

RECENT PUBLICATIONS

Nicholas P. Allen "Verification of the Nature and Causes of the Photonegative Images on the Shroud of Lirey-Chambery-Turin" *De Arte* 51, Pretoria, UNISA, 1995, pp.21-35

Dr. Allen's hypothesis has been mentioned in earlier issues of this Newsletter, but the publication of this paper, of which a copy was kindly sent to us by Dr. Allen, has provided the first opportunity to study his arguments at first hand, and in proper detail. The highly important feature of his hypothesis is that he is the first (at least in this reviewer's opinion), to have produced a convincing replication of the Shroud image. Every previous supposed replication of the Shroud - whether by Dr. Walter McCrone, Joe Nickell, Kersten & Gruber, Picknett & Prince, Craig and Bresee, etc., etc. has failed to have the Shroud's photographic convincingness.

According to Professor Allen:

'If one reviews the findings of the 1973 and 1978 STURP commissions, both of which carefully analysed the characteristics of this seemingly paradoxical image, one can only conclude that some form of radiated energy (heat or light) could have formed the image, and arguably the simplest way to produce an image by a form of radiated energy is by employing some form of photographic-related technology.

Since 1990 the author has formally conducted a number of experiments which have employed the kind of technology available to certain mediaeval societies c.1200-1350 AD, and has shown that it is quite possible to produce a chemically stable (fixed) negative image of a human corpse on a piece of linen employing only three substances, all of which were available to people living well before the thirteenth century. These substances are quartz (rock-crystal), the silver salts (specifically silver-nitrate (*eau prime* and silver) and/or silver sulphate (oil of vitriol and silver) and ammonia (urine).

More specifically, if a piece of linen, permeated with a dilute solution of either silver nitrate or silver sulphate, is positioned inside a camera obscura [see overleaf], it can record (in the negative) the details of a sun-illuminated subject situated outside the camera obscura. It must be stressed that this image can only be obtained if it is focused onto the linen cloth by means of a quartz (optical quality, rock-crystal) biconvex lens. In addition, for this image to be life-sized... the subject to be 'photographed' must be positioned (that is, outside the camera obscura) some 4.4 metres [approx 15 feet] from the aperture, while the screen supporting the prepared linen cloth must correspondingly be placed at a similar distance from the aperture (inside the camera obscura). At these long distances... a pinhole and/or lens made from optical quality glass will not suffice ... only optical quality quartz will permit the passage of UV radiation from the subject (corpse) to the specific silver salt which impregnates the line material... The image thus obtained is in the negative, and (surprising as it may seem) after immersion in ammonia becomes chemically stable. In fact, by immersing the cloth in urine or dilute ammonia it is possible to remove all traces of silver (reduced or otherwise), and the cloth together with its encoded negative image may be brought out of the camera obscura into the light of day.... If a photographic negative is made from this cloth, then a highly detailed, positive image of the original subject will result...

From the preceding evidence... it is possible to postulate that somebody in the late thirteenth or early fourteenth century may have had the necessary knowledge and materials to have taken either a human corpse or even a life-like bodycast and have suspended it vertically in direct sunlight for an unspecified number of days such that it (the corpse) received in equal amount of morning and afternoon illumination [see cover photo]. The subject (corpse or bodycast) would have had to have been situated opposite an aperture (containing a simple bi-convex quartz lens) of a light-proof room (camera obscura). Inside this room or camera, it would have been necessary for a large screen to support the linen cloth (Shroud) which had been previously treated with a very dilute solution of either silver nitrate (0.5%) or silver sulphate (0.57%). The inverted image of the corpse would have been focused on this prepared support and after a few days the UV sensitive silver salt would have turned purplish-brown, forming... a negative photographic image of the subject. To achieve the twofold image which now appears on the Shroud of Turin, it would have been necessary for this operation to have been repeated twice to obtain an impression of both the frontal and dorsal images of the sun-illuminated corpse. After both exposures had been completed the linen cloth would have been soaked briefly in a dilute solution of ammonia (5%) or possibly even urine. This latter action would have ostensibly removed all silver (both exposed and unexposed) from the linen cloth and also would have allowed it to be exhibited outside... even in direct sunlight, without further discoloration occurring.

Professor Allen concludes: "It would seem... that the hypothetical photographic technique as elucidated ... is the only plausible explanation for image formation on the Shroud of Lirey-Chambéry-Turin and indicates that people in the late thirteenth or early fourteenth century were... privy to a photographic technology which was previously thought to be unknown before the beginning of the nineteenth century. The implications that this has for the history of technology and the history of art cannot be underestimated and far from condemning the Shroud of Turin as a mere mediaeval forgery or clever 'fake', we should strive to ensure that this remarkable and unique vestige of a lost mediaeval technology be carefully preserved for future analysis.'

In one of his notes Professor Allen corrects a journalistic description of his hypothesis likening the Shroud to a 'snapshot from the Middle Ages'. Prof. Allen points out: 'This notion is extremely misleading as it fails to take cognisance of the fact that the Shroud would have required several days of exposure to a sun-illuminated subject. In this sense the Shroud is not so much a 'photograph' as a 'solarograph' and is in effect quite similar to a suntan.'

The photographs reproduced by Professor Allen are all important, and need much better reproduction than is possible via this Newsletter, or indeed as they received in *De Arte*. Professor Allen's hypothesis undeniably *works*, i.e. producing a 'truly meaningful Shroud-like photographic image, and whatever one's stance on the Shroud this is a very considerable achievement in its own right. However, this is still a very long way from accepting that Professor Allen has proved the Shroud to be of mediaeval manufacture. He has quite incontrovertibly shown that the Shroud's *body* image is photographic in character, and can be replicated by photographic means. But this tells us nothing new. The true criterion is whether his reconstruction has satisfactorily convinced that this was how someone in the Middle Ages actually created the Shroud image. And there remain many difficulties to this.

Thus the professor is noticeably more than a little hesitant deciding whether the hypothetical mediaeval 'photographer' used a corpse or a bodycast for his purpose. For if this was an actual crucified corpse, then the idea of it being suspended for 'several days' in full sunshine boggles both the mind and the olfactory system, quite aside from the offence that this would have been to every mediaeval religious sensitivity. Furthermore any rigor mortis could not have held sufficiently to create the impression of the figure lying flat. And how could the 'bloodstains' - which by general agreement are not of the same photographic character as the body image - have been transferred by contact over a distance of twice fifteen feet (Professor Allen's calculation of the necessary focal length)?

Alternatively, if the mediaeval photographer used a bodycast (and the work of **Cennino Cennini**, of which Professor Allen seems unaware. makes it just about possible that the technical difficulties had been mastered), why should he have gone through all the difficulties of making a photographic negative from this (which no-one would be able to appreciate properly for another five hundred years), when the cast itself would have been sufficient wonder? Why go to all the trouble of inventing photography to use it just for the Shroud? And how did he manage to produce such medically convincing bloodstains? All this is quite aside from the historical evidence suggesting that something very like the Shroud was around well before the period assigned to the Shroud by radiocarbon dating. Professor Allen deserves praise for his practical demonstration of how a source of radiant energy, like sunlight, could have given the Shroud its photographic character. But of when, where and how this took place his 'mediaeval photographer' hypothesis still has a very long way to go.

N. Cinquemani *The Double Images on the Shroud of Turin / Le Doppie immagini della Sacra Sindone*, Edizioni Giovinezza, Rome 1995, 38 pages of text and 32 pages of illustrations

This small booklet, published in English, and based on articles originally published in the Italian Shroud journal *Collegamento Pro Sindone*, is principally concerned with medical aspects of the Shroud image, and argues for radiation as its causation.

The author, who began his researches in 1992, is described as a specialist in general surgery and neurosurgery, and an established university professor of First Aid.