

FORENSIC SCIENCE: THE BASIC QUESTION IN INVESTIGATION- CUI BONO

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Cui bono is a Latin phrase that means "to whose advantage or benefit." This phrase is used to indicate that the party who is likely responsible for an act is the person who stands to gain something from it. Cui bono is also used to indicate that self-interest in an act, event, or policy is a determining factor in its ultimate value. In both instances, the question of who stands to gain is applied when the phrase cui bono is used. The phrase is, however, most often used when determining those likely to be responsible for an unwelcome event.

The phrase cui bono was originally used in criminal investigations and still applies in determining probable responsibility for a crime. In figuring out who is responsible for a murder, for example, an investigator may analyze cui bono. By figuring out who is likely to benefit from the murder, investigators may have a better chance of finding the most likely suspects. They may, for example, discover that the murder victim's spouse had a significant insurance policy on the victim or that the victim was due to testify against a gang or organized crime leader.

The answer to the question cui bono doesn't always lead to the perpetrator of the crime, but it can help investigators start an investigation in a logical manner. In some cases, analyzing benefit or advantage may lead to a scapegoat rather than the person truly responsible for a crime or act. Knowing that another party stands to benefit significantly and is likely to be blamed, a person may commit a crime with the intent of framing another person.

An individual might also use the phrase cui bono in determining who stands to benefit from an event. If an event occurred that was suspicious in nature, an individual may work to determine who benefited from it. For example, if a business, organization, or even a person seems to be better off after the event occurred, despite claiming no involvement in it, an individual may still suspect that the business, organization, or individual caused or contributed to the event for his own benefit.

A person may also ask cui bono when evaluating a particular policy. For example, a policy may be criticized as ineffective or even useless. In determining whether or not a policy is truly useless, a person may ask who will benefit from it. He may find that there are some people who are benefiting from a policy he considers ineffective or useless. His evaluation may reveal, however, that those who are supposed to benefit from the creation of a policy are not always those who ultimately benefit from it.

The principles of Exchange:

The number of cases requiring evaluation of clues is increasing every day. The techniques and instruments should, therefore, be rapid. In classical examination of viscera and organs each item subjected to lengthy process of extraction, purification, identification and estimation. The results are checked and cross checked for mistakes. Modern techniques may eliminate most of these steps.

The tools and techniques currently used in modern forensic science laboratories belong to both classical and modern categories. They are as follows:-

- Measurements
- Microscopy
- Photography
- Invisible rays
- Chromatography
- Electrophoresis
- Spectrograph Laser
- Techniques Mass
- Spectrometry X- Ray diffraction analysis.

Forensic Science And Criminal Prosecution

Scene of Occurrence

A scene of occurrence is the meeting place of the persons involved. The parties exchange traces with one another and with the scene, leave odds and ends and mark of tools, wearing apparels, means of transport, hands and feet. Thus the scene of occurrence provides a wealth of information which is useful to:1. Establish corpus delicti2.

Provide link between the criminal, the victim and the scene of occurrence; and 3. Evaluate the pattern of events. The scene is of great importance in almost all crimes except perhaps in cases of forgery where the utility is limited. The examination of the scene needs planning, care and diligence. In many cases the success or failure of the investigation depends entirely upon the proper handling of the scene. The scene of occurrence changes rapidly and cannot be preserved forever. Some of the evidence gets lost soon after the occurrence, the other evidence disappears, gets contaminated or altered with further passage of time. The opportunity to examine the scene is available only once. If the same is not fully exploited the wealth of information is lost forever.

Case Laws:

Raghunandan v State. Of U.P., 1974 Cri. L. J. 453 (S.C)

In the above case both the trial court as well as the High Court had brushed aside the objection that the blood recovered from the place of occurrence was not sent for chemical examination. The failure of the police to send the blood for chemical examination is a serious case of murder, such as the one before us., is to be depreciated. In such a case the place of occurrence is oftendisputed. 2. Marachalil Chandra Tukaram Talekar v State of Gujrat. 1980 Cri. L.J.5 (Guj)

Identity of the scene:

It was argued with great vehemence in the High Court as well as in the court of sessions that there was trial of blood from the front door of the house of the vakil into the corridor rooms marked H and H-1 in the plan and that supported the defense theory that the deceased Kannan received the stab injuries not in or near the house in question but somewhere far away near the railway station. The High Court took the view that if Kannan had received the injuries somewhere outside the house it was impossible for him to have come into the room in view of the doctors evidence. It was concluded on the material placed on the record that there could be no room for doubt that Kannan received the injuries in the room itself and not outside, and that he was carried out of the room while life was still lingering and therefore there would be dripping of the blood from the body during the course of transit as the injuries were very serious and vital arteries had been cut.

Fingerprints

The identification of criminals through fingerprints was the first important break-through in the scientific investigation of crime. As usual, the judiciary and the public took some time to believe in the utility of fingerprints as a scientific aid. The same is now recognized throughout the world.

The importance of fingerprints in criminal investigation is immense, because they are:

Unique Ridge pattern of each finger has an individuality. The patterns vary not only from one individual to another, but they are different in the same individual on each finger. Duplication of pattern has never been observed. Nor the same is expected.

Permanent The fingerprints of an individual do not change throughout his life. In fact, the ridges appear before birth. They start appearing during third or fourth month of pregnancy. They remain even after the death of the individual ever till the epidermal skin is destroyed by fire, putrefaction or is eaten by insects or other creatures. In a murder case the body of the victim was partially burnt and buried. The same was discovered many days after the murder. The body was completely disfigured and could not be identified. The investigating officer got removed the remaining skin pieces from the tips of the fingers through a doctor. He sent them to fingerprint bureau along with the one authentic print of the deceased available on his will. The bureau confirmed the identity of the deceased.

The digital skin pieces were recovered and sent to the finger print bureau. The fingerprints of the deceased tallied with the fingerprints of the convict, available in the records, The permanence of fingerprints permits identification of an individual even after many years, if his finger print record is available. Many criminals have been identified through this medium after years of absconding.

Universal

All individuals and hence all criminals carry this medium of identification. The finger digits and palmar surface of the hands carry the friction ridges. The fingers have more intricate patterns. They allow easier individualization and classification. A criminal uses his hands in the commission of crime. He leaves marks at the scene of occurrence or on the objects which come in contact in the commission of crime. There are fair chances of occurrence of fingerprints, therefore in all types of crime.

Inimitable

Successful forgery of fingerprints has not been reported so far. Near perfect forgeries have been attempted. It is possible that the advancement of science may bring the forgery still closer to perfection but complete success in the enterprise is extremely difficult, if not impossible. For all practical purposes it may be taken that it is not possible to forge a fingerprint. This is important because no person can deny his or her fingerprints. The identification through fingerprints is certain and infallible.

Classifiable

The scope for classification of fingerprints is large and yet the work is simple. Records of millions of persons can be classified and kept on micro films. Computerization of fingerprint record, and hence searches are becoming popular and is increasing the efficiency. A search can be made virtually in seconds with the help of these devices.

CASE LAWS

Sufficient Evidence

The question was raised before the sessions Judge as to whether a conviction can be based upon the unsupported testimony of a fingerprint expert. There is no rule of law on the point; it is merely a matter of caution whether a court will act on such unsupported evidence or not. The correct principle was defined by S.K. Ghose, J. in *Hatendra Nath Sen v Emperor*.³ I do not think that it can be laid down as a rule of law that it is unsafe to base a conviction on the uncorroborated testimony of a fingerprint expert. The true rule seems to me to be one of caution that is to say, the court must not take the experts opinion for granted, but it must examine his evidence in order to satisfy itself that there can be no mistake and the responsibility is all the greater when there is no other evidence to corroborate the expert'

Uncorroborated Evidence

In *Bazari Hajam v King Emperor* (AIR 1922 Pat.73 :23 Cr. L.J 638) the question arose whether it will be safe to act on the uncorroborated testimony of the fingerprints and declare the guilt of the accused. On this point Bucknill, J., observed thus:³ I think that apart from the fact that I should be rather sorry without any corroborative circumstances to convict a person of a serious crime solely and entirely upon similarity of thumbmarks or finger prints, the very fact of the taking of a thumb-impression from an accused person for the purpose of possible manufacture of the evidence by which he could be incriminated is in itself sufficient to warrant one in setting aside the conviction upon the understanding and upon the assumption that such was not really a fair trial. 'The above view was disapproved of by Schwalbe, C.J. in *Public Prosecutor v Kandasami Thevan* (AIR 1927 Mad. 696 :27 Cr. L. J 1251) although the point did not directly arise in the case as there were thumb-impressions of the accused in evidence other than that taken by the judge in court for comparison with the thumb-impressions in the document alleged to have been forged.

Track Marks

The culprit approaches, stays and then leaves the scene of occurrence. He leaves track marks on and around the place in the form of prints and impressions (collectively called μmarks¶) of feet, shoes, tires, hoofs and the like. The evidence often connects the criminal with the crime conclusively. It should, therefore be properly understood, collected, evaluated and presented in the courts. The track marks establish not only the presence of the culprit at the scene of crime but also give the number of participants. The evidence is helpful in tracking down the criminals to their houses or hide-outs, especially in India where most of the people live in rural areas. The roads in the country side are not metaled. Besides, the criminal, ordinarily, follows untrodden routes; fields, garden and stream beds. He leaves track marks on routes used before and after the commission of the crime. The nature of the vehicle used in the commission of crime whether it is a cycle, scooter, car, bus, truck, tractor, rickshaw, bullock cart or a buggy can be ascertained. It is sometimes possible to identify the individual vehicle also. In some cases, animals are involved in crimes sometimes. For example, a horse or a camel may be used for transport; a cow, a buffalo or a bullock may be stolen or a dog or a tamed wild best, like a snake or a tiger may be used to destroy or kill a human-being or a domestic animal. The type of the animal or the beast can be found out from the track marks. Foot Wear marks include the marks of shoes, sandals, chappals, socks and the like. The footwear may be factory- made or hand made.

CASE LAWS

Rejecting the contention that the study of footprints is not a science in *Din Muhammad emperor*, Central Provinces Police Gazette dated 27th May, 1914 pp. 125-130, the court of the Judicial Commissioner at Nagpur (H.J. Stanyon and H.F. Hallifax, A.J. Cs) as far back as in 1914 held:

The knowledge of footprints has similarly been systematized and pursued by trackers, mainly uncivilized and ignorant people an all other respects, all over the world. The matter is therefore undoubtedly a science and the opinion of a person especially skilled in it is a relevant fact, under Sec-45 of the Evidence Act ³in *Re Paramban Manmmadhu*, which is a bench decision of that court, delivered by Horwill, J(Supra) the learned judge held that opinion of a foot print expert is not admissible as evidence. In the case of *Pritam Singh v State of Punjab* (AIR

1956 S.C. 415) there is an observation to the effect that the science of identification by footprints is a rudimentary science and much reliance cannot be placed on the result of such identification.

Poisons

Poisons are frequently involved in homicidal accidental or suicidal deaths. They are sometimes used to destroy animals and plants. The detection of poisons and their identification is an important aspect of forensic science. The investigation of cases of poisoning is one of the most difficult tasks. The quantity of a poison required to kill a victim is extremely small in some cases. For example, the fatal dose of nicotine is about 50 milligrams. The investigation is further complicated by the variety of poisons available. The ever-increasing number of synthetic drugs which are used as poisons is further adding to the complications. Some drugs are very close to one another in their chemical and physiological behaviors. Their identification requires the most fined analytical techniques. Body materials in which the poisons are found, is a complex mixture of organic, inorganic and biological substances. They interfere in the isolation, detection and estimation of the poisons. In fact, the most difficult task of a toxicologist is to isolate the poison in pure form. Once it is done, it is comparatively easier to identify and estimate the quantity. An analysis of some of the poisons which can prove detrimental is as follows:

NAME OF THE POISON	FATAL DOSE	FATAL PERIOD
Aconite	1.0 to 2.0g of root	1 to 5 hours
Alcohol(Absolute)	250 to 500 ml	A few hours
Arsenic	0.13 to 0.2g	Half to 2 days
Caustic alkali	14g	Within 24 hours
D.D.T	2g onwards	A few hours to few days
Mushrooms	Uncertain	One day to several days.
Nicotine	0.06g	A few minutes.
Oxalic Acid	4 to 16g	A few minutes to a few hours
Quinine	Uncertain	A few minutes to several days
Sulphuric Acid	4ml	A few minutes to several weeks
Zinc phosphide	0.8g	Within a day

Case Laws

The essential ingredients in a case of poisoning are no longer in doubt. The matter is concluded by a series of Supreme Court decisions. In *Anant Chintaman Lagu v State of Bombay* (AIR. 1960 S.C. 500), their lordships pronounced that the prosecution establish three propositions in a case of poisoning: i) Death took place by poisoning; ii) Accused had the poisoning his possession; and iii) Accused had the opportunity to administer poison to the deceased. In *Emperor v Shetya Timma* (AIR 1926 Bom. 518), the death was caused by Dhatura poisoning. After review of conflicting decisions on the point, their lordships held that where the accused administered Dhatura poison to five men in order to facilitate commission of robbery and in consequence thereof three men died, the accused must be presumed to have knowledge that their act was so dangerous that it was likely to set aside. The same view was taken in *Emperor v Chattarpal* (AIR 1930 Oudh 502).

Forensic Science and Sexual Offences

Serious common sexual offences are:

- Rape
- Incest
- Unnatural offences.

Some minor sexual offences are:

1. Exhibitionism
2. Sadism
3. Frottage
4. Voyeurism- 'Peeping Tom'

Certain sexual aberrations are:

1. Masochism
2. Transverses
3. Fetishism

In all the above cases Forensic Science play a major role in understanding the nature and gravity of the concerned crime.

CONCLUSION

The lack of understanding and critical appraisal of specialists in general, by non- specialists, is all- pervasive. The field of Forensic Science is no exception. Neither the police, nor the lawyer, nor even the judge appreciates fully the advances or the extensive potentialities of the science.

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