Orbs - not paranormal?

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Interesting read, what do you think?

Orbs!... At last some definitive evidence that they are not paranormal

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Recent developments in digital camera technology has finally permitted an experiment to be undertaken that demonstrates conclusively that airborne material located close to the camera and reflecting the camera flash is responsible for creating Orbs.

The evolution of digital imaging which began in the late 1990's resulted in a revolution within paranormal research. Investigators began to report a phenomena previously unseen on images taken using conventional film based cameras. By common consent this apparently paranormal phenomenon was dubbed the 'Orb'. Orbs are generally bright circular anomalies within an image, although other shapes such as angular and elongated forms are known.. They may appear as single or multiple anomalies and may vary both in colour and intensity.

To date, many thousands of orb pictures have been offered forward by amateur paranormal investigators and lay members of the public as evidence and proof of something truly paranormal being captured by the camera.

Proffered explanations as to what orbs actually represent vary widely e.g. many investigators believe they are evidence of, and for, ghost and spirit manifestations. Others consider orbs to be the energetic emissions of angelic and otherworldly beings. The internet is filled with pictures containing orbs still being presented by paranormal investigators as evidence of some type of manifestation. Newspapers and magazines regularly publish pictures of orbs, repeating the claims for paranormality and occasionally adding a celebrity endorsement just for good measure as in the case of TV star Noel Edmonds. In September 2008, he claimed that his deceased parents "Are melon sized orbs" which he described as "Little bundles of positive energy" and "Conventional photography can't pick them up but digital cameras can"(Click HERE for Noel Edmonds article - this link opens in a new window and takes you outside the Para.Science website) . There have also been a number of books written describing the supernatural nature of orbs and how by interacting with orbs one can gain spiritual enlightenment i.e. 'Ascension Through Orbs' [Diana Cooper and Kathy Crosswell, Findhorn Press]

Many paranormal investigators now prefer to try and steer a middle ground through the orb problem - accepting that dust, flying insects, water vapour and other airborne particles are the likely cause of most orbs they find on their digital pictures and acknowledging the likelihood that the majority of orbs can be explained. All too often, they then go on to state that there remains a number of orbs, a figure of around 1% or 2% is usually favoured, that cannot be explained and so must therefore be paranormal. This small percentage are usually to be found on pictures they have taken! I also wonder how they achieve their statistical probability?

From 2001 - 2003, Para.Science undertook a series of studies to determine the nature of orbs and also why they appear on digital cameras as previously reported on this site. The result of that earlier study demonstrated the probability that orbs were simply the result of airborne dust, moisture and other particulates reflecting the light from the camera flash back toward the imaging chip, resulting in the characteristic bright anomaly. The earlier study also suggested that in order to produce an orb anomaly within a picture a number of conditions need to be met; i.e. The camera flash must have been used at the time of picture taking. The airborne material must be located within a few centimetres of the camera lens and the material must also be within a narrow range of angles relative to the lens centre axis for the material to be able to reflect the light from the flash into the lens.

This study did result in many people questioning the true nature of orbs and lead some to carry out their own experiments with the result that the probability that orbs are the result of airborne dust and other material has been widely acknowledged. However the inability of the previous study by Para.Science and others to conclusively demonstrate that airborne matter and moisture is responsible for orb production has allowed the debate between the orb believers and non believers to continue, to the obvious detriment to paranormal research and the continued confusion of all concerned.

An experiment considered some time ago by Para.Science was the use of stereo (left & right) photography to explore the orb phenomena. Using this technique it should be possible to test the hypothesis that orbs are airborne matter physically close to the taking camera. Thus, if an orb was found to be present on one picture of a stereo pair of pictures taken simultaneously and not present on the other; then the original source of that anomaly must be located within the angle of view formed between the flash and the lens in order that the flash illumination is reflected from the source to cause the bright anomaly to appear on the final picture. Also, such an object appearing on only one of the stereo pictures must be physically close to the camera. It would appear on both of the stereo pictures if it was located more than a short distance from the camera (normally less than 2-3cm), as determined by the separation of the two lens axes. Although stereo photography is a well understood technique that has been used with film photography for many decades the technical difficulties applying it to digital photography and ensuring that the resultant images were identical proved technically and practically insurmountable at that time. These difficulties included; finding a means of ensuring that both pictures were taken simultaneously, that both pictures had identical photographic settings i.e. focus & exposure and that both pictures had identical post image processing applied i.e. scene pre-sets, colour balance, file compression etc. The use of a stereo lens fitted to a digital camera

was also looked at but discounted as firstly it partially blocked the light from the camera's built in flash and secondly the use of a single lens / CCD meant that it would not be possible to fully exclude any artefacts and errors caused by the lens / CCD which is another known possible cause of some orb like photographic anomalies.

The Fujifilm W1 3D digital camera is currently a unique camera comprising a pair of lens and high resolution image chips forming a matched pair of image taking systems integrated within the same camera body. The two image taking systems share a single common flash positioned equidistant between the two lenses. Crucially, both matched image taking systems are activated by the same shutter button and use the same focus, exposure and flash settings, thereby ensuring that the two resulting images produced for each press of the shutter are identical in every respect except for the parallax separation between the left and right pictures. This camera has permitted the hypothesis that orbs are the result of nearby airborne matter reflecting the flash light back toward the camera to finally be properly tested. Para.Science was fortunate in being able to secure one of the first examples of this new type of camera shortly after its launch in the Autumn of 2009 in order to begin a renewed investigation of the orb phenomenon.

The camera has been used in a series of experiments undertaken at more than twenty locations widely spread throughout the UK and Eire during 2009 and 2010. Locations were selected to encompass a broad representation of allegedly haunted venues e.g. castles, industrial sites, modern retail premises and also included indoor and outdoor locations. Photographs were taken at some well known locations too, such as Mary King's Close, Edinburgh; Margam Castle, West Wales; and Wicklow Gaol in Eire to name just a few. In most instances the photography was undertaken whilst paranormal investigators & members of the public, unaware of the particular nature of the camera or the experiment being undertaken conducted some form of paranormal investigation. This lead on one occasion to an amusing incident when a Psychic Medium at one location noticed an 'orb' on the LCD screen of the camera and declared the photograph to be ' Proof' of the spirit of a young girl who haunted that location!

In order to replicate the "point and shoot" technique of most digital photography undertaken during amateur paranormal investigation the camera was only used in the fully automatic exposure and focus mode. The use of the fully automated mode also ensured that the resultant stereo pair of images are identical in terms of any software processing of the images that is applied in-camera i.e. those affecting colour balance, scene pre-sets, file compression etc. The stereo paired images were subsequently downloaded from the camera to a laptop computer. No enhancement or manipulation of the resulting images was undertaken. Each simultaneously taken stereo pair of images was then viewed side by side and simply compared visually for the presence of orb anomalies on either one of the pair.

To date 1,870 stereo pairs of images have been taken and examined. Orb anomalies have been found on 630 pairs. In 491 pairs, an orb or orbs was seen to be present only in the left or right image and not in the corresponding second image of the pair. In 139 stereo pairs, orbs were seen to be present in both of the images (left & right) but not in a position that corresponded to the individual orb being the same object.

This comprehensive survey strongly supports the hypothesis that orbs are simply the result of dust and other airborne material drifting close to the camera and reflecting the flash illumination back toward the image sensor and provides long overdue definitive evidence that their origin lies firmly within the mundane and explainable, not the paranormal or supernatural.

Interestingly, a further four stereo pairs of images show other anomalies that are frequently offered up as evidence of the paranormal. Two are images of the camera strap; whilst two more show breath condensation as the author exhaled. As with the orb photographs these four anomalies appear on only one side of the stereo pair, again showing that they were quite normal in origin. Before concluding it is also worth bearing in mind those original statistical claims that 1% or 2% of all orb pictures represent paranormal orbs. The survey to date has captured over 600 orbs so it might be expected that we should have expected to have found between 6 and 12 that were paranormal. We didn't - all 630 that we obtained in the survey were readily explained using the stereo photography technique. Statistically speaking that is 0% paranormal but 100% explainable.

So at last, it is hoped that this extensive series of pictures will finally remove much of the confusion and nonsense that has surrounded the orb and similar classes of photographic anomaly and permit psychical research to move forward from this long standing debate.

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