

Notes on the margins of the Ukrainian methodological notebook on polygraph research conducted to identify Russian saboteurs and agents

Abstract This review article is devoted to a methodological notebook published by Ukrainian polygraphers. They presented ready-to-use solutions that can be applied when investigating sabotage and espionage suspects. Among other things, the reviewed publication discusses techniques for conducting polygraph examinations and provides examples of question sets used during testing.

Keywords polygraph examinations, polygraphers in Ukraine, detection of insincerity, special services.

The College of Polygraphers of Ukraine has published a methodological notebook¹ on conducting polygraph research to identify Russian saboteurs and spies in Ukrainian military structures and security bodies. The notebook was already published after the Russian invasion of Ukraine, and given the cover symbolically depicting the sinking of the cruiser Moskva, it can be concluded that it was published

¹ А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

after 14 April 2022. It was therefore written after several days of the ongoing war and the experience of this period was used when working on it.

There is no doubt that since the outbreak of war on 24 February 2022, the eyes of all the world's experts in the broad field of national security (specialists in weapons, communication systems, crisis management) are on Ukraine. After all, the most serious armed conflict in Europe since World War II is taking place in Ukraine. It is thus the largest testing ground, as it is in Ukraine that it is possible to observe and analyse the practical use of modern anti-tank and anti-aircraft weapons, missile weapons, armoured weapons, aviation and artillery in the hitherto unknown conditions of a modern conflict, in which cyber warfare, propaganda media warfare and the secret front, i.e. the struggle of intelligence and counterintelligence services, are also of great importance. This is taking place using methods that are new and not previously used on such a scale. One of the tools of counterintelligence is the polygraph. As can be seen from the content of the method booklet in question, in the conditions of the Ukrainian-Russian war it is also used to search for Russian saboteurs and spies entrenched in the ranks of the Ukrainian military and security bodies.

Reading this notebook provides a wealth of information, primarily on the methodology of polygraph examinations carried out by Ukrainian experts during the war, but there are also references to Russian intelligence methods.

Recommended polygraph test methodology

The notebook was developed by three authors: Andriy Lysenko, Diana Alexeeva-Protsyuk and Vitaly Shapovalov. They have many years of experience in the field of polygraph research, some of them having long-standing contacts with polygraphers from NATO countries, especially from the United States, as well as from Poland. They have attended conferences and training courses organised by the American Polygraph Association (APA). So it is understandable that they recommend the use of American polygraph examination techniques, authorised by the APA. The Americans are not only the pioneers of polygraph examinations, but also the forerunners of their extensive use in the country's security system, including intelligence or counterintelligence operations. Therefore, most institutions of various countries benefit from this heritage and implement American standards².

² Cf. *Współczesne standardy badań poligraficznych* (Eng. Contemporary standards in polygraph examinations), M. Gołaszewski (ed.), series: "Biblioteka Przeglądu Bezpieczeństwa Wewnętrznego", no. 4, Warszawa 2013.

Included in the methodological recommendations, as the authors write in the introduction, are the features of polygraph examinations conducted to identify individuals involved in espionage and sabotage activities. Such acts would occur among the civilian population, employees of government agencies, officers of the special services, the State Border Service of Ukraine, soldiers of the Armed Forces of Ukraine, territorial defence troops, as well as employees of strategically important enterprises. The recommendations in the notebook concern the choice of research methodology, preparation of appropriate questions and thresholds for diagnostic and screening polygraph tests. The notebook is divided into three chapters: 1) Diagnostic polygraph screening conducted to identify individuals involved in espionage and sabotage, 2) Screening polygraph testing conducted to identify individuals involved in espionage and sabotage, and 3) Follow-up monitoring of previously selected individuals. The notebook also contains two appendices - sample roadmaps (diagrams that make it easier to discuss certain issues in detail) regarding the issues to be discussed during the pre-test interview and questionnaires. By using them, the risk of overlooking important issues is reduced) on issues to be discussed during the pre-test interview and questionnaires.

Chapter 1 discusses specific types of tests. According to the authors, the best for detecting spies and saboteurs is the single-subject test. This is a type of polygraph test that focuses on one specific event and the result confirms or not that person's connection to the event. It is recommended that polygraph tests be conducted in accordance with the latest APA-accredited polygraph techniques, such as the Zone Comparison Test (ZCT), the Utah Zone Comparison Test (UZCT) or the Bi-Zone.

The authors point out that the choice of this type of test is dictated by the wartime conditions in which the tests are performed. In such a situation, the examinee's nervous system is exposed to a multitude of external stimuli, which, if multi-subject tests were used, could introduce various artefacts that hinder the assessment of the records. It was therefore decided to use tests that focus all of the subject's attention on one specific question. In a single-question test, the respondent is asked questions such as: "Did you plant the GPS in the building?" or "Did you plant this transmitter in the building on _____?".

Multi-subject tests, on the other hand, contain questions on several different issues, which can lead to confusion in certain situations. In a frontline setting, one action in favour of the enemy is enough to consider a person a threat, so at a given point in time it will not be relevant whether they have performed more tasks, what means of communication they have used, who they have contacted and so on. A survey conducted in this way gives only a snippet of the information to be checked, so the authors suggest using a questionnaire beforehand with questions about the behaviour of potentially dangerous persons. The questions should refer only

to specific actions, and should not include goals, intentions, expectations, desires. It is also not recommended to ask questions about knowledge of other people's actions, about the truth or falsity of statements. Therefore, diagnostic tests are not designed to verify answers to questions about events or actions confirmed by the person.

Polygraph examinations cannot therefore verify allegations of task performance or check the validity of information known to the examinee from hearsay. Therefore, an appropriately chosen question should relate to an action clearly indicating the commission of an act of sabotage or espionage. Interestingly, the authors devote a lot of attention to critical (bound) questions, but do not refer to the selection of control questions (this is in line with the practice of American polygraphers). They limit themselves only to the information that they selected the questions according to the methodology and experience of the expert performing the study. It is known that they used control questions with both probable and directed lies for their research.

Chapter 1 also provides guidance on creating critical questions appropriate to the situation. This passage is interesting not only because of the polygraph research, but also to show the way the Russian services operate. It is important to note - and this is sometimes forgotten by Western secret service experts - that the Russian intelligence services, in addition to new methods (e.g. planting a GPS), continue to use tried and tested solutions that have been in use for more than a few decades³. For example, means of communication are not necessarily specialised equipment connecting via satellite, it can also be a hollowed-out piece of wood with a place for a hidden memory stick or a contact box in a park.

The following are examples of situations in which a polygraph examination could be conducted using various techniques (in addition to the previously mentioned Utah ZCT and Bi-Zone, there are the Federal ZCT and Utah 4Q techniques) and sample sets of test questions relevant to the case at hand. These are sacrificed relevant (SR) and relevant (R) questions.

The first example concerns a situation from March. Counterintelligence officers in a previously identified dead drop in the form of a hollowed-out piece of wood found a memory stick containing secret information. The dead drop was located near the third rubbish bin, counting from the park entrance. External observation did not record a specific person leaving the device, but it did identify ten people who were walking past the dead drop when it was left. All were referred for a polygraph examination. Table 1 shows sample questions to be used

³ Cf. J. Widacki, A. Szuba-Boroń, *Sprawy o szpiegostwo przed sądami wileńskimi w okresie II RP* (Eng. Espionage cases before Vilnius courts in the Second Republic of Poland), Kraków 2020, p. 141 et seq.

in this situation during a polygraph examination conducted using four different techniques. In the notebook in question, they are given in two language variants: Ukrainian and Russian.

Table 1. Example sets of questions to be used during a polygraph examination carried out using different techniques in the situation described in the first example.

Utah ZCT	Federal ZCT
SR. Are you going to answer truthfully to questions about leaving a memory stick in a wooden box near the bin at the central entrance on 1 March?	SR. Are you going to answer truthfully to questions about leaving a memory stick in a wooden box near the bin at the central entrance on 1 March?
1R. Did you leave your memory stick in the cache in Victory Park?	1R. Did you leave the memory stick in the cache in Victory Park?
2R. Did you put the memory stick in th wooden box?	2R. Did you leave the memory stick in hiding near the bin in Victory Park?
3R. Did you hide the memory stick in a hidden spot in the park?	3R. Are you involved in any way in hiding the memory stick in the wooden hiding place in Victory Park?
Bi-Zone ZCT	Utah 4Q
SR. Are you going to answer truthfully to questions about leaving a memory stick in a wooden hiding place near the bin at the central entrance on 1 March?	SR. Are you going to answer truthfully to questions about leaving a memory stick in a wooden hiding place near the bin at the central entrance on 1 March?
1R. Did you place the memory stick in the hiding place in Victory Park on 1 March?	1R. Did you hold in your hands the memory stick found in the hiding place in Victory Park?
2R. Did you place the memory stick in the wooden hiding place in Victory Park on 1 March?	2R. Did you bring a memory stick with secret information to Victory Park on 1 March?
	3R. Did you put a memory stick with secret information in a wooden hiding place on 1 March?
	4R. Did you leave a memory stick near the bin in Victory Park on 1 March?

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

In the second example, someone planted a GPS locator at a checkpoint organised the day before. It had been set up independently by the territorial defence

unit. No strangers approached it at the time, so there was a suspicion that the GPS was left by someone among the 12 members of the territorial defence - checkpoint crew. Table 2 shows sample questions to be used in this situation during a polygraph examination conducted using four different techniques. The questions are given in Ukrainian and Russian.

Table 2. Sample sets of questions to be used during a polygraph examination conducted using different techniques in the situation described in the second example.

Utah ZCT	Federal ZCT
SR. Are you going to answer truthfully to questions about leaving a GPS transmitter at the checkpoint?	SR. Are you going to answer truthfully to questions about leaving a GPS transmitter at the checkpoint?
1R. Did you place the GPS transmitter at the checkpoint?	1R. Did you place the GPS transmitter at the checkpoint?
2R. Did you place the GPS transmitter at the checkpoint the day before?	2R. Did you GPS-mark the checkpoint where you are serving?
3R. Did you place the GPS transmitter?	3R. Are you linked to the planting of a GPS transmitter?
Bi-Zone ZCT	Utah 4Q
SR. Are you going to answer truthfully to questions about leaving a GPS transmitter at the checkpoint?	SR. Are you going to answer truthfully to questions about leaving a GPS transmitter at the checkpoint?
1R. Did you place the GPS transmitter at the checkpoint?	1R. Have you held this GPS transmitter in your hands?
2R. Did you place the GPS transmitter at the checkpoint where you are serving?	2R. Have you activated this GPS transmitter?
	3R. Have you placed this GPS transmitter at the checkpoint?
	4R. Did you perform the task of placing the GPS transmitter at the checkpoint?

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

The third example concerns a Russian service saboteur recruited by the Ukrainian services. He is suspected of running a double operational game and of being a continuing agent of the Russian secret services. Table 3 shows sample

questions to be used in this situation during a polygraph examination conducted using two different techniques.

Table 3. Sample sets of questions to be used during a polygraph examination carried out using different techniques in the situation described in the third example.

Utah ZCT	Bi-Zone ZCT
SR. Are you going to answer truthfully to questions about the information provided to the Russian services about your cooperation with the Ukrainian special services during the meeting with the Russian officer on 5 March?	SR. Are you going to answer truthfully to questions about the information provided to the Russian services about your cooperation with the Ukrainian special services during the meeting with the Russian officer on 5 March?
1R. Did you provide the Russian officer with information about your contact with the Ukrainian special services?	1R. Did you inform the Russian case officer of your contact with the Ukrainian special services?
2R. Have you informed the Russian case officer to whom you are handing over the data under control that you are cooperating with the Ukrainian services?	2R. Did you somehow inform the Russian officer about your contact with the Ukrainian special services?
3R. Have you informed the officer of your exposure?	

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

In the fourth example, Ukrainian services received an anonymous letter reporting the secret cooperation of a Kiev resident with Russian special services. As a result of the action taken, components for detonating an explosive device were found in this person's car. However, the person's fingerprints were not there. Other actions taken did not result in information about the person's sabotage or espionage activities. After his detention and explanation, the man claimed that he was not involved in any sabotage or espionage, knows nothing about the explosives in his car and does not cooperate with Russia's secret services. Table 4 shows sample questions to be used in this situation during a polygraph examination conducted using four different techniques.

Table 4. Sample sets of questions to be used during a polygraph examination conducted using different techniques in the situation described in the fourth example.

Utah ZCT	Federal ZCT
SR. Are you going to answer truthfully to questions about the explosives found in your car?	SR. Are you going to answer truthfully to questions about the explosives found in your car?
1R. Did you leave explosives in the boot?	1R. Did you leave explosives in the boot?
2R. Did you put explosives in the boot of your car?	2R. Did you put explosives in the boot of your car?
3R. Did you keep explosives in the boot of your car?	3R. Are you somehow involved in hiding explosives in the boot of your car?
Bi-Zone ZCT	Utah 4Q
SR. Are you going to answer truthfully to questions about the explosives found in your car?	SR. Are you going to answer truthfully to questions about the explosives found in your car?
1R. Did you place the explosives in the boot?	1R. Did you place the explosives in the boot?
2R. Did you place explosives in the boot of your car?	2R. Do you know who placed the explosives in the boot?
	3R. Did you place explosives in the boot of your car?
	4R. Are you somehow involved in hiding explosives in the boot of your car?

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

The authors are of the opinion that the conduct of diagnostic testing should be guided by the principle of screening all potential participants in an incident. If the commissioner of the tests decides to test only selected individuals, this may cause them unnecessary mental and emotional strain, which increases the likelihood of erroneous results (obtaining INC results, i.e. inconclusives, or NO results, i.e. no opinion). According to the authors, it is also important to make the commissioner of the study aware that polygraph results, although they have a high percentage of accurate indications (they have a high diagnostic value), are subject to the risk of errors. Therefore, it is advisable to use polygraph tests together with other methods of operational work.

Chapters 2 and 3 describe polygraph screening for the identification of persons involved in the crime of espionage and sabotage and their follow-up. Screening tests are performed preventively, i.e. in the absence of a report of a specific event (incident) to be targeted. The purpose of these tests is to verify the possible involvement of individuals in sabotage or espionage activities. Questions include:

- concealing of the fact of having undergone special training in a foreign language (Russian or Belarusian),
- receiving orders from foreign intelligence services,
- providing information to which respondents have natural access, supplying documents to representatives of foreign intelligence services,
- participating in espionage or sabotage operations,
- maintaining secret communication with foreign service representatives.

The mentioned list of polygraph examination issues is an open catalogue. As the authors state, these issues are so numerous that interviewers make use of the aforementioned roadmaps created for the tests. The following tests are recommended for this type of research: TES (Test for Espionage and Sabotage), DLST (Directed Lie Screening Test), BOST (British One-Issue Screening Test), AFMGQT (Air Force Modified General Question Test). The use of assessment systems is recommended to analyse the results: ESS (Empirical Scoring System) and the 7-step federal system. As screening generally addresses more than one question of interest to the research applicant, the use of multi-question tests is recommended in the first instance.

The TES test, developed as part of the US Department of Defense Polygraph Program, was specifically designed for screening, screening job applicants and special forces personnel. It later came to be used for a wider range of issues and was renamed DLST. It consists of two subtests, the first of which explains involvement in espionage and sabotage, and the second of which explains unauthorised disclosure of data and unauthorised communications. Each subtest contains three presentations of relevant questions. If the polygraphs contain artefacts, a fourth presentation of questions can be made. Table 5 shows sample questions to be used during an examination conducted using the TES test.

Table 5. Sample sets of questions to be used during a polygraph examination conducted using the TES test.

Subtest 1.	Subtest 2.
1R. Did you commit sabotage for the benefit of Russia while serving in territorial defence?	1R. Did you pass on any information to third parties during your service in territorial defence?
2R. Did you perform any espionage activities while serving in territorial defence?	2R. Did you use non-statutory means of communication while on duty?

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

Another test recommended by the authors is the frequently used DLST test. According to the guidelines, two critical questions are tested in one DLST test, which should address different activities or topics. Table 6 shows an example of the questions to be used during a test conducted with the DLST.

Table 6. Sample sets of questions to be used during a polygraph examination conducted using the DLST test.

Subtest 1.	Subtest 2.
1R. Have you been involved in sabotage inside Ukraine?	1R. Did you receive instructions on spying?
2R. Did you collect information on Ukrainian military facilities?	2R. Do you maintain contacts with representatives of the Russian secret services?

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

It is important to bear in mind that these questions are assessed both individually and in aggregate, according to the guidelines of the adopted polygraph assessment system. In other words, there is diagnostic value in both the response to each individual question and the sum of the responses to all questions. The result of the survey allows a fundamental risk assessment of whether a person is involved in espionage and sabotage. The authors also remind us that the polygraph examination should complement, not replace, other methods of obtaining information used by the services. Therefore, if during screening it is confirmed that a person may be involved in the situations in question, it is necessary to deepen the knowledge of the subject through operational or investigative measures.

The authors also recommend using the latest polygraph testing technique, namely BOST. In their opinion, this is the most accurate test of those presented so far. It can only address one question (similar to the DLST tests). Table 7 shows examples of questions to be used during an examination conducted with the BOST test.

Table 7. Sample sets of questions to be used during a polygraph examination conducted using the BOST test.

Subtest 1.	Subtest 2.
1R. Have you ever had secret contacts with foreign service representatives?	1R. Have you given information on Ukrainian military facilities to representatives of the Russian services?
2R. Have you ever had contact with representatives of foreign services that you are hiding from me?	2R. Have you provided Russian service representatives with information about Ukrainian military facilities?

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

The authors emphasise the proper conduct of the pre-test interview, during which each test question must be explained so that the phrases used are clear to the testee and do not leave him/her open to interpretation. As the sample questions are given in two languages, it is advisable to use the one spoken by the subject in the study. According to the authors, there may also be a need for screening tests on a wider range of issues. Such tests may, for example, clarify a person's involvement in war crimes, show specialisation in a particular type of diversionary and reconnaissance activity. These tests are not a substitute for the previously described screening tests and should be considered as additional.

The authors point out the need to actively interview the respondent in order to involve them in the survey. In order to carry it out efficiently, questionnaires and the aforementioned roadmaps are used, as shown in diagram. Table 8 presents a questionnaire with questions on potentially dangerous persons.

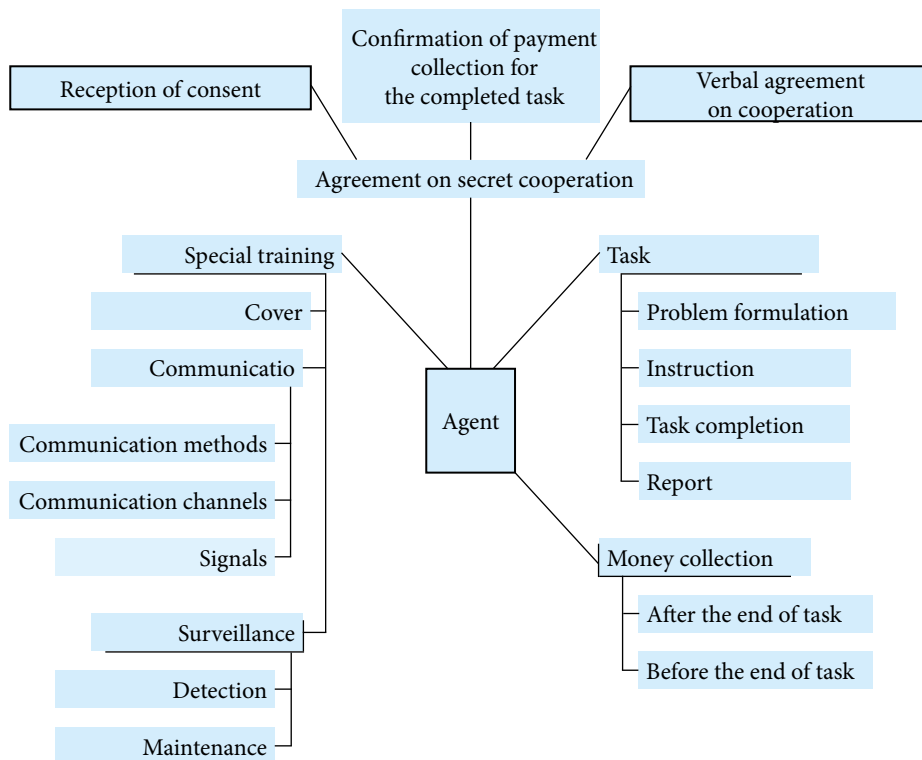


Diagram. Roadmap for use during the pre-test interview.

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до штигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

Table 8. Sample questionnaire with questions on potentially dangerous persons for use during the pre-test interview.

No.	Question	Yes	No
1	Have you given inaccurate information about yourself today?		
2	Are you currently hiding any of your actions committed after 24 February?		
3	Have you ever misled someone to avoid trouble?		
4	Have you committed criminal or war crimes after 24 February?		
5	Have you violated any of the rules of war imposed after 24 February?		
6	Did you knowingly commit an offence for which you were not punished?		

7	Have you ever disclosed an official or state secret?		
8	Did you pass classified information to the Russians after 24 February?		
9	Have you ever disclosed something that was given to you in confidence?		
10	Have you ever been blackmailed?		
11	Did you harm the Ukrainian defence forces after 24 February?		
12	Have your actions caused trouble for third parties?		
13	Have you helped someone hide the fact that a crime has been committed?		
14	Are you now helping someone to commit a crime?		
15	Have you ever misled an official?		
16	Have you used alcohol or drugs illegally?		
17	Do you have gambling debts?		
18	Have you lied to loved ones to hide your problems?		
19	Do you have a concealed weapon now?		
20	Have you secretly helped someone from the Russian secret services inside Ukraine?		

Source: А.Б. Лисенко, Д.О. Алексеєва-Процюк, В.О. Шаповалов, *Проведення поліграфологічних досліджень для виявлення осіб, причетних до шпигунської та диверсійної діяльності, і подальшого їх контролю. Методичні рекомендації*, Київ 2022.

The examples presented show that conducting a polygraph examination in the form of an operational investigation, which addresses the conduct of a personal source of information in an active form (performing a task rather than being a natural access person), requires the expert to have not only polygraphic knowledge, but also knowledge in the field of operational and investigative activities.

Each of the points shown on the roadmaps requires an explanation of the words used on the roadmap so that their understanding is shared between the investigator and the expert, which for those with no experience of conducting sources and intelligence work methodology can be difficult, if at all possible. It must also be remembered that a personal source run by the services does not always know in what capacity he or she is working (whether he or she is a consultant, agent, etc.), what for (e.g. foreign flag recruitment), what his or her main tasks are, and so on.

The authors relied primarily on their own experience in developing the method booklet, but also drew on Ukrainian and American literature. A bibliography is included at the end of the work. It is certainly worth recommending. This is the first publication to reveal the polygraph research methodology used by Ukrainian counterintelligence during the war with Russia. By looking at the selection of critical

questions for testing, it is also possible to get a partial insight into the methods of Russia's intelligence services, which is also a great asset of the reviewed text.

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