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Perspective Article

Behavioural Science in Forensics: A Perspective

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Abstract

Forensic sciences and behavioural psychology are two separate entities and branches as is known by all till date who have been working differently and independently in their respective fields. But, in the present era forensic investigators are understanding and are realising the fact that Behaviour Evidence Analysis (BEA), which involves psychological deduction and reasoning is crucial to answer the questions as to "why" and "how" the offender has performed the crime in order to simulate the sequence the events to the nearest probable truth thereby leading to good evidence collection and providing justice to the victim. Thus, this present perspective aims to colliquate how the forensics abide and how the psychologists can be of paramount help in crime solving, by "visually sensing through the eyes of the criminal itself". This can be useful for not only the forensic medicine specialists, but also for the forensic odontologists too, which is also an emerging field in forensic science.

INTRODUCTION

Forensic science is a branch that deals with the legal problems of the society through application of scientific knowledge and methods thereby, help in providing justice to the victim either by taking sides of either the prosecution or that of the defence in the courtroom [1]. This whole process requires the effective and efficient collective teamwork of forensic scientists from different specialities who deduce or reduce their decision-making through facts and evidence collected through Crime Scene Investigation (CSI) [2]. It is the main and the foremost forefront for any specialty in forensic sciences that turns the heads of scientists which occupies their entire attention. This CSI workflow determines the course of events that have led to the action in that particular scene. This course of events, collected in the form of data can be relevant or irrelevant depending on what course will it take to mould the decision [3]. Differentiating between this data is very important and quintessential for the successful completion of any criminal investigation. Therefore, this becomes the important role and duty for those who are deployed at this scene to collect as much and as precise information they can. Generally, it consists of several steps: recognition, documentation, collection and preservation of evidence, which requires strict steps and adherence to protocols so that the traces collected can be preserved in its original form to presentation in the courtroom [4].

As is the scenario with all human decision-making processes, this action of recognizing and interpreting traces too is prone to errors in reasoning. The selection and interpretation of traces as evidence at the crime scene involves differentiating between facts collected and weighing their potential, which is especially complex, as crime scenes are often ambiguous and observations at a crime scene may usually be attributed to multiple explanations [5]. Therefore, as stated above, recognition and selection of relevant data is extremely difficult.

Thereby, the knowledge from different disciplines as well as their expertise participating in it could help to enhance the quality of the CSI. In particular, as crime scenes are the result of criminal behaviour, knowledge from behavioural sciences such as investigative psychology and criminology might help in interpreting the crime scene and its building possible scenarios at the scene. It might also supplement our understanding of the crime scene investigators' decision-making process as to why it had taken these due courses of actions. This can be applied not only for the efficient working of the forensic medicine scientists, but can also pave a pathway for application of this in the field of forensic odontology too, which also plays an important role in CSI.

Knowledge from Behavioural Sciences in CSI and Their Importance

Criminology, which focuses on behaviour in general and in particular on working methods and activities of perpetrators and the investigative psychology aims to gain insight into both perpetrator behaviour as well as their perception, choice behaviour and decision-making behaviour of professionals in the criminal justice system. They aid in suspect prioritization, geographical profiling, linking crimes and crime scenes, the

interviewing process and risk assessment of offenders [6]. Thereby, their combined role can create more awareness and reduce pitfalls that occur due to cognitive bias in forensic investigations. Nowadays, crime scene examiners try to understand the environment of a crime scene by 'thinking as an offender', but in doing so, they the combined brains of psychologists too to work with them in that perspective. This way the process of making decisions would hasten up and would help in solving crimes at a much efficient and faster rate.

This practice of Behaviour Evidence Analysis (BEA) has been applied recently only in Netherlands, where they have solved cases by taking into account the behaviour of the offenders [7]. This method has not only been applied for field cases, but is also seen in growing importance in cases of digital world, since the world is now moving towards an era of Artificial Intelligence (AI), wherein lots and lots of information about an individual is being available digitally, thereby making them more vulnerable to the victims of cyberstalking and fraudulent cases [8]. There also arises the need to sharpen the cognitive process of the investigators to find the traces digitally and to provide sufficient evidence against the criminal. Thereby, this new era of investigation requires an immense work and understanding by incorporating not only "the six- phase approach of solving any crime" but also to improve the intellect of the combined working professionals [9].

CONCLUSION

In recent years, some forensic decision-making processes have been empirically investigated. Research in this area has tended to be specifically focused on cognitive biases and human interpretation issues, pioneered by several scholars, and, in particular [10]. Whose research into the effects of cognitive bias, whilst initially controversial ,has led to an increase of related research in a number of forensic science disciplines including DNA, fingerprints, blood pattern analysis, forensic odontology, forensic anthropology, handwriting analysis, ballistics, footwear analysis, and forensic entomology. Indeed 'bias' has become something of a buzz word within forensic science research, conferences, and meetings, emerging as a distinct and increasingly recognised field of interest in forensic science, and becoming a motivational factor for organisational change.

Although more research has been undertaken recently within forensic science that addresses the significance and impact of decisions, still needs a more structured and organised approach for taking the evidence from laboratory to the courtroom. Empirical research clearly has an important role in understanding these decisions and in testing and applying a range of theories and approaches from the psychology domain to these decisions. Successfully communicating and disseminating this foundational understanding into the wider criminal justice system in order to facilitate operational improvements can then be considered and developed. Complete renaissance of the forensic investigations would need incorporation of this field as well which needs thorough understanding and appreciation of all those who are involved.

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