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**ON THE FEASIBILITY OF INTEGRATING  
THE METHODOLOGICAL FOUNDATIONS OF EXPERT RESEARCH  
IN THE COURSE OF INTERNATIONAL COOPERATION  
OF FORENSIC ORGANIZATIONS**

The relevance of the research topic is due to the fact that in the Russian Federation, the problems of the quality of forensic examinations have become more acute. The need to increase the level of methodological support for expert research through international cooperation of forensic organizations is indicated.

Objective: to study the methodological foundations of expert research in Russia and abroad and to show the ways of their integration in the framework of international cooperation.

Methods: the research uses methods of system-structural, comparative-legal and statistical analysis, formal-logical, General scientific and private scientific methods of scientific knowledge. Results: based on the review of various approaches of domestic and foreign scientists and expert practitioners to the methods of conducting examinations, the need for international cooperation of forensic organizations in order to integrate the methodological foundations of expert research is proved. Issues related to the implementation of computer expert systems, accreditation of forensic organizations according to the international standard ISO/IEC 17025, and development and approval of interstate standards for forensic expertise are considered.



The results of the study can be used in the activities of forensic organizations, in the course of training and advanced training courses for forensic experts.

Recommendations on the integration of the methodological foundations of expert research in the course of international cooperation of forensic organizations will improve forensic activities, improve the quality of forensic examinations and judicial proceedings in General.

*Key words:* forensic activity, expert, state and non-state forensic organizations, standardization, methods, expertise.

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**APPOINTMENT OF FORENSIC EXAMINATION  
WITHOUT FACTUAL GROUNDS:  
NEGATIVE TREND OF PRELIMINARY INVESTIGATION**

The article deals with cases of unjustified judicial examination in criminal cases. The purpose of the work is to analyze situations when an examination is appointed without factual grounds. It is stated that the actual basis for the forensic examination is formed by two mandatory elements: the need to use special knowledge and the need to conduct a study of the object. The concept of "special knowledge" as the basis for the examination is disclosed. The point of view on the need to conduct a forensic examination to resolve issues of a legal nature is criticized.

It is argued that legal matters not even related to the characterization of a crime should be resolved exclusively by the investigator. The situation with the mandatory appointment in cases of theft of forensic expertise is analyzed. It is argued that this examination should be carried out only in cases of lack of an official price of the object established by the state or the retail network, as well as in the presence of clear



doubts about the correctness of determining the value of the object by its owner. The inadmissibility of the use of polygraph in criminal proceedings under the guise of forensic examination and giving evidentiary significance to the results of this action is justified.

The results of the study can be used to further examine issues related to the appointment of forensic expertise, as well as in practical activities.

Conclusion: a criminal forensic examination should be appointed only if it is necessary to conduct a study of the object, and this study should imply the possibility of formulating the only correct concrete conclusion that is scientifically sound at the level of scientific and technological progress achieved.

*Key words:* criminal proceedings, preliminary investigation, proof, investigative actions, judicial examination, expert opinion, merchandising examination, polygraph.

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    : : ,

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**FUNDAMENTALS OF SYSTEMATIZATION OF LETTER SIGNS  
IN JUDICIAL SCRIPTURE**

The article examines topical issues of forensic handwriting studies and forensic handwriting examination.

Based on the analysis of general scientific and forensic data, the authors formulate their own views on the basis of systematization of signs of writing in forensic handwriting.

The opinion is expressed that the structural organization of the properties of the written functional-dynamic complex (FDK) of skills is the central basis for the systematization of the signs of writing, which express these properties as separate sides (elements) of the written functional system. Additional criteria are the functions and dysfunctions of the written FDK, other parameters of its implementation (mechanism,



type, composition, volume, conditions), the degree of integrativity, research objectives, etc.

At the same time, it is noted that along with qualitative indicators, the systematics of writing signs is carried out on quantitative grounds. These include probabilistic-statistical and other criteria associated with the use of mathematical modeling methods in forensic handwriting.

The conclusion is formulated that the further development of the systematics of writing signs is in line with the innovations of forensic science and forensic examination, fundamental branches of modern science. In this regard, there is a high need for the development of digital algorithms for the systematization of writing signs associated with the receipt, storage, transformation, transmission of information in the course of identification and diagnostic research of objects of forensic handwriting examination.

*Key words:* forensic science, forensic examination, forensic handwriting, forensic handwriting examination, properties and signs of writing, the basics of systematizing signs of writing.

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Судебная экспертиза № 4 (64) 2020

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0,32; p < 0,05).  
(0,46) (0,48),  
(0,02) (0,38),  
(0,20).  
III IV (V)  
( 25)  
»



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**HOMOLATERALLY SYMMETRY  
OF THE DERMATOGLYPHIC CHARACTERISTICS  
OF THE PALMS AND SOLES AS A CRITERION OF THE LIMBS  
OF ONE PERSON**

The article presents the results of the study of variability of homolateral (unilateral) symmetry of dermatoglyphic features of palms and soles. The material of the study was palmar and plantar prints of 175 people (relatively healthy men and women, aged 16 to 83 years, belonging to the European race). It is established that dermatoglyphic signs of palms and soles have an average or weak degree of homolateral relationship (correlation coefficient on average is equal to 0,32;  $p < 0.05$ ). The most interconnected patterned signs of palms and soles are rudiments of papillary crests (0,48), dimensional characteristics (0,46) and density of papillary lines (0,38), the least . types of patterns (0,02) and comb account (0,20). The most informative dermatoglyphic are signs of hypothenar is the least of the thenar. Intermediate informative have III and IV (V) Palmar and plantar pads. Diagnostic markers (25 in total) of belonging of palms and soles to one or different persons, as well as a diagnostic algorithm that allows to give them a cumulative assessment are presented.

*Key words:* homolateral symmetry, fingerprinting, dermatoglyphics, handprints, footprints, papillary pattern, handprints, footprints, whole, part.

\* \* \*









« » « » [5]. « »  
 (p < 0,05)  
 ( ).  
 0,02 (p < 0,05) ( . 0,61; . 0,55), « » . 0,03  
 (p < 0,05). « »  
 « »  
 ( . , ).  
 0,88; . 0,86), « » . 0,04 (p < 0,05). « »  
 (25,4 ± 3,4 %);  
 (12,4 ± 2,5 %); (t = 3,10);  
 (DK = 2,0). « »  
 : « » (1,8 ± 1,0 %; 7,7 ± 2,0 %;  
 DK = . 4,3) « » (0,6 ± 0,6 %; 3,6 ± 1,4 %; DK = . 6,0).  
 ( ).  
 « » . 0,20 ( . 0,71; . 0,82), « » . 0,05  
 (p < 0,05). a. b « . 2»  
 . 24 49 « » . 30 63 « ».  
 « » . 24 (0,6 ± 0,6 %; 2,4 ± 1,2; DK = . 4,0).  
 ( . , ).  
 a. b « . 2»  
 « » . 0,40 ( . 0,69; . 0,78),  
 « » . 0,04 (p < 0,05). a. b  
 « . 2» . 12 9 « »,  
 « »  
 (17,8 ± 2,9 %; 11,8 ± 2,5; DK = 1,5).  
 « » . 6 (0,6 ± 0,6 %; 3,0 ± 1,3; DK = . 5,0).  
 c. d « . »  
 « » . 0,35. . 3 8  
 « » . 6 10 « » « »  
 3 (22,5 ± 3,2 %; 12,4 ± 2,5; DK = 1,8).



« »: 8 (0,6 ± 0,6 %; 3,0 ± 1,3; DK = . 5,0); 6 (1,2 ± 0,8 %; 5,3 ± 1,7; DK = . 4,5) 1 (7,1 ± 2,0 %; 14,8 ± 2,7; DK = . 2,1).  
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, a. b « . 2»  
« » . 0,26 ( . 0,72; . 0,69),  
« » . 0,03 (p < 0,05). a. b -  
« . 2» . 17 17 « »,  
« » « »  
2 (7,1 ± 2,0 %; 2,4 ± 1,2; DK = 3,0).  
« »: 9 (0,6 ± 0,6%; 4,7 ± 1,6; DK = . 8,0); . 17 . 11  
(0,6 ± 0,6 %; 3,0 ± 1,3; DK = . 5,0) 13 17 (1,2 ± 0,8 %; 5,3 ± 1,7; DK = . 4,5).  
a. d ( )  
« . 5» ( ) « » . 0,56 ( .  
0,89; . 0,91), « » . 0,02 (p < 0,05).  
a. d « . 5» . 28 2  
« » . 34 10 « ». « » -  
. 13 . 12 (15,4 ± 2,5 %;  
4,8 ± 1,6; DK = 3,2) . 16 (8,9 ± 2,2 %; 3,0 ± 1,3; DK = 3,0).  
« »: . 34 . 31 (0,6 ± 0,6 %; 5,3 ± 1,7;  
DK = . 9,0), . 26 (0,6 ± 0,6 %; 3,0 ± 1,3; DK = . 5,0) 3 10 (0,6 ± 0,6 %;  
3,6 ± 1,4; DK = . 6,0).  
pf. d ( )  
« . » ( ) « » . 0,57 ( .  
0,93; . 0,97), « » . 0,01 (p < 0,05).  
pf. d « . » . 111 25  
« » . 128 25 « ». « » -  
: . 84 . 83 (9,5 ± 3,1 %;  
0,6 ± 0,6; DK = 16,0), . 93 (3,6 ± 1,4 %; 0,6 ± 0,6; DK = 6,0) . 90 (2,4 ± 1,2 %;  
0,6 ± 0,6; DK = 4,0).  
« »: . 128  
. 112 (0,6 ± 0,6 %; 11,8 ± 2,5; DK = . 20,0), . 110 (0,6 ± 0,6 %; 3,0 ± 1,3;  
DK = . 5,0), . 72 ( . 77) (0,6 ± 0,6 %; 3,6 ± 1,4; DK = . 6,0) . 58 25  
(1,2 ± 0,8 %; 4,1 ± 1,5; DK = . 3,5).



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	0,40	.	.	0,35	.	0,38
	0,26	.	.	.	0,57	0,46
	0,56					0,46
	0,27	0,28	0,35	0,35	0,41	<sup>1</sup> 0,32

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5	«a. d». « . 5»	3 10	. 6,0
6	«pf. d». « . »	. 72	. 6,0
7	«a. b». « . 2»	6	. 5,0
8	«a. b». « . 2»	. 17 . 11	. 5,0
9	«a. d». « . 5»	-26	. 5,0
10	«c. d». « . »	8	. 5,0
11	«pf. d». « . »	. 110	. 5,0
12	«a. b». « . 2»	13 17	. 4,5
13	«c. d». « . »	6	. 4,5
14	( )	.	. 4,3



15	«a. b» . « . 2»		. 30 . 25	. 4,0
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17	«c. d» . « . »		1	. 2,1
18	( )		.	2,5
19	( )		.	2,5
20	«a. b» . « . 2»		2	3,0
21	«a. d» . « . 5»		. 16	3,0
22	«a. d» . « . 5»		. 13 . 12	3,2
23	«pf. d» . « . »		. 90	4,0
24	«pf. d» . « . »		. 93	6,0
25	«pf. d» . « . »		. 84 . 83	16,0

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 82 % ( 16 % . -  
 P > 0,95). -  
 ( 90 %. -  
 ( «1- »), («1- » «2- »),  
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 : 1- . a. b 31,  
 a. d 55 ,  
 pf. d . 90 ; 1- . « . 2» 36, -  
 , « . 5» 67 , « . » . 173 ;



2- « . 2» 62, « . 5» 77 , -  
« . » . 186 .

(P = 0,96) 1- ( 1- 1- . 41 . 46 = . 5 .

DK = 2,5; «a. d» « . 5» . 55 . 67 = . 12 . DK = 3,2; -  
«pf. d» « . » . 90 . 173 = . 83 . DK = 16,0; DK = 2,5 + 3,2 +  
+ 16,0 = 21,7 . 22 , 1- 1-  
) . 1-

2- ( . 31 . 62 = . 29 . DK = . 4,0;

« . 5» . 55 . 77 = . 22 . DK = . 6,0; «a. d»  
; «pf. d» « . » . 90 . 186 = . 96 .  
; DK = . 4,0 . 6,0 = . 10,0 . 10  
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**USE OF GEOPHYSICAL METHODS IN THE SEARCH FOR CRIMINAL BURIALS**

The task of finding burials of human corpses or their dismembered remains often arises when investigating crimes. In the absence of accurate information about the burial site and the need to survey large areas, the solution to this problem becomes very problematic.

The study reviews modern geophysical methods of shallow exploration and shows an attempt to use some of them to search for buried biological objects. Fragments of pork carcasses (heads) were used as test objects, one of which was buried uncovered, and the other one in a plastic bag. An empty wooden box was used as the third object, and the depth of the burials in all cases was 1.5 m.



At the test site with test burials, measurements were carried out using georadiolocation and electrotomography methods for 15 months at intervals of 3.4 months. The essence of the latter was to conduct electrical soundings using specialized electrotomographic equipment, which collects data from multi-electrode streamers laid on the ground.

Based on the results of the study, the possibility of using the method of electrical tomography for detecting small-size biological objects was shown, other promising methods were identified, and a rough plan for further research was formulated.

*Key words:* electric tomography, electrical exploration, search for corpses.

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1 , 1,5 .

20 × 25 × 50 ( . 1).

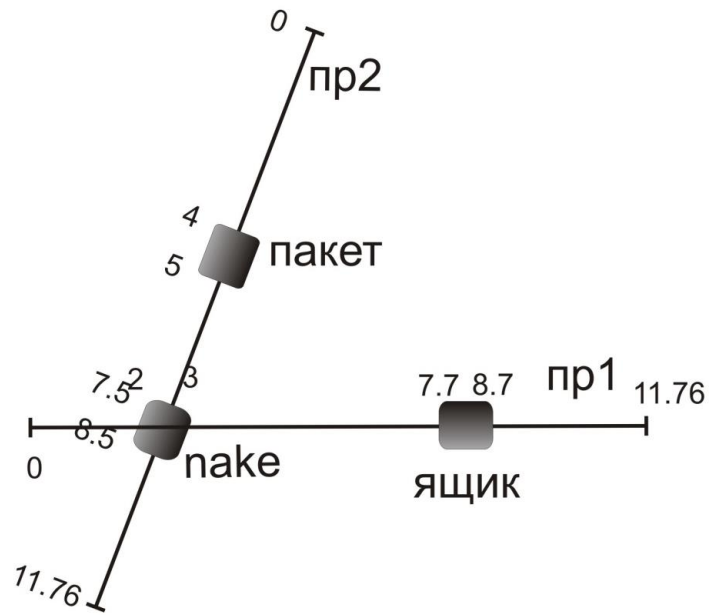


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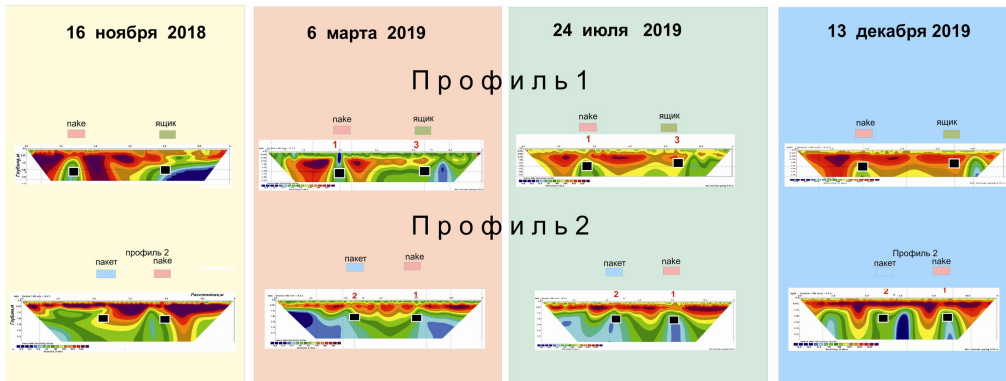
наке . . 2. :  
« » . , « » .  
« » . , « 1» . 1, « 2» . 2.  
0,8 , 30.40 , ( .3).



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25	48		11,75					
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DOI 10.25724/VAMVD.QKLM

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**N. N. Ilyin,**

Head of the Department of Forensic, Operational and Search Activities  
of the Moscow academy of the Investigative Committee of the Russian Federation,  
candidate of Science (Law)

## **USE OF WATER AND TECHNICAL FORENSIC EXPERTISE IN CRIME INVESTIGATION**

Most of the modern articles, textbooks and various manuals relate to the investigation of traffic accidents, as well as the use of special knowledge in the field of automotive engineering in determining the circumstances to be proved. According to the author, there is an unreasonable narrowing of the essence of chapter 27 of the Criminal Code of Russia, which also includes railway, air, sea, inland water transport and the metro.

Over the past decades, there have been significant changes in the criminal and criminal procedure legislation of the Russian Federation. Significant changes have been made to the regulations governing maritime and river transport; its technical equipment and operating conditions of transport enterprises have changed dramatically. In addition, the lack of extensive scientific coverage of issues related to the investigation of accidents and crimes involving water transport testify to the relevance of the topic. An attempt to take into account and systematize the answers to problematic questions is the methodological recommendations for investigating violations of traffic safety rules and the operation of water transport, developed by the Investigative Committee of the Russian Federation in 2017. However, they do not fully consider the specifics of the appointment of water-technical forensic expertise and the use of its results in the investigation of crimes. In this regard, the need arose for a comprehensive study of the scientific and practical aspects of water-technical forensic expertise.

*Key words:* water and technical forensic expertise, hydrometeorological expertise, transport incident, Investigative Committee of the Russian Federation, transport and technical forensic expertise.

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[2, . 730],  
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[3, . 102. 110].

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3. - ) // . 2018. 3. (55).  
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  8. : : : - , 1988. 366 .
  9. : : : , 2017. 70 .
  10. : : : . : . : , 2005. 528 .
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67.534  
343.983.4

DOI 10.25724/VAMVD.QLMN

( )



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**OPPORTUNITIES OF THE FORENSIC EXAMINATIONS  
OF PAINT COATINGS OF MODERN VEHICLES**

Currently, it is the problem of identifying the vehicle's paintwork. The problem is complicated due to changes in the technology of painting vehicles. The outer layer is usually a glossy or matte colorless varnish, which performs a protective function, but does not carry color information and does not have identification features.

The article analyzes the possibilities of forensic examinations of modern vehicles paint coatings in cases of road accidents. The identification value of protective coatings of various compositions is shown. The possibility of using the features of their application in the comparative study of paint coatings is justified. The compositions and distinctive features of modern paintwork materials used in the automotive industry are studied. The peculiarities of painting polymer parts of vehicles in factory condi-







), ( , 5- (SiO<sub>2</sub>),  
(TiO<sub>2</sub>), (SiC).  
SiO<sub>2</sub>  
( 0,5 ).  
: . SiO<sub>2</sub> (< 30 %),  
. TiO<sub>2</sub> (< 3 %), . [(CH<sub>3</sub>)<sub>2</sub>SiO]<sub>5</sub> (> 50 %),  
. Al<sub>2</sub>O<sub>3</sub> (< 2 %), . Si(OR)<sub>4</sub> (> 12 %),  
( < 1 %).  
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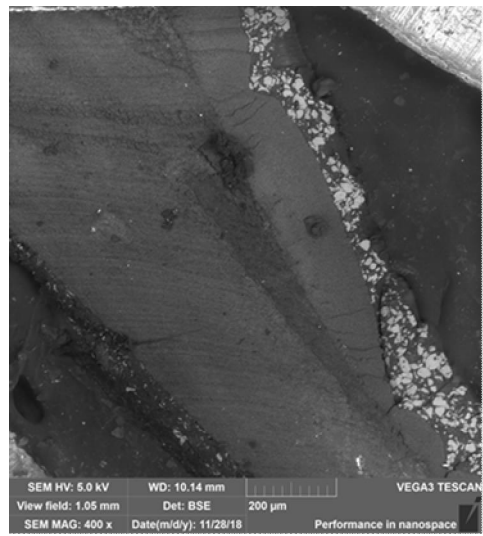
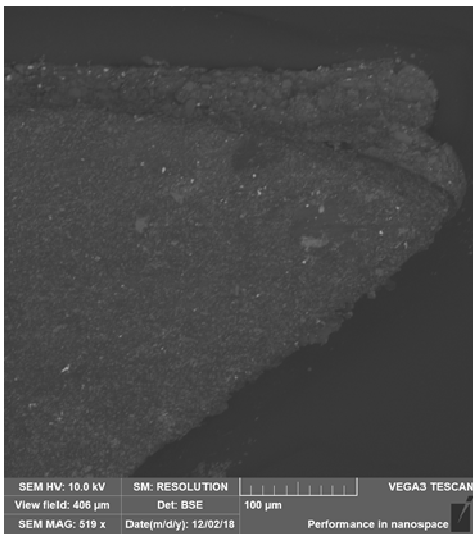
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: SM: Resolution; HV: 20,0 kv; 10,0 kv; Det:

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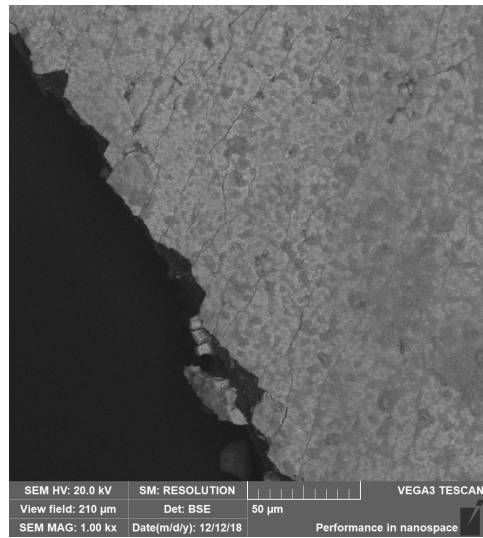
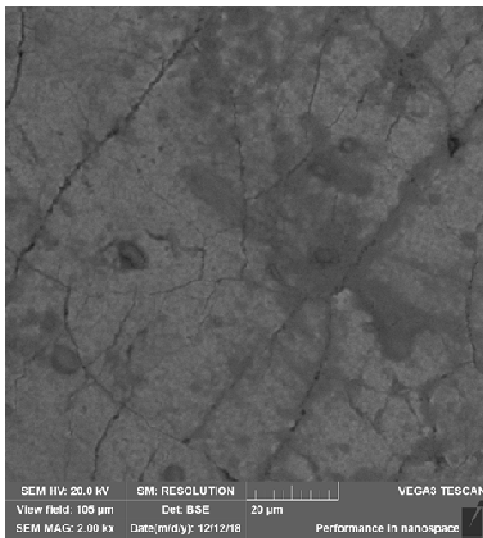


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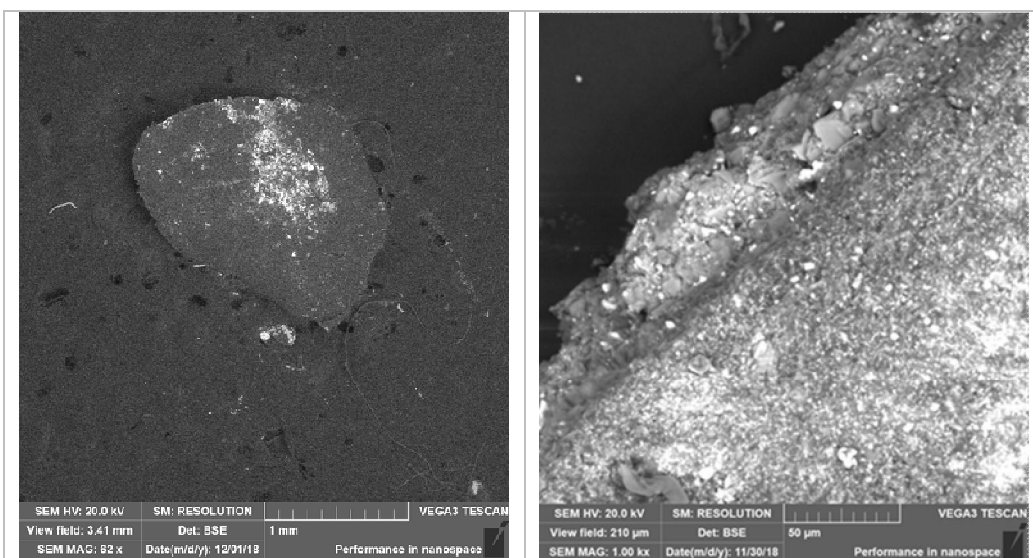
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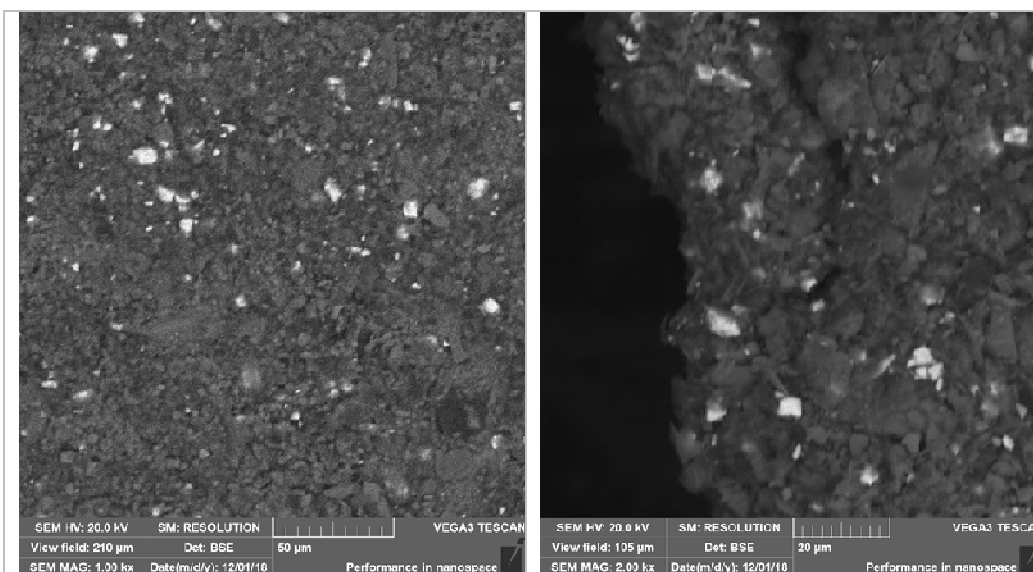
1.0 kx;

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. 3. : ) 62<sup>x</sup> ;  
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2014. . 2. 4-3 (9-3). . 52. 56.

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DOI 10.25724/VAMVD.QMNO

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Candidate of Science (Law), Associate Professor

**THE POSSIBILITIES OF FORENSIC PROCESSING  
OF THE AMBIDEXTERSEHANDWRITING**

An open question in forensic handwriting is the study of the handwriting of the right and left hands of ambidextrous persons with symmetry in the manual motor system, who have the ability to write with two hands. Based on theoretical and experimental studies, the article formulates modern understanding about the lateral organization of the brain in adults, gives an idea of the basics of the typology of the norm for this



characteristic, draws attention to the dual nature of manual symmetry (innate and acquired), the possibility of changing some indicators in the process of ontogenesis, and the heterogeneity of the ambidextrous group.

The results of the experimental study revealed some regularities in the distribution of General and particular features of handwriting in manuscripts made by the right and left hand of Ambidextrous authors. Knowledge of these patterns will allow experts to put forward the appropriate version during the research and avoid expert errors.

*Key words:* ambidexters, the profile of the lateral organization of the brain, the handwriting of the right and left hands.

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10 ; 5, 2. 17 , 13 . 22 % , 68 % . ( . 1. 6). 10 % . ;



Приготовить такое масло  
те два-три вареных желт  
сковороду, раздавите ложки  
на медленном огне, не пер  
вать, пока желтки не на

. 1.

Приготовить такое масло  
те два-три вареных желт  
сковороду, раздавите лож  
на медленном огне, не пер  
вать, пока желтки не на

. 2.

городе Курске, в 1957  
1967 году закончил сред  
шней школе вступил

. 3.



Сейчас этот кирпич  
за домом бухгалтер  
Денюхи за кирпич с  
участка №3 Агафо  
Примите, пожалуйста

. 4.

содержащий описи  
порядок предост  
дой услуги, а  
целую сумму

Основной формой  
вместе картотеки  
информационных  
вской форме, со сд

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Письмо Ваше научили  
что обо мне и за с

. 7.



Письмо Ваше научили  
мять об мне и за стор

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работники Вашего Ж  
мертворо со стройки. в  
2005 году, приблизительно

. 9.

ботники Вашего ЖЭУ  
шало со стройки, имени  
года, приблизительно

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Козымайтис  
Прини Вас корачит  
Властительство Желуду  
емене котораб постово

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Козымайтис  
Прини Вас корачит  
Челну мнертну, на  
пословейте вачура:

. 12.

( )

Негальнику ОЗУ и др.  
товарищу Зубову Н.И.  
его письмо дано по в.ч.  
по ул. Меридиона Ереванке

. 13.

( )



Магазинку № 21  
 Табачнику Зубову М. Т.  
 от имени дома 100 кв. 4  
 по улице Маршала С.

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Я из окон своей квартиры  
 как работники вашего  
 соотрайфу.  
 Именно вчера 13 мая 2005  
 12 час. 45 мин; вно вббв

. 15.

Я из окон своей квартиры  
 работники вашего ОФЭУ  
 Именно вчера 13 мая 2005  
 была вывозена гверь но

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( . 17. 18).

50 %

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( . 19. 22);  
2) ,

... , как работники  
строительного материала

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... , как работники  
строительного материала

. 18.

Любезнейший мой друг

. 19.

Любезнейший мой друг.

. 20.



молодая масса п...  
 ... термины  
 в 1984г - по спец...  
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... и ...  
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. 24.



половокружение  
 нь, движение в  
 дах, беспорядочность  
 ень, стрел, му

. 25.

келеш является:  
 лоловокружение, др  
 потягивание в

. 26.

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( . 27. 28).





Повторную экспертизу по делу  
по делу эксперта Волгоградской  
Коллегии судейских экспертов,  
—  
Повторную экспертизу по делу  
эксперта Волгоградской Коллегии судейских  
экспертов.

.29.

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. 14: . 1991. 4. . 42. 47;  
. . . . : , 2007. 154 .
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. 145. 152.
4. . . . : . . . : , 2014. 62 .

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DOI 10.25724/VAMVD.QNOP

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In stab and incised damage at the point of insertion of a weapon edge there are some sections with specific features typical for fabric break while on the sides there are specific features typical for fabric cut. When using stabbing weapons, the number of faces can always be seen in the damage the shape of which doesn't always correspond to the weapon cross-section.

*Key words:* forensic examination of clothing damage, stab damage, stab and incised damage, nonwoven fabrics, spunbond, signs of weapons.

\* \* \*

[1. 4].

(COVID-19), -

EN 13795-2011 [5] « » (Spanbond) .

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( 130 , 20 , 2 ), ( 220 , 45 , 5 ), 1 ( 147 , 161 10 ), 2 ( 15 ); 3 ( 153 13 ) ( . 1).



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. 2. « » : ) 25 / <sup>2</sup>; ) 120 / <sup>2</sup>

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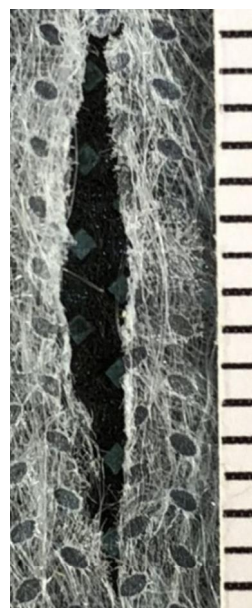
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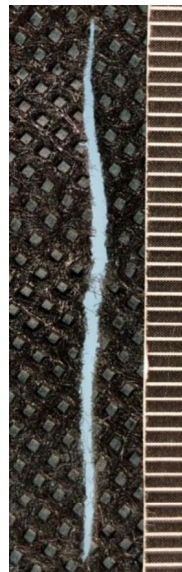
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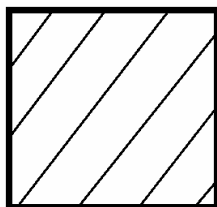
Т- ( 5).

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« 1 ( ) : ) 120 / 2; ) 40 / 2

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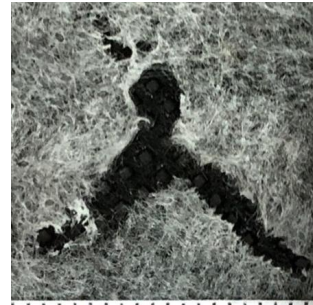
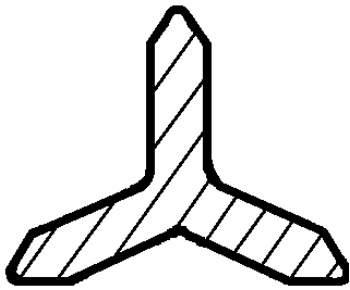
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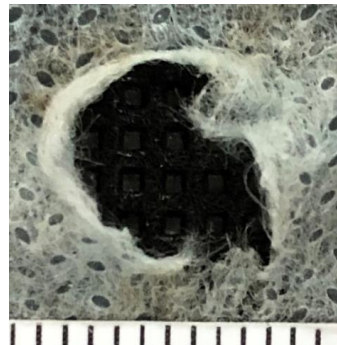
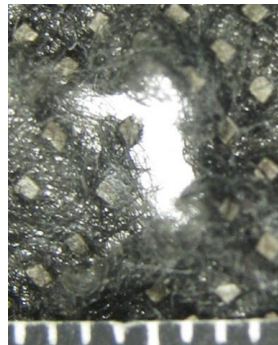
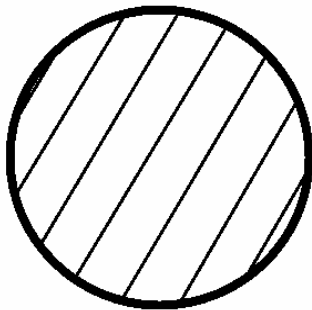
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**FEATURES OF SOLVING DIAGNOSTIC PROBLEMS  
IN THE STUDY OF MANUSCRIPTS  
MADE IN PRINTED HANDWRITING**

The article substantiates the need for a full-fledged diagnostic study of manuscripts made in printed handwriting during identification examinations. On the basis of the conducted research, the possibilities of solving problems aimed at establishing the conditions and methods for performing controversial manuscripts are analyzed. In particular, attention is drawn to the need to exclude non-handwritten methods of performing texts made in printed handwriting, using stencils or computer programs, the mechanisms of influence of some additional confounding factors characteristic of printed handwriting are studied, and the features of the manifestation of classical and specific features of handwriting in them are established. The results of comparison of diagnostic and identification features that allow differentiating manuscripts made with similar stylized handwriting that have the same basis of formation from manuscripts made with imitation of the printed handwriting of another person are presented.

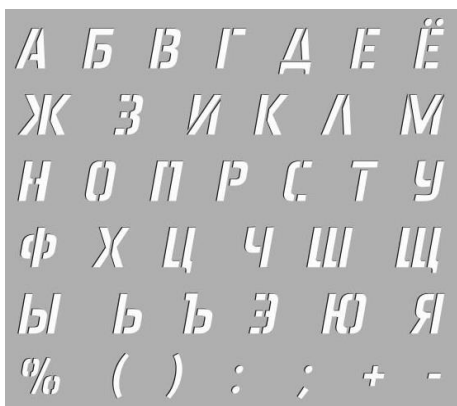
It seems that the recommendations proposed in this article will draw the attention of experts to the need for a thorough study of diagnostic features in printed manuscripts and improve the quality of their implementation.

*Key words:* printed handwriting, conditions of execution, method of execution, classical and specific signs of singularity.

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#### **CURRENT ISSUES OF FORENSIC RESEARCH ON OBJECTS THAT HAVE UNDERGONE CHANGES DUE TO FIRE CONDITIONS**

This scientific article is devoted to the problem of studying traditional forensic objects and traces that have undergone changes and damage due to fire conditions. The relevance of the chosen topic is determined by the small number of solved cases involving intentional destruction and damage to property committed by arson, as well as by a small percentage of identification of persons committed these crimes.

Nowadays, considerable experience regarding the study of damaged objects and traces within the framework of various types (kinds) of forensic examination has been obtained. Most of such research are carried out as part of forensic fire and technical expertise, but there is also information available on successful studies of damaged objects as part of the ballistic, fingerprint, trace evidence, explosive, forensic medical examination, technical and forensic examination of documents, examination of materials, substances, products, etc. The author provides examples and explores successful scientific research on damaged objects and traces in the context of the forensic examination types listed above. It is concluded that it is necessary to combine and systematize the considered knowledge within the forensic examination theory, which will increase the efficiency of disclosing and investigating crimes related to fires.

*Key words:* forensic examination, forensic research, fire, arson, altered object, damaged object, material traces, altered traces, damaged traces.

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**INTRODUCTION OF SAMPLES OF LCP TO THE DATABASE OF PHYSICAL EVIDENCE IN THE FORENSIC STUDY OF CARS**

The complexity of the analysis of LCP as a set of physical objects is explained by the fact that these are multilayer substances capable of forming stable connections with objects (details) on which they are applied. In addition, the constant development of technologies for their production, application and recovery creates the need to improve research methods.

Examination of marking designations on details and knots of the vehicle can be considered full-fledged and informative in a case when the part of LCP connected with them physically and technologically was investigated that points to need of carrying out complex material science examination. As part of a comprehensive forensic study of physical evidence, the examination of the LCP can complement the conclusions of the autotechnical and tracological examinations. To attach paint samples to the array of physical evidence, it is important to use the possibility of taking an additional sample of traces of LCP from the identification plate on the body of the vehicle, which will allow evidence to establish a connection between the samples from the studied part and the vehicle by its identification characteristics. Objective data on the state and composition of LCP can be considered the results of the study obtained by instrumental methods. According to these features, with proper sampling, it is possible to identify the make and year of production of the vehicle, to differentiate a specific body.

*Key words:* paint and varnish coating, LCP, car, marking, examination, evidence, expert auto technician, repainting, tint, restoration.

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#### **CIRCULATION OF PNEUMATIC WEAPONS: LEGAL AND CRIMINALISTIC ASPECTS**

The article deals with some problems related to the legal regulation of the turnover of pneumatic weapons, taking into account the possibility of its modification and thereby changing its characteristics that affect the increase in the striking ability. Examples of serious and very serious crimes committed with the use of pneumatic weapons, described and assessed the calculations of muzzle and specific kinetic energy certified copy airguns, depending on the used shells and developed recommendations for changing the legal regulation of turnover of the pneumatic weapon and its parts and recommendations for improving the methodology of the expert research of such weapons.

These changes in the legislative regulation of the circulation of air weapons and their forensic research will help to limit the uncontrolled acquisition, modification and use of air weapons by citizens under the threat of appropriate liability, which will reduce the growth of crimes committed with the use of such weapons.

*Key words:* pneumatic weapons, modification, mainspring, legal regulation, methods of pneumatic weapons examination.

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Umarex Jakal ( )	0,53	350	32,462	2,041
Premier Hollow Point ( )	0,479	350	29,338	1,845
Gamo Rocket ( )	0,6	350	36,75	2,311

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### **CLASSIFICATION OF UP-TO-DATE PRINTING METHODS (THE FORENSIC TECHNICAL ASPECT)**

The article is devoted to one of the problematic aspects of forensic technical examination of documents produced by printing methods that is classification of up-to-date printing technologies. Analyzing various scientific and methodological sources and the practice of conducting forensic examinations the author points out that there is a need to study more deeply different printing methods in the context of possibilities to solve expert problems. For this purpose, the author suggests using such a method of scientific knowledge as a method of classification that allows finding out forensically significant patterns of a particular subject area.

The author not only analyzes such basic grounds for classifications as the structure and material for printing plates, an ink transfer method, physical and chemical peculiarities of printing plates, etc., but also suggests grounds for applied forensic technical classifications. The author proposes using two grounds as the key criteria: the morphology of strokes (signs of the external structure) and the mechanism



of trace formation. It is emphasized that these criteria can be used not only to classify printing methods, but also to differentiate them while expertly examining printing products. As one of the conclusions based on the results of the conducted research, the author points out that, when using digital (contactless) printing technologies, individual peculiarities of the structure of printing units and elements are not displayed, which significantly complicates the solution of identification problems related to documents produced with their help.

*Key words:* classification, printing method, printing technologies, forensic technical examination of documents, printing plate, contactless printing.

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Press, Computer-to-  
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Некоторые основания классификаций способов печати  
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