



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

## Problems that May Arise from Forensic Photography

**Hamad Ali Khan**

Assistant Professor at University of Punjab at [hamad@gmail.com](mailto:hamad@gmail.com)

### Abstract

According to the renowned Chinese philosopher Confucius, a picture has the ability to effectively communicate intricate concepts, carrying the same weight as a thousand words. Furthermore, it is imperative to exercise caution when discussing forensic photography, since its primary objective is to align with the criminal trial's purpose, which is to ascertain the truth or, more specifically, to establish the comprehensive and prompt facts pertaining to the crime. This ensures that offenders are appropriately penalized in accordance with the law and that persons who have engaged in illegal actions are not held legally accountable. Forensic photography, unlike other fields of photography, has the power to determine the destiny of a prisoner, particularly in cases that involve the death penalty. The capacity of forensic photography to distinguish between saving a life and finally terminating it has significant ramifications in nations that continue to employ capital punishment. This research aims to analyze the possible drawbacks associated with obtaining forensic photographs. I will conduct a thorough examination of the fundamental reasons behind these blunders and offer strategies to prevent their recurrence in the future.

Keywords: mistakes, crime, probe, forensic photography

### Introduction

One of the initial approaches employed in the field of forensics is forensic photography. After the advent of the daguerreotype, individuals who had committed offences were subjected to photographic portraiture sessions conducted by professional photographers. The initial utilisation of this technique ultimately facilitated the establishment of the widely recognised and globally practised method presently referred to as the "mug shot." The photographs depicting criminals had notable deviations from conventional standards, despite the absence of specific technical directives, as their primary purpose was to function as evidentiary documentation of individuals involved in illegal activities, rather than being driven by artistic or creative intentions. In the present period, forensic photography is defined as a collection of distinct technical methodologies and photographic protocols employed in the context



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

of criminal prosecution, investigation, operational oversight, technical-scientific analysis, and activities related to crime prevention and detection. According to Iurie (2015), on page 1. The key attributes of this particular field of forensics are objectivity and visual fidelity (Stancu, 2015, p. 86). In the context of on-site photography, it is widely held that adhering to guidelines and technical recommendations will result in accurate and comprehensive depictions of the crime scene, including its various elements such as the weapon, corpse, traces, and utensils. Hence, it is vital to go by specific standards and recommendations in order to align the outcome of these actions with the actuality.

### **First-time mistakes**

In the execution of any given work, it is commonly seen that the preceding phase serves as the primary origin of a significant percentage of errors. Insufficient technological tools and insufficient technical pedagogy are two of the contributing reasons. The provision of resources to employees responsible for fulfilling these duties should be adequate to address any shooting situation, irrespective of the method, timing, location, environment, weather, workload, obstacles, or lighting circumstances that may be encountered. Although capturing photographs during daylight hours does not provide a significant challenge, the task becomes more difficult in low-light settings due to limited access to professional equipment. A comprehensive photography kit should include essential components such as a high-performance camera, wide aperture lenses that cover a wide range of focal lengths (ranging from ultra-wide to super-tele), a tripod for stability, filters to enhance image quality, artificial light sources for controlled lighting conditions, diffusion and reflection elements for modifying light, batteries and memory cards for power and storage, and a cleaning kit to maintain equipment functionality. The purpose of this discussion is not to delve further into the specific details of this subject matter. The inclusion of a backup camera in one's photography equipment is of utmost importance due to the diverse range of scenarios in which extensive photography may result in the unreliability of the shutter system. The proceedings of the Research Association for Interdisciplinarity Studies (RAIS) Conference, held on August 15-16, 2021, have been published with a DOI of 10.5281/zenodo.5507017. This academic research association focuses on interdisciplinary studies. Photographers must possess a comprehensive understanding



of the functions, buttons, and settings of their camera equipment due to situations where time constraints prevent them from perusing the menu or consulting an instruction manual or user guide. Furthermore, it is advisable to capture images in the RAW format as it allows for the retrieval of a far higher level of detail during the post-processing stage utilising specialised photo editing software.

### **Not enough paperwork**

Inadequate photographic documentation is a common oversight that is made, which can be characterised by the absence of important case-related photographs, the inability to capture all key aspects of the case, or the neglect of necessary photography protocols. This error is one of the most common mistakes that is made. There needs to be a proportional link between the difficulty of a case, the number of components involved, the number of items now within the criminal justice system, and the amount of photographs. An insufficient utilisation of photography creates a fallacy that can hamper the disclosure of veracity, however an excessive deployment of photography does not block the desired purpose of a legal procedure. It is recommended to utilise a broad range of shooting tactics, with an approach that progresses from general to specific being the most recommended option. Because of this, when taking photographs of a deceased person inside of a residential unit, it is essential to document not only the deceased individual but also the surrounding flat, the stairway that provides access to the flat, the landing area, the murder weapon, any potential traces, and any other relevant objects that could potentially contribute to the resolution of the investigation.

### **Taking the wrong picture**

The act of disclosing a photograph that contains technical flaws might generate visually pleasant aesthetic effects for human perception, which would extend beyond the sphere of forensic applications. Underexposure, a common error in photography, can result in the development of "low-key photos" or "silhouette photos," which are typified by visually appealing effects that completely cover shadow regions. In a similar vein, an overexposure of a photograph can result in the creation of "high-key" images, which have the impression of having lighted sections that are predominately white. In contrast to the placement of the judicial photographs, the artistic photographs have been hung in the opposite corner of the room. This creates a stark contrast between



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

the two sets of photographs. Because of the indispensable nature of operations related to criminal investigations, it is imperative that these criteria be carried out with the technological precision required. In addition, the presentation of a conviction ought to be founded on evidence that cannot possibly be disputed. When taking photographs, it is not uncommon to make exposure mistakes due to one of two primary causes: either the camera is used in manual mode and the settings (aperture, shutter speed, or ISO value) are mishandled, or the camera is used in automatic or semi-automatic modes (aperture priority, shutter speed priority), in which case the error can result from selecting an inappropriate metering mode or the camera's imprecise measurement and calculation of required light b. When the camera is used in manual mode, To begin, it is essential to keep in mind that in order to get complete mastery of the image, it is necessary to make use of the manual mode of the camera whenever it is possible to do so. It is recommended to utilise semi-automatic modes in scenarios when there are rapid and significant fluctuations in the lighting conditions, and there is inadequate time to manually alter the camera settings. In these scenarios, semi-automatic modes will provide the best results. The images will not be completely ruined as a result of these major adjustments if this approach is put into effect since it will help mitigate the damage. Concurrently, it is of the utmost importance to always shoot images in the uncompressed RAW format. This particular image format has a greater capacity for retaining information than the JPEG format does, which enables post-processing algorithms to retrieve either overexposed highlights or underexposed shadows from an image that has either been overexposed or underexposed. To guarantee that the depth of field captures all of the important elements of the scene, it is necessary to select the correct value for the aperture in line with the mode of photography that will be used. In contrast to portrait photography, wide-angle photography normally does not make use of wide-aperture techniques, especially when working in low-light conditions. This is because the subject does not need to be separated from the background in order for the shot to be successful. However, due to the possibility of diffraction, an optical phenomena that causes a degradation in image quality, it is not advisable to take pictures using settings that produce a wide aperture. This is because diffraction can occur when the aperture is set too wide. On August 15 and 16, 2021, a conference with the working title "Proceedings of the RAIS Conference" was held.<sup>86</sup> is



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

the value that has been provided here. The duration of the exposure will be meticulously chosen after careful consideration of the particular aspects of the scene that is being photographed in order to ensure that the subject of the shot is captured with the necessary degree of sharpness, steadiness, and clarity. Therefore, the utilisation of hand photography is acceptable when the subject being photographed does not move and the lighting conditions are to the photographer's advantage. In this specific situation, it is suggested that you make use of an exposure period that is equivalent to one-half of the focal length. When taking pictures with a focal length of 50 millimetres, it is normally advised to set the exposure period to no more than 1/100 of a second at the most. However, this issue can be addressed if the operator exhibits remarkable manual dexterity, if the lens incorporates a vibration reduction mechanism, or if the camera is equipped with an image stabilisation system. Additionally, if the lens incorporates a vibration reduction mechanism, the operator can reduce the likelihood of blurry images. In the event that the lighting conditions are unfavourable but the setting does not change, the camera will be mounted on a tripod. During the process of photographing an object, using a tripod allows for a longer exposure time to be achieved. When dealing with dynamic situations, it is absolutely necessary to give careful consideration to both the motion of the subject and the motion of the camera when choosing the right shutter speed for the photograph. The idea that increasing it beyond this threshold will result in a compromise in the quality of the image led to the selection of the ISO value that is advised to be the lowest possible setting. However, despite the progress that has been made in camera technology and the ever-increasing sophistication of camera sensors, there are still certain scenarios in which the employment of a high ISO level becomes absolutely necessary. When shooting photographs of a dynamic scene, such as a crime scene, under conditions of restricted illumination, this becomes very obvious. In the end, each of these three components has an effect on the exposure as well as the quality of the image, and they are perfectly aligned.

### **Conclusions**

Although the suggestions and recommendations that have been established in the numerous scholarly publications may only have limited general applicability, there have been a great number of them developed. When taking photographs of sector



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

sketches, it is advised in certain written works to make certain that the photographs are taken adhering to a set of criteria that is constant throughout all of the shots. This argument runs counter to the idea that the different rooms would have varying degrees of illumination due to the fact that there is only one light source. When images are used for the goal of revealing the truth, it is imperative that a fundamental principle be strictly adhered to. This principle stipulates that images must faithfully, truly, and consistently portray the objective character of reality. In addition, it is essential to realise that the photographs may be used as evidence in the civil case that is being pursued with the purpose of compensating the victim for the injury.

#### References

Abbot A (1997) *Of time and space: The contemporary relevance of the Chicago school*. *Social Forces* 75:1149–1182

Abler R (1987) *The National Science Foundation National Center for Geographic Information and Analysis*. *International Journal of Geographical Information Systems* 1:303–326

Akerlof GA (1997) *Social distance and social decisions*. *Econometrica* 65:1005–1027

Allen DW (2009) *GIS tutorial II, spatial analysis workbook*. ESRI Press, Redlands, CA  
Anco TJ, Kuiper J, Paelinck JH (1990) *Five principles of spatial econometrics illustrated*. In: Chatterji M, Kuenne RE (eds) *Dynamics and conflict in regional structural change: Essays in honour of Walter Isard*, volume 2. Macmillan,

Basingstoke  
Andrews DW (2005) *Cross section regression with common shocks*. *Econometrica* 73:1551–1585

Anselin L (1980) *Estimation methods for spatial autoregressive structures*. *Regional Science Dissertation and Monograph Series*. Cornell University, Ithaca, NY

Anselin L (1982) *A note on small sample properties of estimators in a first-order spatial autoregressive model*.



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

Environment and Planning A 14:1023–

1030 Anselin L (1984) Specification tests on the structure of interaction in spatial econometric models. *Papers in Regional Science* 54:165–182

Anselin L (1986) Non-nested tests on the weight structure in spatial autoregressive models. *Journal of Regional Science* 26:267–284

Anselin L (1988a) Lagrange multiplier test diagnostics for spatial dependence and spatial heterogeneity. *Geographical Analysis* 20:1–17

Anselin L (1988b) Model validation in spatial econometrics: A review and evaluation of alternative approaches. *International Regional Science Review* 11:279–316

Anselin L (1988c) *Spatial econometrics: Methods and models*. Kluwer Academic Publishers, Dordrecht  
Anselin L (1988d) A test for spatial autocorrelation in seemingly unrelated regressions. *Economics Letters* 28:335–341

Anselin L (1990a) Spatial dependence and spatial structural instability in applied regression analysis. *Journal of Regional Science* 30:185–207

Anselin L (1990b) What is special about spatial data? Alternative perspectives on spatial data analysis. In: Griffith DA (ed) *Spatial statistics, past, present and future*. Institute of Mathematical Geography, (IMAGE), Ann Arbor, MI

Anselin L (1992a) *Space and applied econometrics*. Introduction. *Regional Science and Urban Economics* 22:307–316

Anselin L (1992b) *SpaceStat*, a software program for analysis of spatial data. National Center for Geographic Information and Analysis (NCGIA), University of California, Santa Barbara, CA  
Anselin L (2000) Computing environments for spatial data analysis. *Journal of Geographical Systems* 2:201–220



(Online) ISSN 2709-7633 (Print) | ISSN 2709-7641

Publishers: Nobel Institute for New Generation

<http://shnakhat.com/index.php/shnakhat/index>

Anselin L (2001a) Rao's score test in spatial econometrics. *Journal of Statistical Planning and Inference* 97:113–139

Anselin L (2001b) *Spatial econometrics*. In: Baltagi B (ed) *A companion to theoretical econometrics*. Blackwell, Oxford  
Anselin L (2003) Spatial externalities, spatial multipliers and spatial econometrics. *International Regional Science Review* 26:153–166

Anselin L (2005) *Spatial statistical modeling in a GIS environment*. In: Maguire DJ, Batty M, Goodchild MF (eds) *GIS, spatial analysis and modeling*. ESRI Press, Redlands, CA

Anselin L (2006) *Spatial econometrics*. In: Mills T, Patterson K (eds) *Palgrave handbook of econometrics: Volume 1, econometric theory*. Palgrave Macmillan, Basingstoke  
Anselin L (2007) *Spatial econometrics in RSUE: Retrospect and prospect*. *Regional Science and Urban Economics* 37:450–456

Anselin L, Bera A (1998) *Spatial dependence in linear regression models with an introduction to spatial econometrics*. In: Ullah A, Giles DE (eds) *Handbook of applied economic statistics*. Marcel Dekker, New York  
Anselin L, Bera A, Florax RJ, Yoon M (1996) Simple diagnostic tests for spatial dependence. *Regional Science and Urban Economics* 26:77–104

Anselin L, Florax RJ (1995a) *New directions in spatial econometrics*. Springer-Verlag, Berlin  
Anselin L, Florax RJ (1995b) Small sample properties of tests for spatial dependence in regression models: Some further results. In: Anselin L, Florax RJ (eds) *New directions in spatial econometrics*. Springer-Verlag, Berlin

Anselin L, Florax RJ, Rey SJ (2004a) *Advances in spatial econometrics. Methodology, tools and applications*. Springer Verlag, Berlin  
Anselin L, Florax RJ, Rey SJ (2004b) *Econometrics for spatial models, recent advances*. In: Anselin L, Florax RJ, Rey SJ (eds) *Advances in spatial econometrics. Methodology, tools and applications*. Springer Verlag, Berlin  
Anselin L, Griffith DA (1988) Do spatial effects really matter in regression analysis. *Papers in Regional Science* 65:11–34