

Forensic Archaeology: An Indian perceptive.

¹Dr. Ritendra Rathore, ²Karthik YB

¹Researcher, ²Student
National Forensic Science University
Gandhinagar Gujarat India.

Abstract- Forensic Archaeology is one of the emerging branches of forensic science which deals with the Archaeological excavations in order to find out the truth behind the incident. If any accident or any Mishaps has happened, then the forensic Archaeology, the branch of forensic science and anthropology both are applying in the forensic investigation. By this paper we will understand the evolution of the forensic Archaeology and understand the scope in the future perceptive. We will also reveal about the characteristics of the Forensic archaeologist and how is he differ from normal Archaeologist and we would also understand the role of forensic anthropology in case of archaeological investigation.

Key words- Forensic Science, Archaeology, anthropology etc.

INTRODUCTION.

When we talk about Archaeology, we can say that it is a systematic study of human societies from the past using the items left behind. The forensic archaeology is a field of forensic science which would be involved applications of archaeological methods in Investigation of a crime scene in order to identify evidence and reconstruct crime scene, usually a murder.

The forensic Archaeologist are employed to excavate and recover human remains, personal items, weapons etc as well as eliminate non-related objects. The Archaeologist would recover the remains from the past.

Fields of forensic Archaeology.

The forensic Archaeologist are employed in cases involving buried human remains and buried evidence that is related with the crime

The main field of the forensic Archaeology which may include....

- A) Grave & Grave Sites.
- B) Objects Related To Crime.
- C) Surface Disposal Of Human Remains.
- D) Mass Graves.
- E) Buried Evidence Relevant For Civil Cases.

Archaeology is the subfield of anthropology, which is the study of humans in general whether in modern and ancient India. In general, Forensic Archaeology is the application of archaeological principles, techniques and methodologies for the purpose of the law and administration of Justice.

In India, Forensic Archaeology, practises by forensic pathologist, combines the knowledge of osteology and human remains with Archaeological technique to help recover funds and provide vital evidence for the investigative team.

With a background in the osteology,

Historical Perspective.

Indus Valley Civilization.

There were found many places by the way of excavation and places were Pakistan Afghanistan, India and many other places. The Civilization flourished both in the alluvial Plain of the Indus river which flows through the length of Pakistan and along a system of perennial monsoon fed rivers that once courses in the vicinity of the Ghaggar-Hakra, a seasonal river in northwest India and eastern Pakistan.

Through the forensic archaeology or we can also say that the paleo Archaeology we could identified the size of the people during the Harappan civilization. By digging the excavation, we were noted for their urban planning, baker brick houses, elaborate drainage systems, water supply systems, clusters of large non residential buildings and techniques of handicraft and metallurgy etc.

Mohanjo Daro in the lower Indus valley (declared a UNESCO World Heritage site in 1980 as "Archeological Ruins At Mohenjodaro"), Harappan in western Punjab region, Ganeriwala in the Cholistan desert, Dholavira in the western Gujarat and Rakhigrahi in Harayana.

The first modern accounts of the ruins of the Indus valley civilization are those of Charles Masson, a deserter from east India company's army. Masson's major Archeological discovery was Harappan civilization. He found many skeletons of human as well as taming animals during that time, he used archaeological and forensic Archaeological techniques to recognise the excavations.

Mahabharata Traces.

Through the techniques of the Forensic Archaeology, the excavations of the huge size skeleton from the land of Kurukshetra. After using the paleo Archaeological techniques, the size of the skeletons were approximate 15 to 20 feet. A giant skeleton was found and the size of the skeleton was around 80 feet skeleton of Ghatotkacha, son of Bhima according to Mahabharata.

Dwarka City – Lord Krishna’s Temple – Traces From The Ocean.

The ancient India city of Dwarka, is said that it was sunk beneath the Arabian Sea. Underwater forensic archeologist are looking for the foundation of its city wall to prove kya existence. Ancient kingdom of lord Krishna has been found by archaeologist from under the water of the Arabian Sea. Many Artefacts have been found underwater and stone blocks and pillars, the exact age of these.

Forensic Archaeology Casework.

In India, Archaeological Technique which is employed relate mainly to the unearthing of mass graves. It might be historical grave or in some cases graves created by the perpetrators of murder.

Archaeological Technique Employed By The Author....

Proper excavation methods have already been detailed in various text (eg. Hester et al 2009), the protocols employed, in forensic Casework in India are given here.....

- A) Search Team Complete Investigation – first step involves forensic team and police for investigation.
 - B) Location :- locations of grave or graves.
 - C) Photographs :- taken at every stage of the investigation.
 - D) Vegetation :- observed over the grave, height, distribution, and depth of the root system and compared with that of immediate surroundings to get some idea of the time elapsed between the digging of the pit and the present.
 - E) Clearing Of Extraneous Material :- Extraneous Material should be cleared at this stage.
 - F) Map :- after extent of the area the plan should be made
- Basic Requirements Of Plan.....
- a) 100 Ft (c.30 m) tape.
 - b) Brunton or lensatic compass.
 - c) Graph paper.
 - d) Drawing Board.
 - e) Hard Lead.
 - f) Pencils, plumb bob, protractor, scaled ruler, spirit level and string.
- G) Datum Point and a grid around :- is established and which is outside the area selected for excavation but close to it, to which all measurements are referred.
 - H) Numbering Of Grid :- Each square is assigned a number which is placed on the lower left corner.
 - I) Marking Of Each Square :- The corner of each square is now marked by a stake. If possible grid lines must be oriented north – south and east – west.
 - J) Examination Of Peripheris :- The Potential for tool marks around the grave should always be noted, which could indicate the type of tool used by perpetrators.
 - K) Excavation :- An Excavation of the burial pit and it’s contents, small hand tools are used to avoid any inadvertent damage to the remains.
 - L) During The Digging Process :- consultation with the author during the digging process who are conversant with the vegetation of the area
 - M) Artefacts Left By Backfilling :- common knowledge that whenever pits are dug and backfilled, the earth originally from within the pit becomes mixed or mottled.
 - N) Removal And Sifting Of Earth :- the grave is removed using arbitrary levels of layers about every 2 in (5.1 CM).
 - O) Mapping and photographing of recovered items :- anything significant is found then mapped and photographed.
 - P) Segregation of samples :- All samples (soil, vegetations, bullets, pellets, knife tips, prostheses, artefacts etc) – collected in separate container and tagged as evidence.
 - Q) Cataloguing or inventory :- significant record should be maintained throughout the entire excavation.
 - R) Original base of the grave :- careful when exposing the burial so as not to disturb the original floor.
 - S) Further digging of the base pit :- remains should be removed and advised to excavate a portion of the pit floor to be certain that nothing has been overlooked.
 - T) Examination Of Remains :- examination of the remains in the mortuary or laboratory, injuries of the biens at the limb of the death and ascertained by careful examination of the skeleton
 - U) Further Examination By A Forensic Pathologist :- In the case, biyd is not skeletonised completely then it has required the forensic pathologist to have the remains removed their entirety. Which accomplished by various methods, depending on the degrees of the decomposition. Necessary to place plastic, sheet metal or plywood under the body for removal.

The degrees of the accuracy and the extent of the recording that would be depended and determined by the criminal investigators whom have a duty to steering the evidence through the courts.

The Forensic Archaeologists have been tested adequately, extensive practical experience in the field may disclose other information and the forensic Archaeology is a judicious mix of art, science and experience.

Case Examples : The 1984 Riots.

In 1984 Anti Sikh Riots, many programs were directed against the Sikh community in india, by sikh mobs, in response to the assassination of prime minister Indira Gandhi (1917-1984) by sikh bodyguard.

During Sikh riots there were more than 8000 deaths and which was included 3000 in Delhi itself. Many dead bodies were burnt, many were buried and others were left for rotting.

In this matter, the skull was brought to forensic pathologist by police for investigation after the riots. The police was started that it had been recovered from the under some bushes and bore a signature fracture on the occipital bone, possibly indicating that the deceased had been killed by a blunt instrument, potentially an iron rod. The identification was from the missing in the Sikh riot. The pathologist went to the crime scene and applied such Archaeological techniques outlined earlier helped to search and recover further human remains. DNA profiling just been discovered at the time and its use was not popular anywhere in the world, thus the identification depended more upon crude techniques to estimate age at death, sex and any other identifying features from the skeleton or associated artefacts.

In some cases, the bodies were identified by tooth fillings, prostheses and personal items such as diaries, watches, leather bags etc.

In January 2011, the burned and abandoned village of Hondh-Chillar, 32 Sikhs were killed on 2nd November 1984, discovered in northern Haryana state.

In March 1984 the sites near by Patuadi discovered 17 dead bodies of those who were killed in 1984 Sikh riots.

Paleo Archaeology Vs Forensic Archaeology.

The paleo Archaeology is the Archaeology is the deep time, focus on studying the human or hominin fossils which are ranging from around 7,000,000 to 10,000 years ago.

Paleo Archaeology deals with ancient human remains which present difficulties in the field which is also often deals with remains that lie somewhere between their primate ancestors and modern humans.

The basis difference between forensic Archaeology and paleo Archaeology is only the judiciary and legal implications which are involved in the Forensic Archaeology but not with paleo Archaeology.

Qualities Of Forensic Archaeologists.

- 1) **Archaeological Skills & Knowledge**
- 2) **Knowledge Of Forensic Law.**
- 3) **Moral and Values and also ethics.**
- 4) **Communication skills.**
- 5) **Analytical Thinking.**
- 6) **Attention To Details**
- 7) **Team work.**
- i) **Police Detectives.**
- ii) **Bloodstain Pattern Analysis**
- iii) **Serologist.**
- iv) **Toxicologist**
- v) **Pathologist**
- vi) **Forensic Odonatologists**
- vii) **Ballistic Analysts**
- viii) **Explosive Analysts.**
- 8) **Knowledge of science and biology**
- 9) **Decision making power**
- 10) **Ration thinking abilities.**
- 11) **High level of awareness and consciousness**
- 12) **Mental skills and abilities**
- 13) **Cognitive thinking power**
- 14) **Physical abilities**
- 15) **Social Awareness**
- 16) **Keep details confidential**
- 17) **Ethical behaviour**
- 18) **Good in character**
- 19) **Professionalism.**
- 20) **Knowledge of geology**
- 21) **Knowledge of human physiology.**
- 22) **Knowledge of anthropology.**
- 23) **Knowledge of osteology**

Forensic Archaeology In India.

In India, the forensic Archaeology is part of forensic medicine and the Indian medicinal education is impacted at the three level 1, the base level, take five and a half years to complete. After passing this level, this individual obtains the bachelor of medicine/ bachelor of surgery (MBBS) degree. It won't be essential to go level 2, if one doesn't wish to specialise in any single subject.

Unfortunately, in India there are no super speciality subjects under forensic medicine, although there are several attractive candidates, for example forensic odontology, forensic radiology, Forensic Archaeology. Course would be approved by medical council of India (MCI), which is the regulator of undergraduate and postgraduate education in India.

Now in india , the forensic archaeology is not exist as separate discipline but work with forensic pathology who have learned archaeological techniques in a more or less informal wat from their mentors and also from seniors.

Legal Framework In India.

In India , most of the investigation start with a police inquest which is held by police officer which is also under sector 174 of the criminal procedure code (CRPC). Under section 174 of CRPC , the officer in charge of a police station (station house officer – SHO) or police post conduct the inquest that should usually be of the rani of the sub inspector (SI) but no such a rank specified in the CRPC.

IN THE MINORITY CASES , THE INQUEST IS NOT CONDUCTED BY THE OFFICER IN CHARGE BUT BY A MAGISTRATE (SECTION 176 (1) OF CRPC).

EXAMPLES OF SUCH CASES ARE.....

- A) Suicide Of A Woman within 7 years of marriage.
- B) Death Of A Women Within 7 years of marriage in any circumstances raising a reasonable suspicion that some other person has committed ab offence in relation to said woman (homicide , etc).
- C) Exhumation or unearthing the remains of a legally buried body where the grave is properly identified by the relatives , priest and so on.

IN THE MOST OF THE CASES INVOLVING FORENSIC ARCHAEOLOGICAL TECHNIQUES, A POLICE OFFICER IS IO (INVESTIGATIVE OFFICER) BUT IN SOME CASE WHEN A LEGALLT BURIED BODY NEEDS TO BE UNEARTHED , THE IO IS A MAGISTRATE.

Future Of Forensic Archaeology In India.

The future which appears bright , as the government is becoming more aware of the needs of application of scientific methods in the crime detection.

Currently the forensic science department is suffering from the cruches of staff and poor budgetary allocations , but there is positive pressure of judiciary system on the government to heir the forensic experts.

Recently a lucknow bench of allahabad high court had asked to the government to find out whether the working and functioning of a forensic science laboratory was satisfactory and to check the details of the budget utilised by the director of the forensic science laboratory in the past three years.

Author Review.

Forensic Archaeology is the new branch of the Forensic science which actually deal with the past evidences from the digging of the crime scene which would be included human skeletons , traces , physical evidence , clothes etc , by which the forensic experts can be reached at the conclusion and resolve the case.

By this paper , we would study the actual importance of the forensic archaeology and it's future applications as well as the historical development. We have here talked about the 1984 riots in which there were many Sikhs people killed. So by this discipline of the forensic science , collected the skeletons of half burnt dead bodies

CONCLUSION:

The Forensic science is the field of science which actually deal with the investigation and legalise all the traces and evidence which are admissible in the court of law. The forensic archaeology is not existed separately in India but it has alongated with forensic pathology, the Forensic Pathologists would have to adopt and inculcate all the skills which are required to start an investigation by the using of the Forensic archaeological techniques.

The future of this branch of science is bright but it should be developed well and also separated from the forensic pathologist.

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