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ALEKSANDAR IVANOVIĆ, ZORAN BAZOVIĆ

## CONSEQUENCES OF DISREGARDING CONTEMPORARY FORENSIC STANDARDS

*This paper will present the consequences, which can be caused by disregarding and ignoring contemporary forensic standards in the criminal investigation. The main part of the paper presents critical review of forensic expertise during the criminal investigation in village Racak near Pristina, Kosovo, where dozens of people were killed on 15 January 1999. Importance of the case, which was, according to many, a motive for NATO aggression on former Federal Republic of Yugoslavia (Serbia and Montenegro) in the period between March and June of 1999, is reason for the analysis of disregarding of the contemporary forensic standards during the expertise of material traces from the crime scene. Critical review of forensic expertise in this case means lack of modern sophisticated equipment, disregarding instructions of international organizations (United Nations etc.) referring to the appointment of the forensic expert team and ignoring main forensic rules for presentation of results to the media.*

### INTRODUCTION

Disclosure and clarification of criminal acts for a long time has been based scientifically. The role of a scientific evidence, as forensic analysis is popularly called, in order to clarify the criminal acts, is well known today. Every forensic analysis means a scientific, expert and explained estimation, the analysis and critical opinion of the given facts by the called forensic regarding a certain issue. From the abovesaid, it can be seen that the role of a forensic is decisive within the process of forensic analysis. Namely, a material evidence is not only a trace but the forensic opinion about that trace. In every Law about the Criminal Act, within the provisions which refer to forensic analysis is stated that a forensic must give its opinion directly and in compliance with the rules of science and skill. A forensic must hold a rich expert experience and apply theoretical knowledge and special (specific) scientific methods when analyzing the subject of forensic analysis (material trace) which have that qualification that they are not accessible to everyone's eye. The work of a forensic is a creative application of science. Besides the undisputable expertise every forensic should possess a process skill and above all irreproachable moral and ethic qualities. A forensic must be released from personal inclinations, opinions, prejudice, passions and specific qualities, and when bringing a conclusion (opinion), it must be based on an objective observation of persons included in the given subject. Above all, a forensic mustn't express in his work neither a little bit of vanity. If the forensic in the given subject applied a scientific method which does not have a high level of reliability, he (the forensic), must present that fact to the investigation authorities in the given subject and warn them about the percentage of reliability of the mentioned method and whether there are alternative methods applied by other forensics. A non-precise, non-reliable and an analysis performed approximately can lead to heavy unfavourable consequences for the persons included in the given criminal act. Referring to this, neither the scientific vanity of forensics, nor his expert dignity, neither his existence through the title he is performing, are not even closely worth of the consequence which can cause a non-precise, approximate and unfair presented result and forensic work on the given subject.

A good, but a very drastic i.e. dramatic example for the above mentioned statements is a case which happened in the region of now already ex Federal Republic of Yugoslavia, in Kosovo and Metohia in 1999. We are talking about the incident that happened on 15th Jan 1999 in the village of Račak, the commune of štimlje, 32 km on the north east of Priština, the capital of Kosovo and Metohia. As many people say, this incident served as motive for NATO intervention on FR Yugoslavia, which followed two months after it. In this essay I will give the facts concerning the incident itself, based on the modern scientific-expert methods and basic rules of forensic sciences and regulations, and in no way connected to the consequences which resulted after that.

## **THE AIM OF THIS ESSAY**

This essay has the aim to show the importance that forensic sciences have and the application of modern forensic postulates i.e. their non-implementation in practice. This is especially in cases, where it depends from the Report and Opinion of a forensic and its interpretation to the authorities and public, what will be the judgement that the competent institutions and public take towards the critical case.

## **MATERIAL AND THE WORK METHOD**

On 16th Jan in the village of Račak, distant 32 km north east from Priština, the bodies of the killed Albanians were found. The expert and other public for a long time couldn't make a decision what was the number of persons killed in this accident. At the end, the OSCE verifiers have on the spot counted 40 corpse. All of them were killed from the firearm. In order to resolve this incident it was crucial to discover: whether the said Albanians were killed in a battle (as the soldiers of the Liberating Army of Kosovo-illegal army group) or there was a severe execution – a massacre by the army forces of Serbia. The only real reply to this question can be given by the forensics, by a forensic analysis and interpretation of material traces from the spot. The modern approach of resolving criminal acts must be based on physical evidence, and not on statements, suppositions, comments and similar. Thus, it can be seen that the responsibility of forensics in this case (and not only in this but in every similar) is huge and priceless, which for the authorities and forensics themselves represented a big commitment to approach this case professionally with the application of the most modern standardized and forensic methods accepted from the competent world institutions and to implement in their work the basic forensic postulates.

In further text shall be given a critical opinion on certain forensic analysis taken in case which is being analyzed in this essay. The critical opinion is not given for any other reason, except expert, and all this with the one aim which can be defined in the form of a question: how come that in almost every important difficult criminal acts there is, at least, a justified doubt by the scientific and expert public regarding a forensic's work on a critical case? Let us just remember the known cases such as: Lidberg baby hijack (1934), the murder of Kennedy (1963), the murder of the ex wife of O.J. Simson (1994) [10], the murder of Djindjić (2003), and other cases. In all the said cases, including even the case which is being analyzed in this essay (Račak, 1999), the forensics couldn't give answers to the questions from their competence or their Reports and Opinions have undergone non-justified criticisms.

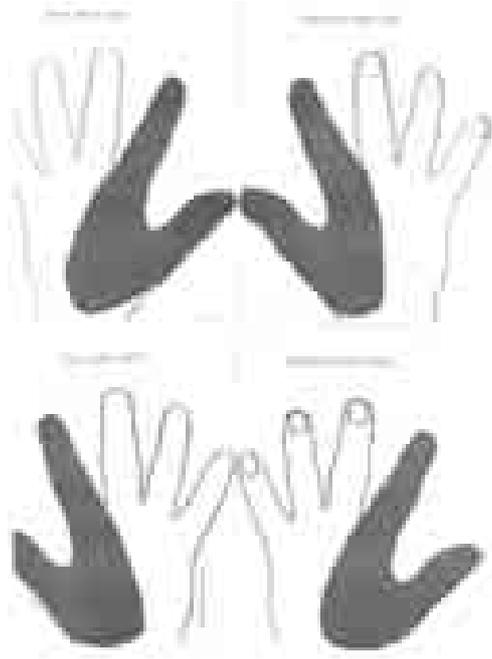
Let us come back to the case we are analyzing in this work, and let us start from the facts on which the expert and other public had remarks, and which relate to the work of forensics engaged on this case, which, as time has shown us, had had heavy consequences.

INVESTIGATING WHETHER THE KILLED IN RAČAK HAD FIRED FROM FIREARM OR NOT,  
DISCUSSING THE "PARAPHINE GLOVE" FORENSIC ANALYSIS.

With every misuse of the firearm, one of the most important, if not crucial forensic analysis is establishing whether someone fired from the firearm or not. In the case of Račak, the most important investigation segment, whether we are talking about an execution – massacre of the killed or they perished in a battle – fire combat, was to establish whether the killed fired from the firearm immediately before they were killed. The competent investigation bodies i.e. the competent criminal Dept. of Serbia, in order to determine the fact whether the killed in Račak fired from the firearm, have applied the criminal-chemical test known as the "paraphine glove". The forensic analysis "the paraphine glove" taken from 40 persons killed in Račak, has shown that 37 of them had nitrate particles, which shows that they fired from the firearm.

The world expert public, soon after the results of "paraphine glove" expert analysis taken from the fists of persons killed in Račak were published, has reacted against the application of the said text in the sense of its anachrony, non-specificity and unreliability. What is actually happening here?

By the "paraphine glove" forensic analysis, the presence of gunpowder particles is being discovered on the fists of persons suspected to have fired from the firearm. The presence of gunpowder particles is being discovered directly through evidencing the nitrate particles, by means of dephenilamin reagent, which make the constituent part of gunpowder. Still, a very similar, if not the same reaction of dephenilamin with gunpowder particles we would obtain even when dephenilamin is in contact with all the substances which contain nitrates. Those are mostly: all the artificial nitrogen compost, various colours and varnishes, some cosmetics, tobacco ashes, soot, dry meat products (the nitrates are being added to them because of their colour), urine and other. For that reason the method of "paraphine glove" forensic analysis long ago was attacked by the scientific and expert public in the sense of its reliability. Thus, on I I.C.P.O. Interpol's Seminar 1963 [6], this method was refused and put out of use. On that occasion, a decision was brought that: " The test of Gonzales ( the method of "paraphine glove" forensic analysis is also called the test of Gonsales who first applied it in 1933-prim.aut) doesn't have evidence value neither as an evidence on court, nor as a reliable identification for the police". Being familiar with all the so far mentioned occasions regarding the "paraphine glove" forensic analysis, the result of the "Paraphine glove" can in no case be presented to the investigation authorities without the explanation of its unreliability. Taking the result of "paraphine glove" as final, without analyzing the said occasions, represents a huge mistake for further work when clarifying some criminal act. In addition to that, a forensic doing the "paraphine glove" is obliged, in his Report and Opinion, to state which substances can give the same result with the dephenilamin test, as the gunpowder particles and in general to state all the occasions for which this test is not reliable and precise. But the situation changes in cases when the result of forensic analysis of nitrate particles on "paraphine gloves" is shown topographically, not cumulatively. So, when the detected nitrate particles show on which parts of the fists they have appeared. This statement is very important, when you doubt whether the detected nitrate particles originate from contamination by some substances which contain nitrates or right from the gunpowder particles, after the firing from the firearm. When firing from the firearm, the nitrate particles are being deterred on certain parts on the fists that performed the firing. Thus, if the nitrate particles appear on the "paraphine glove" on those specific parts, it is even a greater possibility that the person fired from the firearm [6].



**Picture No 1.** The dark parts of the fist represent the parts where the nitrate particles are being deposited, after the firing from the firearm. As you can see from the picture, the nitrate particles, after the firing, are mostly deposited on the thumb and index finger of the fist with which you fire and on the part between the thumb and the index finger which we also call the skin wrinkle.

With firearm misuse, when the person fired from it, which is one specific period of time not available to the investigation departments, the nitrate particles can be moved from one place to the other. This is for the reason that the nitrate particles, caused by the combustion of the gunpowder when firing from firearm, have a small specific weight, and thus with various fist manipulations (the friction fist to fist, fist to clothes and similar) they (the nitrate particles) can be transferred from one place on the fist to the other. Thus, in these cases based on the layout of nitrate particles you cannot conclude

whether the person from whom the "paraphine glove" were taken, had fired from the firearm or had contaminated his fists with nitrates which originate from something else and not from the gunpowder.

Still, with cases when after the firing from the firearm there are no activities which would have for consequence the moving of nitrate particles from one place to the other, then, based on the layout of the nitrate particles on someone's fists, you can with great certainty determine whether this person fired from the firearm or not. This is mostly the case with suicides performed from firearm. The lack of nitrate particles on "paraphine gloves" taken from the fists of person who is suspected to have performed suicide with firearm, justifiably shows us that this person didn't fire from it Š8Ā, since it's impossible that the person could, after his death, do something on removing the particles from his fists (washing with water, rubbing fist to fist or fist to clothes). In some cases when we have a false (set) homicide, in the way that the gun was put into hands of a killed person so that the whole case looks like a suicide, in that case the topographic (and not cumulative) showing of the layout of nitrate particles is crucial to disclose the homicide and suicide dilemma. In the mentioned case the nitrate particles shall be transferred from the gun from which it was fired to the palm of the killed person, but not on the metacarpus, and as it was already said, after the firing from the firearm, the nitrate particles which were created that way often and mostly remain on the metacarpus of the fist on the thumb, index finger and skin wrinkle between the thumb and the index finger.

Let us return to the concrete case we are analyzing in this essay. The "paraphine glove" of the killed persons found in RaĀak should be done in the way that the nitrate particles found on them, are marked precisely and also mark the place where they were found (topographic way of presentation). Then, according to the layout of nitrate particles we could state with great certainty that the killed in RaĀak really fired from the firearm.

Still, every dilemma, whether the killed in RaĀak really fired from the firearm, i.e. whether in this special case it was the case of firearm conflict or a severe execution of

non-armed civilians, would be resolved by applying a modern, standardized and from the competent world institutions a recognized method for this purpose. This is the method of applying the scanning electromicroscopy with energetic dispersive application with X-ray (SEM/EDX). By the method of SEM/EDX the detection of GSR particles is performed (English gunshot residue). Those particles originate from the elements of the bullet initial capsule of the firearm, during the firing of the same Š6,15Ć. GSR particles are detected only during the firing from the firearm and on no other occasion, which makes this method specific and reliable for identification of persons who fired from the firearm. We should also mention that the method SEM/EDX is a non-destructive method with the difference of the method "paraphine glove" forensic analysis, and differing from it the new examination of the sample can be performed X times. The said method is accepted and standardized for the usage when analyzing the circumstances whether a person fired from the firearm or not by ENFSI (European association of forensic laboratories and institutes), as well as from ASCLD (The American Association of forensic laboratories and institutes), and SMANZFL (Australian New Zealand association of forensic laboratories and institutes) [5].

The method SEM/EDX, in order to identify the person who fired from the firearm, is applied by almost every police and forensic laboratories of Europe and the World, and in countries in our surroundings the said device and this highly sophisticated method is applied by the police (forensic) laboratories of Slovenia (since 1992) [3] and Croatia (since 1998).

#### THE FORMING OF EXPERT FORENSIC TEAM IN ORDER TO DETERMINE THE CIRCUMSTANCES, UNDER WHICH HAPPENED THE INCIDENT IN RAČAK

The competent bodies regarding the investigation about the incident in Račak have decided to assign the investigation and the circumstances under which it happened to the world forensic experts. Thus, on 22nd Jan 1999, seven days after the incident in Račak, the forensic expert team from Finland began their work. The Finnish expert team consisted of the experts of the following profiles: three forensic pathologist, one forensic odontologist, five forensic investigators, two investigators on X ray, two technicians for autopsy and also the head of team plus one officer for communication and the team secretary [14] as, we could say, logistic staff.

On the very composition of the forensic expert team which was chosen to investigate the circumstances regarding the incident in Račak, the author of this essay has a remark. Namely, the United Nations in 1991 brought the decision regarding, among other things, the composition of the profiles of forensic experts, from which the expert forensic team should consist of when investigating the circumstances of firearm homicide. We are talking about the United Nations document which determines the protocol and way of investigating the criminal acts and which relies on the document "The Protocol and preventive arbitration of homicide with adequate investigation of the death and autopsy", which was done in the period 1984-1988 by a working group of the United Nations made of lawyers and expert forensics. The said documents of the United Nations, among other things, precisely determine which profile of expert forensic should possess a forensic team which investigates the cause of death by the firearm. The said standardized composition of the forensic team is given in the Table No 1 (2).

**Table No 1.** The composition of the experts which should contain one forensic team during the investigation of the cause of death by firearm and standardized by the appropriate working group for the protection of human rights within the United Nations.

MEDICINE	SCIENCE	OTHER PROFESSIONS
Forensic pathologist	Anthropologist	Investigator on the spot
Clinic forensic	Molecular biologist (DNA)	Trace operator
Forensic odontologist	Radiologist	Photograph
Medicine epidemiologist	Archaeologist	Survey officer
	Ballistic	Communication officer
	Investigator o firearm, instruments and tools traces (traseologist)	Policeman
	Entomologist	Regulations expert
		Autopsy technician
		Logistic and administrator
		Finger prints expert

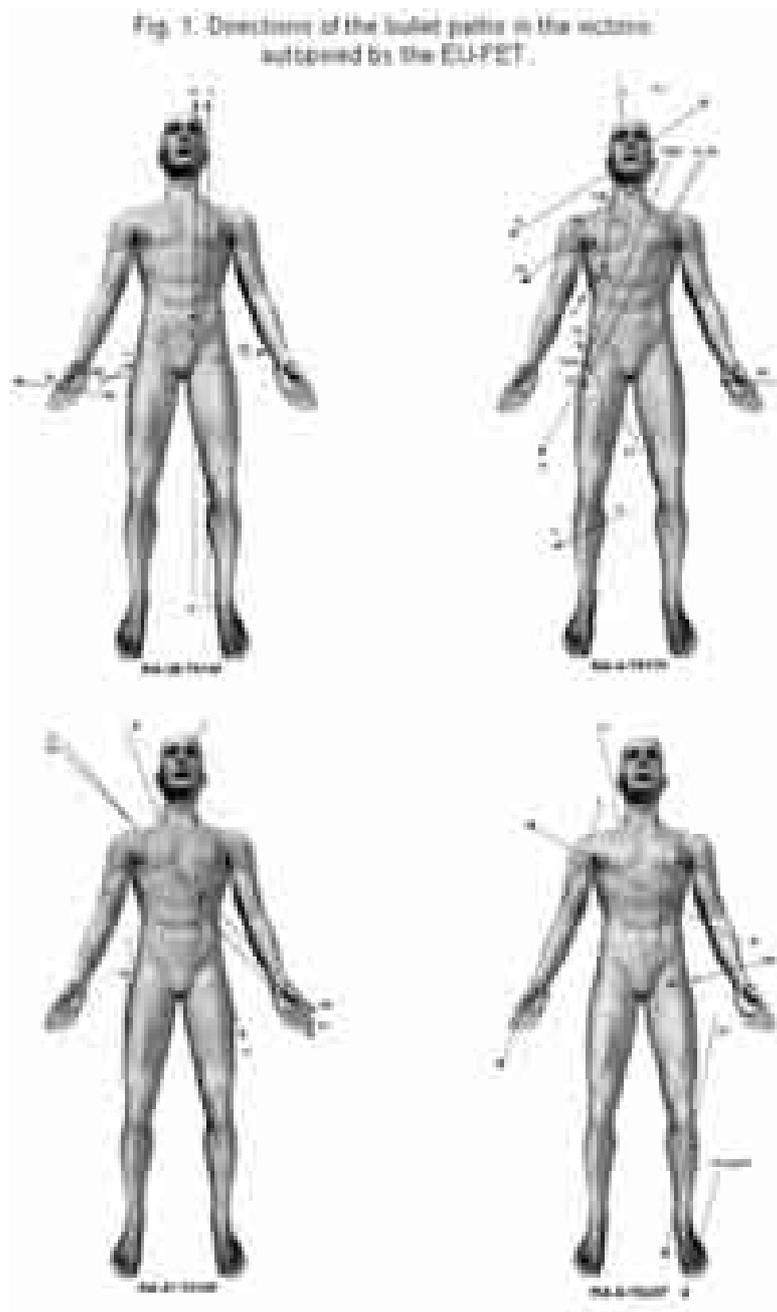
Comparing the composition of the forensic expert team which was standardized by the competent experts in the United Nations and the composition of the Finnish expert team which was assigned to determine the cause and circumstances of the dead killed in Racak, it can be seen that the Finnish expert team in its composition does not contain the forensic expert for ballistics and the investigators of firearm, instruments and tool traces (traseologist).

*THE ROLE OF BALLISTIC FORENSICS WHEN CLARIFYING THE CRIMINAL ACTS PERFORMED FROM THE FIREARM, WITH THE ATTENTION ON THE CASE WE ARE ANALIZING IN THIS ESSAY*

The forensic ballistics is the science which deals with the movement of the firearm projectiles within and outside of the firearm tube. Within the field of exploring the forensic ballistics are, among other things, determining the following circumstances when clarifying the criminal acts performed by the firearm: defining the shooting distance, shooting direction, the sequence of shots, the time of firing (how old it is), the position of the wounded or dead when the person was shot (wounded), the estimation of the number of fired projectiles etc. (11).

Let us look at the case we are analyzing in this essay, let us see what would be the role of forensics for ballistics in clarifying the basic dilemma in the case of Racak: whether the killed persons have been killed in battle i.e. the firearm conflict or someone performed a severe execution there?

A ballistic would, with the help of the Reports and Opinions of forensic medicine, determine the directions and angles of firing. According to the medicine forensics (members of the Finnish expert team) which relate to the inbound and emergent wounds of the people killed in Racak, it is visible that these wounds were caused from many directions and angles. Although it is not within the work field of forensics, based on this fact that the wounds from the firearm of the people killed in Racak were caused from many directions, we can say that the said wounds were received more in a battle than let's say by shooting, in which case the wounds would be caused from one direction. In addition to the statement that the wounds received by the killed in the analyzed case from many directions, I will give the example of the shot wounds which have some of the killed persons from this incident. Picture No 2 gives the direction of shot channels on the bodies of certain victims in Racak.



**Picture No 2.** Picture of shot wounds on the bodies of certain victims in Racak marked as RA-38-7014F, RA-4-7017F, RA-21-7019F, RA-6-7023F i RA-3-7024F.

Besides the fact that the presence and work of the ballistic forensics would give its contribution in the expert forensic team in order to clarify the criminal act performed by the firearm in the way of determining the direction and route of firing , recently the ballistic forensics have been performing a 3D animation in the reconstruction of the

events they are investigating. This method is called the Forensic 3D animation (13) and the first time was applied in 1993 in California (USA). In order to perform a 3D animation for the reconstruction of the spot of criminal act, the cooperation of ballistic, medicine, trace and chemical forensics is necessary. This type of commission work of the listed forensics would give the data about the projectile direction, shot channels on the bodies hit by those projectiles, the firing distance, about the firearm traces on the hands and certain parts of the body and clothes of the killed, and all this with the aim to make the 3D animation for reconstruction of the given criminal act. So far it has been greatly perfected in many aspects and with its help the ballistic forensics make a true reconstruction of the criminal act event performed by the firearm.

#### *THE ROLE OF THE FORENSIC EXPERTS FOR THE FIREARM TRACES WITH THE AIM TO CLARIFY THE FIREARM CRIMINAL ACT WITH THE ATTENTION TO THIS CASE*

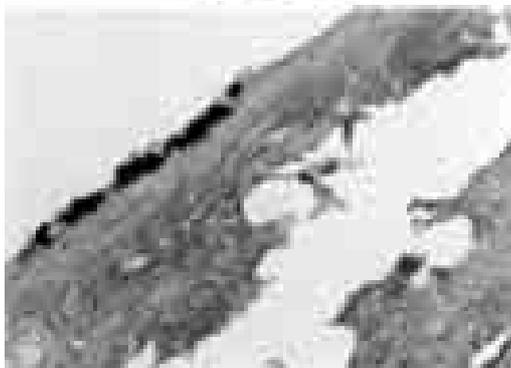
With the help of the traces caused during the firing of the projectile from the firearm, we can arrive to some important but not crucial facts, when clarifying the criminal acts performed from the firearm. We are talking about determining the firing distance and defining whether a person really fired from the firearm on the critical occasion.

#### *DETERMINING THE FIRING DISTANCE IN THIS CASE*

The definition of the firing distance means the distance from the mouth of the firearm tube to the wounds on the clothes or the body of the person hit by the projectile from this firearm. The forensic analysis of the firing distance when clarifying the criminal act performed by the firearm is one of the important facts for the clarification of these. In the case which is being analyzed in this essay, the determining of the firing distance can greatly help concerning the qualifications whether it was a firearm conflict of two armed sides or it was the homicide of a bigger number of non-armed civilians. The forensic analysis of the firing distance is approached from two aspects: dealing with the damage on the victims clothes by the forensics for the crime chemistry and analyzing the inbound wounds on the bodies of the victims by the medicine forensics. Recently, a team work of the said forensics is recommended and practiced with the assistance of trace forensics whose work field would be determining the inbound and emergent damages on the clothes of the victims (9).

Let us have a look on the case analyzed in this picture, which regards the work of the engaged forensics referring to the circumstances of the firing distance. The Finnish forensic expert team has performed the analysis on the circumstances of determining the firing distance. In their work, they didn't find the presence of gunpowder particles in the vicinity of the damage on the killed person's bodies. This, by itself shows that these shot wounds were caused from the so called distance. When analyzing the firing distance, the expression distance means that the distance from firearm mouth tube to the damage caused by this projectile, was bigger from the maximum range of the gunpowder particles which come out to the firearm mouth of the tube behind the projectile. This range for the firearm of the so called short tubes (pistols and guns) amounts around one meter, while for the arms of the so called long tubes (rifles, automatic rifles) amounts to two meters. Only in one case in the analysis of shot wounds of the persons killed in Racak, the Finnish forensics stated that at the brim of the shot wound is visible the black granular material (14). The mentioned statement should mean that the black granular substance most probably resulted from the gunpowder charge of the bullet, which also shows that this shot wound resulted from vicinity. In the picture No 3 is shown a microscopic report of the brim of shot wound as well as the black granular material which is mentioned by the Finnish experts in their report.

Fig. 7. Microscopic view of the edge of the entry entrance wound in which black granular material was seen.



**Picture No 3.** The microscopic report of the brim of shot wound, as well as the black granular material.

Still, the picture under the microscope together with the visual description of the particle do not have the proof value that in this case we are really talking about the gunpowder particles. One of the standardized and recognized methods from scientific and expert public should have been applied for a decisive statement about the gunpowder particles. The Finnish forensics could, with the help of SEM/EDX method (3,6,15) (also mentioned the explanations at the beginning of this essay **prim. out**) with a great, great probability to state whether we are here talk-

ing about the gunpowder particles or not. Every possibility of the mistake which appears in connection with for example, the contamination of the sample (micro trace), is in that way avoided with the help of a double approach SEM/EDX method by which:

- the scanning electro microscope (SEM) is used for observation, i.e. a morphologic identification of gunpowder particles, while
- the energetic dispersive addition with X ray for the specific analysis of any disclosed particle, and among other things, even the chemical composition of the gunpowder particles.

*CONFIRMING THE PRESENCE OF PRODUCTS WHEN FIRING THE BULLET FROM THE FIREARM IN ORDER TO DETERMINE WHETHER A PERSON FIRED FROM IT, WITH THE ATTENTION ON THE SUBJECT CASE*

One of the tasks which was part of the work of the Finnish forensic team, in the case we are analyzing, is the one to confirm that the killed persons in this case really fired from the firearm or not. In the report of the Investigation team is stated that they didn't approach the work on the said circumstances, i.e. on determining the presence of gunpowder particles, for the reason that the bodies of the killed persons were moved and there could come to contamination, and the report on these circumstances would be unprecise and untrue (14)! We must once again discuss this statement with criticism and once again mention that should there be the analysis of GSR particles (mentioned and explained at the beginning of this essay **prim. out**), we could determine whether those persons fired from the firearm or not. So far the GSR particles were detected only during the firing of the bullet from the firearm and in no other way, and thus the term contamination in the case of defining the GSR particles is not valid. Since, before the arrival and the work of Finnish experts were taken the "paraphine gloves" from the fists of the persons killed in this case, thus the test on determining the GSR particles (or any other test) cannot be done, since the mentioned method collects all the particles from the fist, and the eventual GSR particles. Still, it was proved that the GSR particles when firing the bullet from the firearm, are spreading on the right from the person firing from it ( since the opening for capsule releasing is mostly on the right) about 1,5 to 2 metres behind the same of about 1 meter and left from it also around 1 meter (4). This means that we shouldn't look for GSR particles on the fists of the person who fired, but the forensics from this filed use the sample from the circumstances of analyzing GSR particles on the face, hair and, of course, clothes (mostly the sleeve, wrist-band, collar and other) (12) of the potential shooter. Thus, it was necessary to perform the sample and analysis of the samples from certain parts of the body and

clothes of the killed in this case, which would greatly contribute to determining whether the killed persons really fired from the firearm or not, and with that mostly contribute to discovering the fact what really happened in Racak on 15th Jan 1999.

## CONCLUSION

Thanks to the enormous progress of science, technique and technology, the possibility of a fast change of information, the forensic sciences have been developing, especially since the eighties of the twentieth century, with a great speed in all directions. Thus there's not an event in today's surroundings for which the forensics cannot confirm the facts based on which an event occurred. Still, the expert forensics have a great responsibility in their work and it's a fact that they do not have the right to make a mistake. The above mentioned also relates, among other things, to the work of the forensics regarding the analysis of the facts with tragic events in the civil war on the territory of ex FR Yugoslavia. For this reason this essay shows a drastic case, where the work of forensics was under the open eye of the world public and it was subject to global consequences. We should mention that in this case or in any other similar anywhere in the world, a forensic should do only his primary business which is to discover the facts based on scientific and forensic methods that caused the given event. Here his work and engagement ceases to exist. A forensic is not a judge and should never put himself in that position. The subject which we analyzed in this essay is an example how a forensic shouldn't behave when presenting his work and the work of his colleagues to the public. Namely, on the press conference which was held on 17th March 1999 in Pristina Headquarters of OSCE which related to the incident in Racak, Dr Helen Ranta, as the head of the Finnish expert team has informed the public about the work of this team concerning the tragic incident. Dr Helen Ranta in her conclusion, when addressing the public, has declared that what happened in Racak was a crime against humanity. The opinion of the author of this essay is that on this occasion Dr Helen Ranta has severely broke the basic rules of the forensic work. A forensic mustn't and it is not within the field of his work to put himself in the role of a judge, and especially not in the case where the facts haven't been confirmed, based on which the competent court (and no one else) could bring a conclusion and judgement what was really the case.

A forensic should perfect his work in finding new methods which are reliable, specific, standardized and that can be repeated. Right regarding the case given in this work, the competent world institutions, such as the United Nations, should have already formed and have ready mixed international forensic teams which would be specialized, for example, for criminal acts performed from the firearm, explosive and similar, and a reason more for that is that the world has been exposed in the last decade to the organized terrorism.

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