RULES OF FORENSIC TACTICS IN CASE OF INVESTIGATION ON THE SCENE OF TRACE OF GUNS

Lecturer **Nicolae MĂRGĂRIT**[1]

Abstract

On-the-scene research is one of the activities that contributes substantially to the achievement of the purpose of the criminal trial. According to the criminal procedural law, the on-the-scene investigation is an evidentiary procedure that serves to administer or find out some means of evidence. From a forensic point of view, the on-scene investigation represents the procedural and forensic tactics activity whose object is the direct perception of the place where the crime was committed, its discovery, detection, fixation, lifting and examination, aiming to establish the nature and circumstances of the crime. the deed, as well as the data necessary to identify the perpetrator.

Keywords: *forensic tactics, on-the-scene forensic research, forensic traces, guns.*

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1. On-site research - introductory notions

On-site investigation is one of the activities that contributes substantially to achieving the purpose of the criminal process. According to the criminal procedural law, the on-site investigation is an evidentiary procedure that serves to administer or find some means of proof[2].

From a forensic point of view, the on-site investigation represents the forensic procedural and tactical activity whose object is the direct perception of the place where the crime was committed, the discovery, detection, fixing, collection and examination of traces and material means of evidence, specifying the position and their condition, with the aim of establishing the nature and circumstances of the commission of the deed, as well as the data necessary to identify the perpetrator[3].

The importance of this activity lies in the fact that the criminal investigation body directly perceives the circumstances in which the perpetrator acted, the objects used or touched by him, being able to obtain particularly valuable evidence in question. It is the basic condition for the successful resolution of criminal cases, since, in the vast majority of crimes, the results obtained on this occasion are the starting point, determine the directions in which the investigations will be carried out later. Often, on-site research is the only way to obtain evidence in the first phase of research.

The place of the deed means the place where the illicit activity took place, as well as the place where its results took place.

Carried out on time, carefully and qualifiedly, the on-site investigation can lead to the clarification of the numerous problems that arise during the investigation of a criminal case, such as:

- the existence of evidence to show that a crime has been committed;
- the means used by the perpetrator to enter the crime scene;
- the activities carried out by the perpetrators at the crime scene;
- the tools used to commit the crime;
- the places where the perpetrators went in the field of crime;
- number of perpetrators;
- the goods and values that are missing from the crime scene;
- the existence of so-called "negative circumstances";
- the persons who perceived - in whole or in part - or could perceive the deed and the circumstances of its commission;
- the changes occurred in the field of the crime, the persons who silenced them and their purpose;
- the causes, conditions and circumstances that determined, favored or facilitated the

[1] Nicolae Mărgărit – „Bioterra" University of Bucharest, Romania, margarit.nicolae56@gmail.com.

[2] N. Văduva, *Criminalistica – tratat de tactică şi metodică*, Ed. Era, Bucharest, 2009, p. 14.

[3] Ibid.

commission of the crime and the prevention measures to be taken in the future, etc.[4]

Viewed through the prism of those shown, the investigation on the spot proves to be one of the most complex activities carried out by the criminal investigation bodies. The importance of this activity is also given by the fact that its results, not only direct the research, but, in most cases, condition the very finality of the investigations carried out in question.

The place where the crime was committed, where the consequences of the illicit activity occurred or which, in any way, preserve its traces, is the source of the most accurate information that can be used in order to find out the truth. On the other hand, ensuring the identification of traces and material means of evidence and, on this basis, the criminal prosecution of those guilty, the on-site investigation is of particular importance in terms of prevention and operative detection of crimes and perpetrators, implicitly, preventing them from committing other antisocial acts.

Concluding on the tasks of the field research, it can be appreciated that they are the following:

- examination and procedural fixation of the environment at the place of the crime;
- searching, revealing, fixing, picking up and interpreting the traces and material means of proof, as well as their procedural fixing;
- elaboration and verification of versions regarding the crime committed and perpetrators or regarding the various circumstances of committing the deed - place, time, activities carried out, methods and means used, motive and purpose, consequences produced, etc.;
- determining the causes, conditions and circumstances that determined or favored the commission of the crime and the prevention measures that are required[5].

2. On-site investigation of the firearm. Preliminary examination of it

When it is presumed that a firearm was used in the commission of a crime, or when the act of suicide or accident occurred with such a weapon, the investigation of the crime scene will be done with particular emphasis on the methods of detecting the firearm and of the marks left by its use.

The problems to be clarified in such cases are: the discovery of the firearm used, the projectiles and tubes fired, the main and additional traces of firing, the direction and distance from which it was fired, the circumstances that determined or facilitated the use a firearm etc.

The firearms at the crime scene can be found in two variants, namely either left in plain sight by the aggressor or victim or hidden by the offender after their use. Hidden weapons, at the crime scene or at the offender's home, can be thrown into wells, latrines, running water, under the garbage layer, under the garden layer, haystacks, in tree hollows, in barley fields, etc.

In order to discover the hidden firearms, the path of the offender must be followed, both at the crime scene and at his removal from it, using the metal finder, the electromagnetic probe, etc.

The discovered firearm will be photographed together with the remains of the ammunition, both at the place where it was found and in the laboratory conditions to fix its characteristic details.

The main means of fixing the firearm is the research report, which will include:

- the precise place where the firearm was discovered, the position and the distance relations with respect to the corpse and other objects;
- type of firearm (revolver, pistol, submachine gun, rifle, self-made weapons, etc.), model and caliber;
- the direction of the barrel of the firearm in relation to the corpse or the object in which it was fired, on which side the weapon is lying;
- what traces were discovered on the firearm: digital traces, organic remains (hair, blood, brain), other material remains;
- if the weapon is missing parts or if it has damaged parts;
- if the weapon is loaded or not, if it has a safety barrier, what is the position of the rooster, how many unmatched cartridges it has in the warehouse;

[4] N. Văduva, *op. cit.*, 2009, p.16.
[5] Ibid.

- what serial number it bears and what other manufacturing inscriptions, or subsequent inscriptions it has;

- how many guns the firearm has and what is their direction of rotation;

- what is on the pipe channel: old or fresh gun grease, dust and the approximate degree of its deposition, firing residues, their degree of oxidation, if the specific smell of a very recent firing is felt[6];

- the precise indication of the objects, of the places and of the distances where the traces of penetration, exit or ricochet of the shot projectiles were discovered, in relation to the position where the firearm or the corpse of the victim was found;

- the lifting of the firearm from the place where it was discovered is done with a pliers with wide lips or, in its absence, with a handkerchief, in order not to destroy the existing traces on the weapon or to create new traces.

After fixing the weapon in the crime scene, it is followed by a preliminary examination. To this end, it will first be checked whether the weapon is loaded or not, an operation which is carried out with great care to avoid any accident.

The lifting of the weapon for the preliminary examination will be done with caution so as not to destroy any existing digital traces on it, which may be of the weapon owner, the offender or the suicide bomber. In order to ascertain whether digital or other traces have remained on the weapon, it is viewed from different angles of light, keeping only those parts on which normally no traces can remain.

Fingerprints can be found on the polished rifle bed, the trigger and the trigger guard, the pistols on the magazine, the cartridges in the magazine, the barrel or the sleeve of the lock.

If there are no fingerprints or if the weapon can be handled in such a way that they are not destroyed, it will be unloaded with leather or rubber gloves, counting the cartridges. The cartridge in the cartridge chamber is removed and packaged separately, and those in the magazine without being removed from it are sent to the laboratory for possible traces.

In addition to the digital traces, special attention will be paid to other traces that may remain on the parts of the weapon examined: blood stains, hairs, soil particles, paint, etc.[7] It is also checked whether it was fired recently or whether it was generally fired with that weapon. The check is done organoleptically (pungent odor when fired recently) and by visually observing the inside of the gun barrel.

During firing, a layer of solid residue from the burning of the powder is deposited on the walls of the pipe channel, which differs in terms of its quantity, appearance and composition, compared to the powder used to load the cartridge, black powder or white powder.

After examining the pipe and discovering the digital traces, the condition of the weapon found at the crime scene or suspected will be checked, through a general examination of the weapon. This examination consists in checking whether the weapon is secured (with the obstacle in place), which is especially important if it is a suicide, as in this case the suicide bomber no longer obstructs the weapon. So, when the weapon has the obstacle set, the option of suicide is excluded. It is also checked if the weapon has all the component parts, and in case any part is missing, it is mentioned in the report.

Special care must be taken to lift the weapon from the crime scene, so as not to cause unfortunate accidents. The weapon must not be aimed at any other person or viewed on the barrel before unloading or securing it. In order to preserve the existing residues inside the pipe channel, measures will be taken to protect it by applying a rubber finger, with adhesive tape or with paper that binds well with string. Inserting a plug or cotton swab into the pipe channel is not recommended.

After examining and preserving the traces, the weapon is packed in such a way that the existing traces are not destroyed. For this purpose, it will be wrapped in cotton wool or clean paper and placed in a box or crate of appropriate size, securing it so that it cannot move and hit during

[6] Camil Suciu, *Criminalistica*, Didactic and Pedagogical Publishing House, Bucharest, 1972, p. 78.
[7] Vasile Măcelarii, *Balistica Judiciară*, printed in CPCS, 1972, p. 121.

transport.

3. Searching, discovering, fixing, picking up and packing traces formed by the use of firearms

A particularly important task in the investigation of the crime scene in which a firearm was used is the discovery of all traces, which can be accomplished by examining in detail all the objects in the field of crime and those suspected. Such traces can be: tubes, bullets, the weapon left at the crime scene, additional marks of the shooting, digital marks on the weapon, the entry and exit holes of the bullet, etc.

A good conduct of the investigation will be ensured if they can be established: the place where the shooter was shot, where the victim was found when she was injured or where the aggressor was placed at the time of the shooting.

Starting from this established point with certainty, a systematic search of the field is continued, in order to find all the traces with the help of which the circumstances in which the deed was committed can be established, the weapon, the ammunition and the offender can be identified. The land will be divided into sectors, each sector being examined in great detail, and the places checked will be marked with chalk or other means.

In general, traces of the shooting can be discovered:

- on the body and clothing of the person who fired the gun;
- at the place of committing the crime, on the victim's body or clothing or on various objects (thermal action of gases, soot, unburned dust particles, bullet inlet and outlet holes, etc.);
- on the weapon and inside the barrel of the weapon;
- on the tube and on the bullet.

In the case of the use of firearms, a thorough investigation must be carried out to discover the bullets in order to establish their connection with the respective crime.

The bullet leaving the barrel of the weapon bears imprinted on the shirt the micro-traces coming from the rubbing of the walls of the barrel. The lack of such marks on the bullet's shirt proves that he was not fired from a firearm. A closer examination may reveal that the marks left by the barrel of the weapon on the bullet's shirt show traces of old traces, which may give rise to the suspicion that the bullet was fired before the crime was committed.

In order to discover the bullet in the obstacle in which it entered, each sector of the bullet's flight path is examined successively.

The parts of the field where the projectiles are supposed to have penetrated are carefully dug and sieved, the snow melts[8].

The obstacle in which the bullet got stuck has only one hole, with a single opening where it entered. After fixing the coordinates of the inlet (through sketch and photo), the bullet can be extracted. To check if the bullet is indeed in the obstacle, and if the discovered hole is created by it, a metal detection device is used. The X-ray machine can also be used when the live bullet in the victim's body cannot be easily discovered.

Projectiles that have penetrated a corpse or remained in a person's body will be extracted with a special pliers, so as not to damage the marks on their surface.

In the case of a bounce, the hypothesis is questioned that the bullet, losing speed, after bouncing, fell somewhere nearby. Careful examination of the land near the place of the crime, within a radius of 5-10 m will allow the discovery of the wanted bullet. It may happen that the bullet, hitting a hard obstacle, breaks into shrapnel and therefore, if the bullet is not found during the investigation of the crime scene, measures must be taken to discover the shrapnel. The shrapnel is located directly in front of the obstacle that hit the bullet, and if the bullet passed through the obstacle, some of the shrapnel can be found at some distance from it. Basically, the distance on which the skis can be

[8] Camil Suciu, *op. cit*., 1972, p. 79.

scattered, after passing the bullet through the obstacle, does not exceed 2-3 m.

In most cases, bullets can be found:

- on the floor of the room or stuck in it;
- stuck in the ceiling or walls, in the door or window frame, in furniture, etc.;
- in the grass, on the ground or in the ground;
- in the clothing of the corpse or the wounded,
- in the corpse or stuck in the surrounding objects.

After discovering the bullets, they will be fixed by shooting, minutes and sketches and then they will be lifted with the help of a handkerchief or gloved hand, they will be wrapped, each separately in clean paper or cotton sealed.

The bullets are described in the report, as: shape, caliber, number and direction of rotation of the traces of guns, deformations suffered, adhered substances, etc.

If the bullet has entered a small, easily transportable object, it is no longer removed, but the entire object is sent to a forensic laboratory, where the projectile will be extracted.

The procedure for extracting the projectile from larger obstacles is as follows[9]:

- two perpendicular lines are drawn through the center of the penetration hole, the ends of which join in the shape of a square, forming its diagonals, with the help of which we will be able to establish at any time the exact position of the inlet hole;
- around the projectile penetrated in the wood or in the wall it is dug with a chisel, I swear around 2-3 cm from the hole formed by the projectile so as not to scratch it;
- the projectile is extracted with the help of a patent or I the pliers for extracting projectiles (elephant), with the lips covered in rubber so as not to produce scratches.

Clothes perforated by projectiles are wrapped so that the holes created by the shot are not in the bent regions, so as not to fall apart.

If the projectile has passed through a glass plate, it is glued with a sheet of paper, so that it does not fall apart and then the glass is removed from the frame, in its entirety, or only the part of interest affected by the projectile.

In the case of using hunting weapons, at the place of the crime, there will also be shotguns. These, due to their weak possibility of penetration, usually remain stuck in the hit object, they can be found at the bottom of the channels they have created. When allices hit a brick, iron, thick glass, etc. wall, they do not penetrate but fall to the ground.

Due to the fact that in flight the allices are spread over a fairly large area, the target object and all objects near the target are to be examined.

The burned tubes are searched starting with the area where the one who shot is suspected to have been. The possibility of discovering burned tubes, at the crime scene, when the firing was done with an automatic, is great, because the automatic after each fire, throws the burned tube. It will be more difficult to discover the burned tubes, at the place of committing the deed, when a gun was fired, which must be reloaded after each fire. In the case of shooting with the revolver, the burned tubes remain in the weapon and only in rare cases, they are thrown by the shooter, either to release the barrel or to reload the weapon. The search for burned tubes is performed after studying the number, appearance and shape of the lesions created on the victim's body. Also, in order to make it easier to find the tubes, the distance and the firing direction will be established.

The determination on the spot of the distance from which the shot was fired is made approximately, only for orientation and only when the secondary traces of the shot are visible on the target. This problem is finally solved in the laboratory.

When examining the burned tubes at the crime scene, special attention must be paid to find out if there are traces of the recent shooting on them: the fresh luster of the metal, derived from the action on it of the weapon parts (striker, claw extractor), the smell of powder burned etc. It is important to compare the diameter of the burnt tube opening with the size of the hole created by the

[9]Vasile Măcelarii, *op. cit*., 1972, p. 121; Camil Suciu, *op. cit*., 1972, p. 80.

bullets in the obstacle or the caliber of the bullet, if it has been discovered. All these checks will strengthen the conviction whether or not the burned tube is directly related to the crime in question.

In the case of hunting weapons, inside the tube, apart from the powder and the shotguns, there is the borax, made up of cardboard rounds, tow, felt or paper. These sponges do not burn during the explosion, but are thrown from the pipe, following the shotguns, at a distance of about 5-10 m, in the direction of firing.

The fixing of the tubes and the bullets from the hunting weapons is done according to the same rules that we presented in the case of bullets.

Particular care must be taken to lift the tubes from the crime scene to transport them to the laboratory. No fingerprints can be found on the tubes, because due to the high temperature the substances that make up the trace evaporate. However, there may be other material traces on the tubes and for this they will be preserved in their original state, they will not be cleaned or wiped, but packed separately as each one was found. It is forbidden to apply labels or scratch marks or names on the tube, instead, the necessary data (place and date of finding) will be written on a piece of paper, which will be tied to the tube or inserted inside it.

It is not recommended to keep the tubes in the test tube, as it may break during transport, and the shards produce certain additional signs, which make the forensic work difficult.

The tubes and sponges will be grabbed with a handkerchief or gloved hand and wrapped in cotton wool, placed in small cardboard boxes that are sealed and sent to the laboratory.

The same attention is paid to picking up traces or objects bearing traces, main or secondary, of the firing on the objects perforated or touched by bullets.

As with tubes and bullets, and in the case of other traces formed by the use of firearms, in the dynamic phase the lifting is done only after recording all the data or in a raw form, necessary to draw up the report, after the execution of sketch and detail, after performing the measurements, of the other operations on the basis of which the distance and the firing direction are determined.

When packaging, the conditions imposed on the packaging of all categories of traces are observed (separate, sealed packages, accompanied by detailed mentions, etc.).

The detection of additional traces (especially of smoking or firing residues) must be considered with priority in the case of suicides with firearms or deaths by shooting that give the appearance of suicides.

4. Negative facts and circumstances that must be highlighted in order to distinguish suicide from suicide

Given the morphological aspect of the ballistic wound, one of the most important issues concerns the positive diagnosis of shooting. The inlet or outlet, especially in the absence of secondary factors, can be easily confused with punctured or perforated wounds produced by nails, screws, etc. sometimes, even on the bone, the morphological appearance of the orifice lends itself to confusion, as in a case in which the impact to the head with a vehicle valve produced an orifice fracture identical to that of the shot. The presence of secondary factors at the entrance orifice, the bullet in the body in the blind wounds, the morphology of the lesions (attrition of the skin at the entrance orifice), etc., are peremptory elements for the positive diagnosis of gunshot wounds[10].

The firing direction is another forensic problem that is easily deduced from the specification of the diagnosis of inlet, outlet and trajectory. There is also a risk of confusion, as the victim may be caught in various positions at the time of the shooting.

A problem of great practical importance concerns the appreciation of the firing distance. Thus, from a practical point of view, three situations can be distinguished:

- in the shot with the glued pipe, the effects of the hydrodynamic action or the presence of a large, star-shaped inlet with a printing ring and with the penetration of secondary factors under the skin will be noticed;

[10] Gheorghe Scripcaru, M. Terbancea, *Patologie medico-legală*, Didactic and Pedagogical Publishing House, Bucharest, 1983.

- in the shooting inside the area of action of the secondary factors it will be ascertained their presence, more obvious or more blurred, depending on the firing distance inside this area;

- in the shooting outside the area of action of the secondary factors, the action of these factors around the inlet will not be noticed.

The specification of these situations in expertise has a special medico-legal importance, because long-range shootings are usually done in criminal or accidental acts, while nearby shootings leave room for interpretation as a possible act of suicide.

Specifying the number of shots is also important either to establish participation or to identify the weapon. In suicides with automatic weapons there is the possibility of automatically triggering or by spasm of the finger on the trigger, especially in the shooting of the head, several bullets in the body.

This cites the discharge, in suicidal acts, of up to 4-5 bullets. More difficult to admit is, in such circumstances, the entry of several bullets into the same hole.

Specifying whether the shooting took place during life or after death helps to differentiate the crime of homicide from putative acts.

Regarding the cause of death by shooting, usually the suppression of the function of some vital organs occurs, but other times it also dies by secondary complications. In the corpses found after a long time, the finding of the morphological aspect of the bone lesions allows the affirmation of the death by shooting. Moreover, in one case, the finding of the entrance orifice as being in the left temporal region of a right-hander, led to the assertion, in all probability, of an original act, which was later confirmed.

Suicide usually involves shooting inside the area of action of secondary factors, sometimes with the presence of the weapon in the hand due to cadaveric spasm, with the presence of soot and "interdigital pinching" on the hand with which it was acted and explained by the recoil of the loading system. the weapon, with shooting in accessible areas, in the presence of preparatory acts and highlighting suicidal motives. Sometimes, the victims of the suicide act resort to disguising the gesture, maneuvering, for example, the remote trigger with a string, a stick, the toe, shooting in the left temporal region with the right hand, etc. or outside the area of action of secondary factors, in any region of the body and without any motivation for suicide. Self-harm can also be used with firearms.

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