



Utilization of forensic science in legal justice system of Pakistan; A critical legal perspective

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Abstract

Forensic Science today makes a significant commitment to the activity of the Criminal Justice System giving proof which could assist with choosing the culpability of a suspect. Forensic science is progressively depended upon by regulation implementation to help with settling wrongdoing and acquiring feelings, and by the legal framework in the arbitration of explicit lawbreaker cases. In any case, the worth of criminological science comparative with the work in question and the result of cases still can't seem to be laid out in the Pakistani setting. Past exploration in this space has essentially centered on the science and innovation, rather than looking at how individuals can utilize legal administrations/science to the most ideal benefit to create suitable equity results. This involves an examination concerning the adequacy of criminological science in police examinations and court preliminaries. It means to recognize when, where and how forensic science can increase the value of criminal examinations, court preliminaries and equity results while guaranteeing the proficient utilization of accessible assets at the Pakistani law enforcement frameworks and across Pakistan. This paper gives an outline of the reasoning and points of the examination project and talks about current work underway. Forensic Science can do as such in light of the fact that it has created to work inside the truth dictated by the Criminal Justice System.

Keywords: criminal investigation, forensic science, investigation, observation, crime scene, crime examination

Introduction

Forensic science can be clarified as a review and use of science to issues of regulation. This association of science and regulation gives new ways and techniques to finding the truth. The modifier forensic is gotten from Latin word gathering the early Romans involved discussion for assortment of purposes that implies gathering, a public spot where, in Roman times, congresspersons and others discussed and held legal procedures. These gatherings assumed their part of analysis, investigation and molded common regulation (Conner, 2007). Legal science is an integrative subject joining a few parts of learning utilized for inquisitive crime locations and gathering confirmations to be utilized in the preliminary for arraignment of wrongdoers in an official courtroom. The methods of scientific science are utilized to investigate passive consent with peaceful accords in regards to weapons of mass obliteration. Prior, the fundamental regions utilized in measurable science were science, science, and medication. Be that as it may, with time legal science included different branches like toxicology, digital measurable, hand-composing, fingerprinting, ballistics, legal brain research, humanities, geography, legal designing, and oenology. Legal researchers look at objects, substances (counting blood or medication tests), synthetic compounds (paints, explosives, poisons), tissue follows (hair, skin), or impressions (fingerprints or tidemarks) left at the crime location. Measurable master gives a significant wellspring of data for criminal procedures (regardless of whether global or homegrown). They ability from mass graves is no exemption: discoveries from exhumations and assessments have included in the specially appointed courts' preliminaries and decisions. The truth of the matter is that main a not very many experts are outfitted with the information important to completely apply the capability of science in common, criminal, and family legitimate issues. Forensic science, is 189 years old, helps to integrate criminal investigators and scientists to objectively analyze the evidence found on the crime scene (Wright and Miller, 2005) [28]. Criminological science is extremely huge field in its degree and application. It comprehensively incorporates the proof got the courtroom to arraign a suspect of wrongdoing. Scientific science helps in tackling wrongdoing by including observers, casualties and the specialists in the official courtroom. Crime location examination is a significant apparatus in criminal examination process. Appropriate handling of crime location is an essential for effectively settling a criminal case. In Pakistan, nearby cops are not appropriately prepared and outfitted with the important things needed for methodical handling of crime location including legitimate ID and assortment of proof. The Forensics is the

gathering point between criminal examination and criminological science. The types of evidence include physical evidence, biological evidence, trace evidence, impression evidence, documents, arson & explosive evidence, and drug and toxicological evidence (Wright and Miller, 2005) [28]. Certain limit building measures and enhancements should be required for legitimate handling of crime location in Pakistan. The current study centers the current circumstance and procedures being drilled in world followed by ideas for limit measures in this field.

Forensic Science and its Extent

An introduction to Forensic Science depicts it as "The utilization of science to those hoodlum and typical regulations that are endorsed by the police work environments in a lawbreaker esteem framework". Forensic Science deals with the utilization of the data and procedure of various disciplines of science to legal issues. It includes the utilization of numerous disciplines like physical science, science, science, software engineering and designing for proof investigation. For example, physical science is utilized to comprehend the example of a blood splash, science to build up the wellspring of an unidentified suspect and science to decide the creation of medications. In this manner, the job of scientific science in criminal equity and the overall set of laws is profoundly basic yet is frequently misjudged.

Forensic biology/DNA: Apart from finger impression examination, DNA profiling is the other usually utilized legal procedure in criminal examinations. DNA being as remarkable to a person as fingerprints, assist legal experts with distinguishing or affirm a unidentified individual, or to wipe out associates from a rundown with denounced. The natural proof most ordinarily utilized for DNA profiling incorporate blood, spit, semen, skin, pee, and hair. Notwithstanding, DNA fingerprints are normally never utilized as the single piece of proof in the official courtroom (Berghaus, 1991) [2].

Forensic odontology: Forensic or Measurable odontology helps in the unmistakable evidence of setbacks when the body is left in an unrecognizable state. This is accomplished through an assessment of their teeth, the arrangement, and generally speaking construction of the mouth. Legal dental specialists or odontologists help in the near recognizable proof of an individual by looking at the turn of events and life systems of the teeth including any therapeutic dental redresses like filling. It is regularly applied to criminal examinations for indentation investigation.

Controlled substances: Chemicals that are legitimately perceived as having the potential for misuse are called controlled substances. This consolidates "street drugs, for instance, joy or heroin and specialist endorsed meds, for instance, oxycodone. The ability to recognize and perceive such controlled substances expects a basic part in supporting law approval associations in their fight against persistent medication use and prescription based violence.

Forensic toxicology: Forensic Toxicology includes examination of natural examples to check for the presence of poisons and medications. This part of legal science is of prime significance in street mishaps, harming, sexual savagery and so forth the toxicology reports outfit key data about the idea of substances present in an individual relating to a rate. It additionally decides if the amount of substances are typical according to a remedial dose or surpass the reasonable level. Since fresher variations of medications are fostered every day, this part of criminological science is consistently developing and requests state-of-the-art approach.

Forensic anthropology: This arrangements with the assessment of compromised human remaining parts or skeletons to assist with deciding the age, stature, sex, and family line. It additionally sets up the time since death by distinguishing and analyzing wounds, assuming any. These examinations give significant prompts agents on recognizing casualties, particularly in situations where the bodies are to the point of being unrecognizable.

Forensic pathology and medico legal death investigation: Forensic pathology is a part of pathology that decides the reason for death by analyzing a body. Scientific medication hence includes the assortment and investigation of clinical examples to find realities acceptable in the official courtroom. For example, distinguishing proof of wound examples can assist with deciding the weapon used to incur the injury. Also, measurable pathologists can look at exit and passage wounds in passing's relating to the utilization of guns or different shots. A criminological pathologist can, thusly, draw essential derivations on whether the passing is normal, criminal or unintentional.

Impression and pattern evidence: Impression proof is the proof made when two items interact with sufficient power to make an "impression". This could include a two-dimensional impression, for example, a finger impression or three-dimensional one like the imprints on a shot. Example proof examination includes ID and investigation of extra data inside an impression. Impression and example proof when utilized related can assist with setting up indispensable connections between a suspect/instrument to a crime location.

Trace evidence: Evidence like filaments, soil, hair, discharge buildup, wood, and dust are a portion of the numerous instances of follow proof. It gets its name from its propensity to be effectively transferrable between

items, individuals or the climate during a wrongdoing. Follow proof frequently assumes a significant part in building up a superb connection between a suspect and the person in question. For example, a dirt example got from the shoes of a casualty can give basic pieces of information on the area of the wrongdoing and accordingly help in following the culprit.

Cyber forensics: Cyber Forensics includes the examination of proof found in PCs and advanced stockpiling media like pen drives, hard plates and so forth its significant goal is distinguishing, safeguarding, recuperating, dissecting, and introducing realities and feelings about the advanced data. Despite the fact that it is for the most part utilized for the examination of digital wrongdoings, it additionally generally utilized in common procedures. Digital Forensics has been utilized in criminal law since the mid-1980s, a few notables ones being the Sharon Lopatka manslaughter case, and the conviction of Dennis Rader, Dr. Conrad Murray-Micheal Jackson's own doctor, and Joseph E. Duncan III.

Ballistics: Ballistics is a specific measurable science that arrangements with the movement, conduct, elements, rakish development and impacts of shots, like slugs, rockets, rockets, bombs and so on. The use of ballistics in criminal science is generally in criminal assessments. For instance, the appraisal of the shot found at a wrongdoing area can uncover what kind of gun was used to release it and whether or not it is connected with another bad behavior previously. Believe it or not, ballistic nuances are recorded in a huge data base that is open by law prerequisite associations across the globe.

Job of Forensic Science in Criminal Investigations

Forensic science is that part without which the riddle of a criminal examination is fragmented. Without the use of measurable science, hoodlums can never be sentenced except if an observer is available. While analysts and law requirement organizations are engaged with the assortment of proof, be it physical or computerized, it is criminological science that arrangements with the examination of those proof to set up realities permissible in the courtroom.

Along these lines in a world without criminological science, killers, criminals, drug dealers and attackers would meander without any consequence. The obligations and obligations of a legal researcher in a criminal examination is significant as it includes the cautious assessment of a proof while guaranteeing that it isn't messed with. An assorted pool of legal researchers and legal instruments go into the examination of a criminal demonstration.

For example, legal pathologists are gifted at deciding the reason for a demise by performing post-mortem examinations. A post-mortem sets up the reason and way of death through the assessment of body liquids and tissues. Scientific Scientists investigate actual proof (fingerprints, blood, hair and so on) gathered from the episode scene to recognize suspects. Also, criminological experts use picture alteration apparatuses to look for hoodlums fleeing from the law for quite a while. This device empowers them to carefully age a photo to see how the individual would check out maturing.

Significance of Present day Forensic Science and DNA

High Court of Pakistan in its milestone judgment (announced in Supreme Court Monthly Review No. 2021 PLD 362 Supreme-Court) examine exhaustively about the Importance of current scientific strategies and science under the law enforcement framework that:

Prior to examining the incidental proof, it very well may be valuable to underline the job of science, present day scientific procedures and gadgets under our law enforcement framework. For the law to serve individuals in this innovatively intricate society, courts need to comprehend and be available to science and its standards, apparatuses and procedures. Legitimate choices of the courts should fall inside the limits of deductively sound information. An appointed authority and all the more so a preliminary adjudicator, goes about as a guardian of the logical proof and should, accordingly, partake in a better than average and comprehension of science. As science develops so will the criminological methods, apparatuses and gadgets; subsequently, courts should be available to improvements in legal science and embrace new strategies and gadgets to determine a debate, gave the said procedure and gadget is grounded and broadly acknowledged in established researchers as a dependable and solid strategy or device.¹ Article 164 of the Qanun-e-Shahdat Order, 1984 (QSO) is our door permitting present day forensic science to come into our courts. Article 164 gives that courts might permit to be created any proof that might have opened up due to present day gadgets and strategies. Proviso² to Article 164, included the year 2017, gives that conviction based on present day gadgets and methods might be legitimate. Article 164 read with Article 59, entomb alia, permits current forensic science to enter courts through the believable and esteemed logical assessments of specialists as proof, to show up at reality.

Criminal Profiling-Getting inside a criminal's Psyche

Criminal profiling empowers legal researchers to zero down on suspects by deciding a criminal's examples and character. It depends on a mental assessment of the assets seized from a wrongdoer. This aides in drawing a total social and mental evaluation of the wrongdoer. Despite the fact that it is frequently addressed for its exactness, viability and logical legitimacy, its job in the criminal examination can't be disregarded. The fundamental stages of criminal profiling remember for profundity examination of the crime location, dissecting the occurrence and

attracting correlations with comparative occasions the past, assessment of the casualty's experience and exercises, thinking about every conceivable thought process and setting up a definite portrayal of the suspects to contrast it and past cases.

Significance of Forensic Science in Law System

"Forensic" has its underlying foundations in the Latin word "forensis" which implies a discussion. Back in early Rome, a discussion alluded to a public spot where official procedures and discussions were held. In this manner, the beginning and the actual meaning of 'legal science' focuses to its nearby relationship with the general set of laws. Measurable Science includes the assortment, protection, and investigation of proof reasonable for arraigning a wrongdoer in the official courtroom. The utilization of scientific science in the criminal equity framework is, hence, an obvious picture. The overall set of laws generally perceives the job of measurable proof in the preliminary of criminal wrongdoers. This is on the grounds that when logical procedures and techniques are utilized, there isn't a lot of degree for inclination or treachery. That is the reason DNA profiling and a large group of other criminological proof are generally acknowledged in courts across the world. Curiously, the very first criminological procedure utilized including finger and palm print ID traces all the way back to the Chinese (650 A.D.).

Crime Location Handling in Pakistan-A much Disregarded Region

Crime locations are frequently explored ineffectively in emerging nations like Pakistan on the grounds that scientific science is seldom viewed as a piece of the interaction. Significance of crime location examinations has not exclusively been ignored however has likewise been minimized in past many years. One explanation of unacceptable crime location handling in Pakistan is absence of numerous wrongdoing tackling advances which have as of now been used in created countries. In any case, the nature and greatness of fear monger assaults, activism in legal organizations, broad media commitment and developing public mindfulness have placed strain on police power to look past customary techniques for examination. However legal systems are not dependable yet going criminological is unavoidable assuming that the police are to react to the advancements occurring in the field of wrongdoing (Richard Reyes 2017) ^[23].

Limit of the policing in Pakistan to follow through on breaking a case is seriously lessened by the absence of criminological administrations, lacking preparation and hardware. As we probably are aware a proficient working police administration is expected for addressing numerous terrible wrongdoings (Hassan Abbas 2011) ^[10].

Discussion and Conclusion

Forensic science alludes to the utilization of logical strategies, systems, and procedures "coordinated to the acknowledgment, ID, individualization, and assessment of actual proof by the use of the innate sciences to regulation science matters" (DeForest, Petraco, and Koblinsky, 1983) ^[4]. It has different sub-fields like material science, science, topography, science, medication, brain research, etc. Be that as it may, a wide position has likewise been embraced by rare sorts of people who contend, "No matter what the area of sub specialization, legal science includes the use of logical standards and strategies to the assessment of proof" (Berg, B. also J. Horgan., 1998) ^[1]. Since it includes the logical examination of proof, measurable science assumes a fundamental part in the equity arrangement of different countries of the world.

The law perceives the significance of measurable proof in arraigning criminal cases. Whenever logical strategies are thoroughly utilized, without inclination or bias, they can give pertinent proof in revealing and demonstrating wrongdoing. Other than DNA testing, which keeps on getting wide help in the courts, a large group of more established more unremarkable strategies are regularly utilized in criminal preliminaries across the world. Maybe the most seasoned criminological strategy includes finger and palm print distinguishing proof, which follows to the Chinese as soon as 650 A.D. Legal proof is every now and again used to both convict and absolve litigants (Giannelli 1997) ^[7]. Along these lines, there has been a critical development in the quantity of forensics research centers on the planet during the beyond a very long while (Lappas 1978) ^[12].

The expansion in the quantity of wrongdoing research facilities has been energized by the consistently developing and developing field of forensic science and by the fundamental job criminological proof plays in various crook cases (Berg and Horgan 1998; Garland and Stuckey 2000; Steadman 2000) ^[1, 6, 24]. This quickly advancing field builds tension on regulation requirement organizations to gather proof appropriately. In high profile cases, the news media features the significance of criminological science proof yet additionally centers on botches in finding, distinguishing, getting, dealing with, and introducing measurable proof. Teacher Margot contends: "Forensic science must be important for analytical administrations of regulation requirement.... The researcher should have full control of the scene and approach information about the case to be specific with regards to possible discoveries".

Expert observer declaration gives a significant wellspring of data for global criminal procedures, and forensic science mastery from mass graves is no exemption: discoveries from exhumations and assessments have highlighted in the specially appointed councils' preliminaries and decisions. While the issues encompassing the law-science relationship have been investigated inside the domain of public general sets of laws, the blended framework took on by the Courts gives a laid out conversation another unique circumstance. There is a worry that an official with extra scientific science preparing may become presumptuous and incidentally (or

deliberately) corrupt proof, delivering it forbidden. Then again, since a lot of crime location proof is presently delivered forbidden because of an absence of legitimate assortment (on the off chance that it isn't stomped all over and left uncollected completely), appropriate preparation is bound to exacerbate things giving it is performed by skillful forensic science educators. This legal science has an illustrative power which brings about indicting the blameworthy or exonerating the guiltless in an incredible number of cases (Giannelli 1997)^[7].

Forensic science is a flexible and colossally incredible asset in the examination of a wrongdoing.' Forensic devices and methods should be supported by the information, experience, instinctive investigators, police and other specialists' job (Platt, 2003)^[18]. Criminological science connects all confirmations gathered on the crime location to address inquiry of the wrongdoing. The processes are techniques are painstakingly followed. The confirmations are essential linkages giving pointers towards suspects and casualties of the violations. The inquiry designs help in gathering the physical and different confirmations. The DNA specialists recuperate fingerprints through utilization of specialized apparatuses and packs. The shoeprints and tire tracks give hints towards criminal personality, kind of vehicle, tallness and stride of the crook. Forensic science helps investigators in investigating homicide, rapes and accident-related incidents. In addition, unidentified bodies, missing people and extortion and fabrication cases are additionally settled (Platt, 2003)^[18].

Forensics proof is broadly utilized worldwide to both convict and excuse litigants. In this way, legal science research facilities have mushroomed up all around the globe in the recent many years. Indeed, exceptional demonstrations must be authorized in Pakistan to work on the delivering of criminological administrations. This would guarantee that wrongdoings are identified with more prominent assurance and therefore conviction rates can increment. Such demonstrations place an incredible accentuation on time-proficient and quality administration of crime location.

Suggestions

Forensic science has filled in its intricacy and significance throughout recent many years. This has prompted more noteworthy requests being put on regulation authorization. In a few cases, regulation implementation has been addressed and censured in the recognizing, getting, and treatment of basic measurable proof. There is a reasonable requirement for regulation authorization staff to be more proficient with regards to measurable science criminal proof. School and colleges give the abilities, information, and critical thinking capacities essential for confounded, changing errands to be done (Lindquist 1995). Consequently, schools and colleges are significant in aiding the field of scientific science to develop (Tilstone 1991)^[26]. Law enforcement and forensic science programs have reacted by making contributions going from a solitary course to a large number of scientific science courses covering such sciences. The principle objective of these courses ought to be to expand the information on understudies rather to make them specialists. Understudies should know that a small bunch of criminological science courses won't help them in tracking down work with forensic labs (Lindquist 1994). All things being equal, these courses will help them in seeking after a regulation implementation profession.

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