VIII, Hitler with Mussolini , Chamberlain with his piece of paper "Peace in our time", and the 1966 World Cup Football winners,

Henri Cartier Bresson (born 1908) was an early adopter of the 35mm Leica camera, which allowed him to become a master of candid photography. Brian has been a keen advocate of the Leica. The first prototypes were built by Oskar Barnack in 1913. They went through several iterations and in 1923 a prototype series of 31 were produced, to immediate success..The Leica II in 1932 had a built-in rangefinder coupled to the lens focusing mechanism, In 1954 the M3 introduced the bayonet type lens mount. The M8 was the first digital M model introduced whilst the M9, introduced in 2009, is the first full frame digital camera produced by Leica.

The Caribbean AV was described by Brian as being a trip around the many islands in 7 minutes flat. Val and himself had been on a sea-cruise, but instead of doing the organized tours they had taken a taxi each time, to do their own thing.

In his vote of thanks Tony Redford remarked that we had had three talks for the price of one; a look into the early history of photography, a look at the evolution of the 35mm camera, and a trip around the Caribbean and the town of Memphis: three contrasting talks and we had enjoyed all three. The room had been packed for the talk and the applause was heartfelt.

Bill Chadband

## **An Evening with Richard Scaife and Paula Martin**

Richard's title was **An Accidental Hero**. He borrowed the title from novelist Zadie Smith who wrote a feature in the Telegraph, on the 60<sup>th</sup> Anniversary of D-Day, about her own father's experiences, and in this article referred to Richard's father 5 times. Richard went through his parents photographs (with them) identifying who was who, and in the

process realized how much Social History there was, and what a good subject it would make for his presentation.

So the early part of his presentation was a photographic history of members of his family from about 1902 to the 2<sup>nd</sup> World War. His mother's Grandfather, John Maud, was a farmer at Rillington and the farm is still in the family. Leonard Maud, his Mum's father was a Postmaster and shopkeeper in Skipworth. His Dad's father, Herbert Scaife was apprenticed in 1896 as a joiner and wheelwright in Escrick. By 1944 Richard's father was training for D-Day. He got a week's leave to marry his mother; and his father's sister arranged to marry on the same day but in the morning. They had a joint wedding breakfast at Skipwith.

His father was a tank Commander, and the latter part of Richard's talk related to the D-Day landings and the tanks. We saw wooden ramps and "hedgehog" defences on the Normandy coast designed to capsize or sink landing craft. We saw AVRE's (Armoured Vehicle Royal Engineers) fitted with a variety of attachments to assist in assaults. His father's Group landed at Le Hamel, now swallowed up by Asnelles. His father was awarded the DCM and eventually baby Richard accompanied his mother and father to Buckingham Palace to the investiture. Though told all of this by his parents he sadly has no memory of the proceedings.

Paula's title was **A Safari in Zambia**. She told us about the camera equipment she had bought, and the 10 week Open University Photography Course she had enrolled on. We saw a map of the tour with the various safari camps they stayed at. Her AV presentation was a feast of waterfalls and the various animals they had encountered; elephants and hippos, canoes and crocodiles, giraffes, zebras, apes and a variety of birds. Apparently the bush camps were all temporary structures liable to be washed away in the rains. And she told us a little about the life and the high mortality rate of infants in the country.

In his vote of thanks Brian Turnbull noted that the evening had been a game of two halves; Richard's History in Monochrome, and Paula's Colourful Travelogue accompanied by modern beat music. Clearly both presenters had put a lot of effort into producing the splendid evening we had had. The audience responded with applause.

Bill Chadband

## **Exotic Wildlife Photography**

Sheila Davies DPAGB gave a fascinating evening about Wildlife Photography on Tuesday 26 January. She went into considerable detail about the initial preparation. which, she felt, was the secret of a successful trip. This preparation included techniques for keeping your camera dry (Suitable see-through plastic bags – and Silica Gel

sachets), a lightweight polystyrene (home-made) bean bag (Tripods are rarely an advantage when they have to be carried along with other gear in difficult terrain), a mini laptop for storing and viewing images, and several 2Gb cards. She also carried a xenon torch and a head torch for nightwork. In some places dirty money could transmit diseases and so Wet Wipes were useful. A self-supporting mosquito net was also very handy; and she noted that clothing should be dark and capable of covering the whole body. Booking the right trip was an obvious starter. She preferred small groups with a properly trained leader, and the use of two trekking poles assisted moving about in rough country

In a series of AV's she took us to Uganda to see Hippos and great Apes. On an Island it was the people who stayed in the cages with Chimps posing outside to have their pictures taken. Although one should keep at least twenty yards from the Mountain Gorilla in order not to pass our germs onto them, on occasion they came closer out of curiosity. After refreshments, we were shown a green Africa; Zambia in the wet season, visiting the South Luonga National Park. Then South America (A Long Way Up) up to 16,000 feet in Argentina, where there were huge grasshoppers along with cattle and their drivers. A 12 minute AV of Alaska North, was followed by a 321 entitled Out Of The Blue. The 321 referred to 3mins 21 secs maximum length and was entered into an international competition where it did well. Since it was to be passed around an international panel of judges there was no spoken commentary; just Bears fishing, Whales, and the crunching sounds (and sight) of Icebergs

A 15 minute AV about Madagascar was entitled "A World of their Own. Sheila enthused about this Island, with its unique fauna and flora and noted that it should be the first on the list for anyone seeking an exotic holiday. Her final AV had won many awards and was entitled "Arthur's Secret" In 1942 Arthur had married Barbara quickly before leaving for overseas during the War. He became a Prisoner of War. In the prison camp, although it was forbidden, a fellow prisoner made sketches of the life there, and distributed the results (on scraps of paper) to several of the prisoners, to hide from the Japanese. Arthur returned home (though one in three died in the camps) and lived to be 75years before dying in 1990. leaving his wife and a son. Twelve years after his death Barbara discovered his Log and some of the drawings. These were the basis of this final AV. Sheila had married the Son!

Joyce Street proposed the Vote of Thanks. It had been a marvelous evening, and Joyce felt quite envious of Sheila's travels and of the resulting images. There were so many images of creature we had never seen before. Spontaneous applause from the audience echoed these sentiments.

Bill Chadband