

The Role of Forensics in Criminal Investigations

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ABSTRACT: We intend to discuss in this paper about forensics and the role it has in for discovery, investigation of criminal offenses and to identify persons involved in committing them based on other sciences such as physics, biology, chemistry, mathematics. The basic ideas which we will discuss are the first steps taken in the investigation of homicide, peculiarities research on site in case of murder, the peculiarities of the research killing depending on means and methods used by the perpetrator to suppress the victim's life, activities for investigation of murder, development version prosecution valuations type personality profiling the offender and carry out criminal prosecution.

KEYWORDS: criminal investigations, criminal offenses, forensics, victims

Introduction

Crimes against life are the most serious crimes against the person, by committing their man is the most precious good steals that is life. For this reason, acts against human life have been incriminated in ancient times, it is always punished with great severity.

Crimes against life concern the legal relations concerning the right to life, each person individually, appears under the right essential to life, and all other persons appearing obligation to refrain from committing any acts that would bring the right to life of the holder. This property once lost cause missing person. Mankind has always sought to protect their right to life. No one shall be applied intentionally besides execution of death sentences handed down by a court if the offense is this penalty.

The oldest criminal doctrine is assumed that a person is alive or not from the time after birth has an ectopic existing independently from breathing (Coroiu 2014, 1755). Progress in medical sciences, legal sciences as were imposed, however, a much higher opinion that the appearance of the right to life lies at the onset of biological birth process (Stancu 1995, 220).

To kill is to suppress the maker of history, created goods beneficiary together with others. By defending the priceless values it is protected not only human beings but also the huge mass of social relations (Dongoroz 1971, 7). It endangers human life is an act that endangers not only the existence of the individual, but himself all social relations, the man representing the essence of these relations.

Among the many defenses of human life, recall and legal means, among which an important place being occupied by one's own criminal law. It is necessary to resort to term investigation in the sense to research the criminal investigation of criminal offenses, as enshrined in the criminal prosecution activity primarily to highlight both the complexity and difficulties, but also some become increasingly common terminology. This typically defend individual existence is but a comprehensive character, cannot be considered only in an organized survey to establish the truth, forensic technical and tactical activities occupy a special position.

Importance of forensic investigation in solving crimes against life as other crimes, resulting from the fact that science criminalistics offers reach judiciary methods and the technical-scientific measures necessary discovery attachment, seizure and examination of traces of homicide, identification of the author and possibly the victim.

However, the tactical rules for conducting criminal prosecution, as well as research methodology murder is possible to gather evidence necessary to establish the truth.

Forensics provides scientific instruments both shaping elements of the offense and identifying the perpetrator and the imposition of a sentence according to his guilt. Forensics has emerged as an objective necessity dictated by the failure of criminal justice means fighting against forensics, coupled with the increasing number of offenders and improving the means and methods of committing crimes.

Hans Gross forensics defined as a science of the facts in criminal proceedings (Naghi 2014, 29). Forensic science is a legal, autonomous and unitary comprise a body of knowledge about methods, their technical and tactical procedures, for discovering, investigating crimes, identifying persons involved in committing them and prevent antisocial acts (Stancu 2004, 12).

Homicide is defined as the science develops tactical methods and the technical-scientific discovery, research and crime prevention (Ion 2010, 3).

In other definitions, forensics is considered a multidisciplinary science that deals with developing the technical-scientific methods and tactical methods of discovery, retaining, managing and examination of samples for research purposes and crime prevention (Anghelescu 1984, 48).

As an independent discipline and consistent, it should be noted that it is not confined to research traces but develop procedures to prevent, detect and investigate crime and identify persons who have committed or are related to their commission (Ionescu 2011, 15).

According to literature, forensics subject must be regarded more nuanced. In this regard should be highlighted in scientifically its main lines of action, namely:

- Development of technical methods for the discovery and examination of traces of the crime, both man-made and other traces left in the field of crime, instruments used means of transport, the physio-chemical phenomena all having as the identification of persons and objects bearing traces creative times;
- Adapting to the needs of specific methods other sciences: physics, biology, chemistry, mathematics;
- Develop a system of methods and specific in accordance with the criminal procedure law and taking into account the positive experience generalized prosecuting authorities based on the use of logic and forensic psychology and other applied sciences, for Preventing and investigation of crimes in order to obtain optimum results with minimum expenditure of effort, resources and time (Colectiv 1984, 196);
- Study of jurisprudence in order to capitalize and scientific substantiation of experience prosecuting authorities in the work of investigating crimes;
- Knowledge evolution of crime and modes of operation used in the commission of the criminal actions in order to identify the most effective methods of prevention and control (Bercheșan 2002, 17);
- Develop specific measures and methods to prevent crime (Bercheșan 1998, 61-62).

Science against crime, as was rightly called, it appears as a science with a complex structure consisting of three distinct but closely related branches namely:

a) Forensic technique, represented by all means necessary technical and scientific methods search the detection, revealing, fixing, lifting, and means of examining and interpreting traces of the sample material, carrying out scientific and technical-expert (Colectiv 1976, 15).

b) Visitors forensic form rules of organization and development of the activity of the prosecution and trial, such as crime scene investigation, reconstruction, identify the perpetrator or the victim, determining causal links, hear the accused and others, verification provisions, performing searches, seizure of property and documents;

c) Methodology forensic recommended specific means of investigating offenses according to their nature: murder, grievous injury to bodily integrity or health, abortion, rape, theft, robbery, fraud, embezzlement, tax and bribery, perjury, forgery, accidents, road, sea and aeriean, fires and explosions.

Crime scene examination usually starts with a tour of the area and route crime. This tour aims marker present evidence, the entry point of the author, the location of the victim, where the author was cleaned or left certain objects, the exit of the author, and other detailed that can be realized.

Thus, the team:

- Notes as the scene changes, the traces there when the incident occurred, who is the victim and who seek there, mobile offense if any, existing real possibilities for discovery and arrest the accused. However under certain princes: speed, objectivity, thorough research;

- Start researching the place from the outside or vice versa, and the surface is stretched recourse to its division. The crime scene investigation is carried out in two phases, static phase and dynamic phase.

The static phase

The static phase represents the first contact with the place of the act, without reaching anything, the research being summarized in observation (Buzatu 2013, 37). Research murder scene starts with taking preparatory measures by the prosecutor leading the research team. Coaching is, among other things, completion and verification of the original measures taken by the prosecuting authority come first to spot activity that circumscribe the first measures taken in such cases. In phase Static crime scene investigation proceed to a careful examination of the crime scene as a whole, and the most important areas, without an amendment thereof. Research can start from the center and continues to the edge of the crime scene or the main object such as the victim's body, the outbreak of fire (Mircea 1998, 150).

The dynamic phase

The dynamic phase involves moving objects, looking and examining them everywhere, with the necessary precautions. it is the most complex and laborious stage of investigating the place of deed (Buzatu 2013, 38). The dynamic phase will be examined in order:

The body clothing and shoes, interesting characteristics as well as existing marks or on them. Precor also will lack some elements of them or leaving traces specific wedding ring on the wrist or fingers. Will be studied carefully every pocket, indicating the content and position, as well as dirt or stains. The entire garment must be carefully checked.

The body is examined here is based on the general elements, such as the physical constitution, color, special marks, including cadaver signs. After establishing and documenting general elements, will move to a comprehensive review of the entire body, from the victim's head, then neck, chest area, abdomen, back region, the upper and lower limbs. Visible lesions will be described as position, shape and size, each spot as a biological or otherwise, in a word, any trace that might take a certain connection with the murder. They will also be examined nails hands and body, which can be found hairs, loose clothing, textile yarn or buttons torn during the fight with the aggressor. The deposit can discover cellule epithelial traces of blood, bits of hair coming from the offender.

Dynamic research phase, running pictures of detail, dimensional photographic measurements is finalized crime scene sketch and start writing the minutes.

Examination of a corpse carried out by forensic medical examiner with the prosecutor in charge of the investigation, is an essential activity of the crime scene investigation. Examination of a corpse will start only after the coroner found the death, diagnosis made based on signs cadaver installation specific biological death and confirmed during autopsy examination.

The first thing you need to establish when examining a corpse is the time in which the death. During bringing often significant changes in body condition, it is imperative to keep track of time that has passed from death to date. After that, it needs to ascertain the cause of death.

A death can be caused by:

- a) Strike or injury;
- b) Hanging;
- c) Poisoning;
- d) Choking.

It is not always easy thing to determine definitely which of these types of death was subject person killed, as are sometimes guilty to cheating justice and to prevent them from discovering their tracks do after death, injuries cadaver, firearms or other instruments or bodies throat and prints hang on the part of the body signs that are to believe that was hanging and others.

The prosecution in proving the existence of the crime of murder, determine:

- If the activities carried out by the perpetrator, the means used by him and produced results or not a causal link.

- If the concrete ways in which to act and the actions or inactions of those is death or were likely to produce this result.

To exist for murder must be a causal link between criminal activity carried out by the perpetrator, the means used by it and the result produced. Given that the offense of murder is an offense can be committed by action and by omission. Murder committed by direct action when the author kills the victim acting directly (by shooting, hitting, choking). Murder committed by indirect action is when the author in order to achieve the goal set in motion a material force (set a dog barking on the victim) or expose the victim to dangerous situations.

Murder is committed by omission if the offender does not meet the act was required by law.

In category fall objects peaks stabbing or sharp blades.

- Stinging objects produce sharp, usually smaller than those of the sharp object.

The shape of the opening, on the outside, will depend on the shape of the object pungent. Point holes left by the needle after injections or require an examination with a magnifying glass in order to differentiate the biting insects.

- Stinging - cutting lesion objects with smooth edges, sharp angles, linear or broken, shallow or deep.

- Objects splitters split lesion cut on the skin, as well as the fracture.

With these objects are produced, as a rule, heteroagresive lesions, but are cases of auto-aggressive lesions, such as multiple lesions in the head of a suicidal mentally ill. Committed violent death by suffocation mechanics, is a very common way of homicide, and suicide. Asphyxiating gas metabolism disorders are characterized by rough deprivation of oxygen, the main phenomena and a consequent increase in carbon dioxide as a secondary phenomenon.

The phenomenon improper means lack of pulse. But exact synonym is anoxia. Death by suffocation may be due to: crunch, sealing airway blockage of the larynx or trachea, chest compression and drowning. When the body was found hanging review should proceed on the lungs and the brain vessels, because these organs depicts significant alterations when death was accommodated by asphyxiation. By using firearms are created additional clues both weapon and ammunition and target objects. Each of these tracks can provide some useful information to identify the weapon that fired and those who used it.

Traces of products with rifled barrel weapons:

a) Tracks formed on the gun

- is burned powders deposited on the chamber walls and on the inside of the blast pipe;
- If new weapons, rifling are prominent, while the weapons used more often, rifling are dull;
- On butt in particular, and the other component can be found fingerprints of the drawer and even bloodstains from the victim (Botoş 2012, 114);

b) Marks printed on ammunition:

- At the time of firing the bullet will be expelled to target. Tube goal is expelled out of the weapon remaining and being set up, usually the scene. The traces of the bullet:
- As a result of the fact that the diameter of the projectile is greater than the distance between two opposite grooves, the bullet is "forced" to pass through these bumps that will print on the projectile in the form of parallel stripes. The number, orientation grooves, their linear continuity can lead to the identification of certain weapons that were fired.

Chalking empty tube:

The pressure of gases formed by burning walls cartridge will be pushed outwards them into the micro combustion chamber of the gun. The collar cartridge prints left behind claw extractor. The positioning of all, the depth, shape, distance from the bottom of the cartridge are the detail that can be used to identify the weapon.

Needle striker hitting staple deforming, and it prints its microrelief.

c) Traces formed on the human body: When using a firearm for injuring or killing a person, the victim's body was found some traces whose interpretation allows for the weapons of the boarding fired and circumstances that you committed the act. These traces are created either by the projectile, or by products blasting factors (flame, hot gases, burnt and unburnt powder)

Murder by poisoning is rare because it requires the perpetrator can access in the privacy of the victim. Murder by slow poisoning is committed, in most cases, women are hard to discover. Toxic reactions occur and damage specific to their nature, as well as the dose which have been inserted into the body, death occurring at a longer or shorter time, at times it may be spread over a long period of time, such as chronic professional intoxication.

The violent death of a person can be produced with means above and other factors, such as, for example, the death caused in car accidents, marine, airborne in accidents, deaths caused by various physical energies (heat, cold, electricity). Special mention ought to be made by the so-called death produced psychic agents, which occurs rapidly after intense emotions (fear particular, excessive joy, anger). Shock psychiatric produce a reflex death by sudden stopping of vital functions. Determining the nature of this death is particularly difficult since it is necessary to prove psychic medium ability to produce such an effect, as predisposition passive subject to death by psychological shock due to pain like atherosclerosis, heart failure, asthma.

The body that task will require work and determination object falls expertise (findings), valuing correct formulation and clear questions (problems) which will have to respond specialists or experts. Assessment of the appropriateness arrangement involves studying and learning material on which work is to be ordered, so as not to delay necessary for an expert solution concerned. As late layout and arrangement premature expertise can have negative consequences on the investigation, they may cause degradation of the material in question is either insufficient examination material. Identification of the subject expertise and classical formulation of the questions are also extremely important, a common request in the context of judicial ballistic expert, to decide whether the expert is presented firearm weapon. Or, call the expert is not to rule on the issue of law, but only the facts or circumstances of the case. Such experts may tell whether the weapon is a firearm then the disputes atypical, military, hunting, etc. and if it works on the principle of firearms, but legal qualification is the task of the judicial body. Questions to be pursued expertise are generally subject to the need for clarity, indicating precisely the object end features targeted.

After researching on the spot, making the determination or forensic represents another milestone of violent death elucidation of the problem that, for objective reasons, cannot be answered from the start. Moreover, in these conditions, according to criminal procedure, finding forensic be ordered by the prosecuting authority as forensic expertise is required to determine cause of death unless prepared a forensic report. To the significance of this act forensic in the settlement researched, recommended it is that necropsy be performed, if possible by the very medical anatomopathological who attended the crime scene investigation or to provide the minutes of the crime scene investigation and photos, videos made on this occasion.

Forensics helps accurately identify the nature of the injuries on the body of the victims, their age, the effect they have on the human body in the context of certain offenses committed by the offender. Forensics is the science that studies pathological condition related to life, health and human activity as incriminating facts or social relations protected by law in order to provide scientific evidence characters (Gheorghe, 1970, 13).

Classification forensic death distinguish between:

a) Natural death that occurs after wear body's physiological and does not require investigation criminology or forensic autopsy, unless the cause of death was attributed erroneously medical history;

b) Pathological death that occurs in an internal cause, pathological factor determined without external intervention. Can be slow or fast, also called sudden death. Sudden death is characterized by a rapid onset in individuals apparently healthy, so I'm always suspicious criminal prosecution body and requires autopsy. It can be caused by cardio-vascular brain.

c) A particular problem raised by the so-called death by inhibition occurs almost instantly, some people hit the abdomen or testicles, without finding at autopsy, injuries to explain the cause of death. Also, the bottleneck may cause sudden stopping of the heart or respiration, occurs before a choke, a case of violent death;

d) Violent death, which is due to an external factor, the physical mechanical or chemical means. Death occurs rapidly or slowly, by complications.

Category violent death are: murder, suicide and accidents.

The basic rule by which to guide judicial bodies investigate criminal offenses against life is the organization of the judicial investigation and prosecution plan in order to clarify fully the circumstances of committing murder and identify the perpetrator.

A central place occupied earlier drafts prosecution, on the nature of violent death, the person of the author, the motive and purpose of the offense and the circumstances or conditions under which it was committed.

For development versions, the prosecuting authority, leading the investigation, will be allowed a minimum of precise and concrete information concerning the action.

These data are obtained both by procedural and springs Forensics expert specializes able to search, discover and raise the material traces left at the scene, the victim and the aggressor clothing and body and the delicate bodies. He is able to perform comparative examination of those marks with their creative subject, reaching firmly identify this object and how they acted and produced these tracks. This activity is not a judgment, but an examination and a demonstration rigorous scientific on their dynamics and scientific identification by physical and chemical nature of all material found at the scene, the clothing and body of the victim or perpetrator.

Conclusions

Murder is practiced in prehistoric times. Ancients killing various animals for food, to procure clothing and various other items that might be useful. With civilization of mankind, in the struggle for land, power and wealth appeared wars between nations. Over time, certain important people, killing villagers to have fun. Organized various games battle between humans or animals. Peoples began to kill each other because of disagreements. Over time, there were codes prohibiting certain crimes, some punishing defendants to death, therefore, the murder became a penalty for the unlawful act committed.

The world's first code was the code of Hammurabi the Great, the king of Babylon. This code was largely destroyed, and parts of it were found french. Forensics has emerged as a necessity, the science that has knowledge about methods, their technical and tactical procedures for discovery, investigation of criminal offenses and identify persons involved in committing them, based on other sciences such as physics, biology, chemistry, mathematics. Forensic shall function both on the ground at the spot of committing an offense, and in the laboratory to investigate and identify samples collected in the field. Research on the spot is divided into two phases, static phase and dynamic phase.

The static phase will carry out certain tasks such as setting state and position produced in evidence, executing shots guidance, sketches and photographs object main attachment filming or recording vidomagnetics, determine any changes made prior to arrival of the research team in dynamic phase will examine clothes, garments and shoes body, aiming to both their characteristics and existing marks or stains on them. Examine the corpse body to observe the physical constitution, colour, special marks, including marks cadaver. After that will examine the whole body, from the victim's head, neck, thorax region, abdomen, the back region the upper and lower limbs. In this phase of the detail images is performed, two-dimensional photographic measurements is finalized drawing the scene. All these features will be recorded in the minutes made onsite. Murder may be celebrating the light weapons, bodies blunt by asphyxia by shooting, poisoning or could be caused by other factors such as death caused in car accidents, air, sea, accidents at work or caused by various physical energies as They are heat, cold, electricity. Murder occurs quickly if emotions are very intense when fear is great, excessive joy or sorrow. The sudden stop of vital functions. To investigate the murder is making other investigations such as layout forensic expertise that is through studying and learning object work, separate consideration of the work material at issue and the comparison, comparative examination, demonstration and finally, conclusion.

Another murder investigation is layout used for research of forensic examinations. This expertise makes clear the type of death. Death is divided into natural death, pathological, by inhibition and violent death. To facilitate their work, forensics resort to earlier drafts prosecution. It refers to the nature of violent death, the person of the author, the motive and purpose of the offense and the circumstances or conditions under which it was committed. This is done by accumulating data from the site and the statements of witnesses, relatives or investigation concerning the victim.

Finally, we will check to see which version is most plausible. In more severe cases such as assassinations, occult murders, rapes, robberies, bank robberies, analysis obscene letters or terrorist arson, rape and murder recourse to geographic profiling or as it is called, to psiho-criminalistics. This profiling includes age, race, residence, occupation, marital status, external appearance, intelligence, vehicle owned record degree of sociability and aggression of the accused. To carry out criminal acts recourse to hearing witnesses, hearing the suspect or defendant, making confrontation, conducting searches, making reconstructions. Without all these measures, research and investigation, the task of judicial police to solve cases would be much more difficult and perhaps impossible in certain situations.

References

- Anghelescu, Ioan and Colectiv. 1984. *Dictionary of Forensics*. Bucharest: Scientific and Encyclopedic Publishing House.
- Bercheșan, Vasile. 1998. *Forensic investigation of homicide*. Pitesti: Paralela 45 Publishing House.
- Bercheșan, Vasile. 2002. *Criminal investigation, completely Guidelines*. second edition Bucharest: Icarus Publishing House.
- Botoș, Ilie. 2012. *Forensics - User self-study*. Pro Universitaria, Bucharest, 114-120.
- Buzatu Nicoleta-Elena. 2013. *Forensics*. Bucharest: Pro Universitaria Publishing House.
- Colectiv. 1976. *Practical Forensic Treaty*. Volume I. Bucharest: Ministry of Interior.
- Colectiv. 1984. *Forensic Dictionary*. Bucharest: Didactic and Pedagogic Publishing House.
- Coroiu, Viorel. 2014. "Research Methodology crimes of murder". In *Romanian Journal of Forensics*, no 51755-1758.
- Dongoroz, Vintilă. 1971. *Theoretical explanations of the Romanian Penal Code*. Volume III. Bucharest: Publishing House of Romania. 7-10.
- Ion, Mircea. 1998. *Forensics*. Bucharest: Lumina Lex Publishing House.
- Ion, Mircea. 2010. *Forensics*. Bucharest: Lumina Lex Publishing House.
- Ionescu, Lucian, and Dumitru, Sandu. 2011. *Forensic Identification*. Edition 2. Bucharest: C.H. Beck Publishing House.
- Naghi, Gabriel. 2014. *Forensic fundamentals*. Bucharest: Universe Law.
- Scripcaru, Gheorghe, and Terbancea, Mircea. 1970. *Forensics medicine*. Bucharest: Didactic and Pedagogic Publishing House.
- Stancu, Emilian. 1995. *Forensic*. Volume II - *Tactics and methodology forensic*. Bucharest: Actami Publishing House.
- Stancu, Emilian. 2004. *Treaty of Forensics*. Volume III. Bucharest: Universul Juridic Publishing House.