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Role of anthropological opinion in verification of eyewitness identification result

Summary

Probative value of results obtained in the course of legal proceedings with the participants of the criminal act may vary. This also concerns results of identification by an eyewitness. The exceptional role of its result in the criminal trial derives from the fact that categorical identification of a suspect by the witness becomes directly incriminating evidence. Problems connected with verification of identification parade result, which often occur both in Poland and in other countries, have been presented on the basis of a real criminal case. The main evidence submitted by the prosecutor was identification of several people who had been suspected of theft by an eye witness. Some important doubts relating to their guilt, however, arose in the criminal trial in court several years after the crime. The court decided to use the help of an expert in the field of anthropological identification. Comprehensive analysis of the CCTV recordings from the crime scene and additional examinations carried out by an expert made it possible to verify the results of the identification parade objectively and precisely. For the defendants the anthropological opinion was just exculpatory evidence. However, it opened up new possibilities to obtain information, especially when low quality of CCTV recordings does not allow for a detailed analysis of the characteristics of morphological elements of the head including its front part which is the face.

Keywords: Identification parade, identification by an eyewitness, anthropometry, probative value, exculpatory evidence

1. Introduction

The identification parade is one the methods of forensic identification based on memory traces. Its principal purpose is determining whether a demonstrated object was seen before in connection with a crime (Gruza, 2009) and the result may be recognition, unrecognition or concluding that the person performing the identification did not remember the demonstrated object. Identification by an eyewitness is at the same time one of the most important and most often performed procedures in criminal proceedings designed for identification of perpetrators. However, contrary to the widespread opinion on the subject diagnostic value of identification by eyewitness is lower than in most other methods of forensic identification used in criminal proceedings (Widacki, 2016; Widacki, Hovath, 1978). Moreover, results of many scientific studies have proven that incorrect recognition of an innocent suspect is the main source of miscarriages of justice (Wójcikiewicz, 2009). Ryszard Jaworski (2008a) rightly concluded that due to a significant probability of an error during an identification parade this evidence can be considered as uncertain. He also indicated a diversity between its great significance in Polish judicial practice and the number of occurring mistakes. Józef Wójcikiewicz (2000) emphasised that an identification parade is a more practical method of identification being in disposal of judicial bodies, which often perform them in an inappropriate way. Therefore mistakes may in many instances undermine the sense of those proceedings. It is not without relevance that a correct of identification parade is conditioned by knowledge and life experience of the

person conducting the identification process and police officer often lack in those, not to mention the impartiality (Jaworski, 2008b). Deficiency of the latter is caused by a direct interest in achieving a "positive" result, which in Poland is a systemic flaw. As the investigative practice has demonstrated, participation of a prosecutor is not a guarantee of impartiality and correct course of the activity (Wójcikiewicz, 2009). We very rarely realise that one of the reasons for false results of identification may be eyewitnesses' fear that if they hesitate or change the decision they might be suspected of giving false testimony. Frequently, a person responsible for identification parade exerts pressure on an eyewitness to make a categorical decision (Jaworski, 2008b). In the light of those serious doubts, the postulate of Wójcikiwcz (2001) to always have a forensic expert conduct eyewitness identifications.

Physical features, face proportion and mimics play a tremendous role in recognition of a face, origin, sex, age, physical condition, emotions. Linda Jeffrey and Gillian Rhodes (2011) indicated in their article that faces providea lot of very important information, which play a tremendous role in social relationships and interactions in everyday life. Expression of mimics may complement and even replace verbal communication. Beginning with the moment of birth faces play an important role in social relations of an individual. Infants possess basic ability to process information expressed by a face and already in the first days of their lives they may show sensitivity to features and variability of mimics (Field, Woodson, Greenberg, Cohen, 1982; Farroni, Menon, Rigato, Johnson, 2007). Recognition and perception of faces and understanding mimics depend on very complex neurological processes, taking occurring over a few huge areas of brain (Rossion, Hanseeuw, Dricot, 2012). In specific phases of recognition, individual lobes of the brain and subsequently those data are combined and form a full image of a face and its mimics (Gold, Mundy, Tjan, 2012; Pitcher, Walsh, Duchaine, 2011) .

In the aspect of face recognition an important issue is a variable ability to recognise faces and mimics of persons representing groups of different features than our own and this phenomenon is referred to as "cross-race effect" (Feingold, 1914; Walker, Tanaka, 2003). For example, persons functioning in the quite uniform Polish population have a lower ability of recognising Asian and African types of faces and mimics and the other way round. This results from the fact that that a person starts learning variability of faces already in childhood and functioning in a quite homogenous group results in developing limited ability of recognising variability of face features and mimics. Results of this effect may be changed both in childhood and in adult life through frequent contacts and interactions with persons originating from various regions of the world and of different face feature (Sangriolli, Pallier, Argenti, Ventureyra, de Schonen, 2005).

Face recognition is a very important issue not only in everyday relations and interactions but also in forensic science.

2. Circumstances of an incident

A result of identification by an eyewitness is influenced by various factors, but in the context of this article the key issues are the following: interest in the incident, type of attention directed at the object and the manner of conducting the identification parade (Łozińska-Piekarska, 2016). It is necessary to remember also about the fact that there are also situations, in which a witness learns about the fact of committed crime only after some time due to covert way of operation of the perpetrators. In such a case we deal with absence of the preparatory set and observation aimed at remembering details, which might be useful in future during the identification parade. All these circumstances directly and, naturally, unfavourably affect the possibility of eliciting even from direct witnesses of the incident detailed and complete testimony (Gruza, 2009). Unfortunately, they are also rarely taken into consideration by law enforcement officers and prosecutors during assessment of credibility of testimony.

3. Pre-identification proceedings

Appropriate preparation to the identification parade has a significant importance for the result (Lisiecki, 1999). Due to that, before its conducting it is necessary to analyse in detail other available evidence. First of all it ought to be decided whether this procedure is necessary, i.e. if the witness in question in fact had an opportunity to observe the perpetrators and remember their individual features, which makes it possible to use this knowledge. It is not less important to determine whether there are any other negative prerequisites of factual or legal character (Gruza, Goc, Moszczyński, 2008).

An interview with the witness of the incident plays the key role for subsequent verification of identification results. Its fundamental aim is obtaining as detailed description of the perpetrator, as possible. This refers not just general features, which often aren't very useful, but unique ones that facilitate searching for the perpetrator and then selection of persons for the identification parade (Gruza, 2009). Besides facial features we should also strive to collect information concerning stature because the latter may turn out to be equally important for the final result of the

procedure. This obligation derives also from § 5 point 1 of the Ordinance of 2 June 2003 by the Minister of Justice: "Persons added to the person demonstrated for identification ought to be of similar age and have similar height, size, dress and other characteristic features"[1]. It is advisable that the witness describing the perpetrator – his height, weight and silhouette made a reference to himself or to another person he knows (Widacki, 2016). The last but not least activity during the interview should be receiving from the witness a statement if he will be able to conduct identification of the perpetrator (Gruza, 2009).

It should be observed that quite often witnesses or victims are, against all the rules, presented with photo albums with detained persons, which is supposed to "help" in picking up potential perpetrators. However, it seems that it may affect accuracy of subsequent accounts provided by the interviewed persons and in some cases lead to indicating innocent persons as guilty of a crime. Such an identification outside the procedure makes the subsequent pre-court activity fictitious (Lisiecki, 1998), because identification by eyewitness is unrepeatable. (unique)

4. Form of identification

Another issue, which should be solved before the identification parade is selecting its best method. The basic form should be a direct identification and – if it is not necessary for tactical reasons – it is advisable to refrain from preceding it with an indirect procedure (Lisiecki, 1997) because during the first one the recognising persons can assess presented persons in a more holistic way. This results from the ability to observe a larger number of general and detailed characteristics. Due to that the decision is taken basing on more robust foundations. Jan Widacki indicates that the diagnostic value of this identification is higher than for indirect one, so the likelihood of false identification is lower (Widacki, 2016). Józef Wójcikiewicz and Violetta Kwiatkowska-Wójcikiewicz (2011) present a different view on this matter. They emphasise: "numerous experiments seem to prove that both those forms are in principle equal in terms of correct and false identifications". Literary sources - for obvious reasons – do not contain any considerations concerning admissibility of carrying out exclusively the indirect identification when the alleged perpetrators are in disposal of a judicial organ.

5. Indispensable verification of results

For many years in scientific publications and court sentences numerous cases of false identifications by eyewitness have been indicated (Horry, Memon, Milne – Wright, Dalton 2013; Wells, Yang, Smalarz 2015, Wójcikiewicz,2017), hence the necessity of using objective methods of verification of results. This is done first of all through interviewing a witness in order to obtain information to be subsequently compared to the real appearance of demonstrated person (Gruza, 2009). These possibilities are, however, seriously limited, because we often deal only with one evidential source – a witness. In such cases even a detailed interview repeated many times and appropriately conducted identification parade will not significantly decrease a danger of false identification of innocent persons. It also exists when the identification parade is conducted according to scientific principles and the regulations in force. Evaluation of this piece of evidence requires contrary to the belief prevailing among police officers and prosecutors, a lot of caution and, primarily, verification by other evidence (Widacki, 2016). Firstly, it is necessary to look for such methods that while complying with highest scientific standards verify result of identification in an impartial way minimising the risk of false indication. It seems that such method, which, besides Polygraph examination (Wójcikiewicz, 2000, Wójcikiewicz, 2009) meets the criteria of a scientific evidence and is additionally very useful due to omnipresence of surveillance cameras may be anthropologic examination. Identification by eyewitness may be also verified by admitting evidence from anthropologic identification of a person recorded in surveillance recordings. In the process of identification of a person whose image has been recorded by surveillance system, the morphological/comparative method can be very useful. Its principle is finding and evaluating the most important features of a person recorded in evidence and a person recorded in comparative material and then comparing those features and concluding on their conformity (Młodziejowski, 2015).

6. Anthropological examinations in the aspect of identification of persons from surveillance material

Material for identification is made of both photographs and video recordings. Identification of persons from video recordings is performed basing on physical features (body parameters) and behavioural characteristics of a human being.

Every individual is characterised by a unique set of features and many of them are particular and individual features of a given person. In a complex process of identification of a person based on images from visual surveillance cameras all the features contributing to an individual's unique character whose assessment is possible should be analysed.

[1] Journal of Laws no. 104, item 981

In the aspect of identification of a person regardless whether we deal with identification parade or surveillance material a particularly important part of the body is the front of the head, i.e. the face, which often allows quick recognition. The combination of many features of individual morphologic elements of the head, such as auricles, nose, lip red, eyebrows, eyes, as well setting and proportions of these parts make up its individual character, which allows recognition and often identification of a person.

In identification performed based on video material from surveillance purposeful concealing, or changing the face, or poor image quality do not allow a detailed evaluation of morphological elements. Therefore a complex analysis should embrace all characteristics of a person, including stature, height, shape, somatic construction, possible asymmetries, anomalies (Lorkiewicz-Muszyńska, Sidor, 2015). If individual behavioural features, such as behavior during free movement, can be assessed they should also be consideed. Walk is one of the basic and natural forms human movement and, at the same time, one of the most complex activities of the body. It is the object of many biometric analyses. Its pace, length or frequency of steps and angles are analysed (Al-Obaidi, Wall, Al-Yaqoub, Al-Ghanim, 2003). Basic parameters of walk depend on such factors, as age, sex or height (Öberg, Karshnia,Öberg 1993; Van Emmerik, McDermott, Haddad, Van Wegen, 2005; Balasubramanian, Clark, Gouelle, 2015).

Undoubtedly, in the context of identification it is the face that provides a lot of identification features and due to that it is most often examined by experts. However, one should not underestimate analysis of the remaining physical features of the body or behaviouralfeatures making the complex and unique character of a given person, and legible and suitable for analysis thanks to video recording. Cooperation of a team of experts may lead to using various methods and examination techniques depending on the state and quality of examination material, which influence the entire process of recognition (Kiełbus, Furyk, 2014).

7. Case study

An example demonstrating the possibility of using anthropological examination to verify results of the identification parade may be the following expert opinion involving complex examinations of persons based on recovered material from a few surveillance cameras. The investigation concerned a theft of money from a cash desk in a shop. Five persons were involved in the crime: three men and two women. At the beginning, the first couple – man M1 and woman K1entered the shop. After some time, the other couple – man M2 and woman K2 - came in. The witness had direct contact with the second couple. Most probably, they were supposed to distract the shop assistant when the fifth person – man M3 entered and walked across the shop to the room where the cash desk was. At the moment of entering the shop and walking along the corridor man M3's head was bent down, so his face could not be seen. In the cash desk room a surveillance camera registered an image of a man in a top diagonal shot and a profile shop. In the recording the top of the head was visible in the top diagonal shot, the head in the side diagonal top shot and from behind in the top diagonal shot, while the face was almost invisible.

An important thing in the case is that persons in the recording from surveillance cameras showed a significant diversity in terms of such physical features as height and somatic conformation. In case of four persons it was possible to pick up and name features of morphological parts of the head. In case of one person such evaluation was not possible but an assessment of head characteristic in the area of its top or occiput could be achieved.

During first interview after the incident the witness testified that he remembered four persons but he was not able to recognise the fifth person because he had not seen him directly but only in the surveillance recording – in the corridor from a distance and from behind.

In approximately one month after the crime the police detained five persons suspected of committing the theft. For unknown reasons, instead of direct identification parade only indirect ones were conducted. Photographs of faces of all five detained persons were demonstrated to the witness who categorically recognised all the detained persons including man M3 he had had no contact with. In surveillance recordings there was not man M3's head en face as seen in the demonstration charts. Therefore important doubts arise as to correctness of conducting those identifications and in particular breach of art. 173 § 1 of Code of Criminal Proceedings[2] stipulating that an identification should be carried out with exclusion of suggestion.

The officers responsible for preparatory proceedings had not made any verification of information concerning biological characteristics recorded in surveillance recording, even though the witness had described the appearance of four of them during the interview. Basing on the results of completed indirect identifications the detained persons were charged with the theft.

[2] Act of 6 June, 1997 – Code of Criminal Proceedings (Journal o Laws of 1997 no. 89 with amendments)

During the court trials photographs of the defendants from the demonstration charts were at least twice shown to the witness and in addition to that a direct visual identification of one of the women (K1 from the first pair) was performed. In repeated demonstrations the witness was not sure any more and sometimes indicated two persons from the same demonstration chart.

After over three years from the incident, in the light of continuously increasing doubts the court appointed an expert in order to perform identification of persons from surveillance recording by means of anthropological examination. The experts requested additional comparative material from the defendants with an indication that they should be recorded in the same rooms where the crime had been perpetrated. In case that should be impossible, the expert suggested arranging the recording in another location according to submitted guidelines. The guidelines specified shots and body positions, in which the defendants should be recorded. The additional comparative materials were made in another location in compliance to the said guidelines.

In the evidential recordings from the crime scene at the moment of entering the shop door all the persons were coming in through the same doorway. Based on the measurements and with use of those proportions it was possible to determine approximate of height of persons with their footwear on and defining differences between the participants of the incident. To measure and compare suspects' height the examiner used exposures, in which the persons were close together and in similar body positions, i.e. in the phase of walk with an upright stature with body weight resting on one unbent leg, or upright standing on both unbent lower limbs. Measurements of heights were made in digital images by means of Measure Tool in GIMP 2 application. It should be emphasised that the analyses of measurable features concerned persons' heights in their footwear, in a given location and position (upright), so it was different from height measured with no shoes on. The determined heights of persons (in the selected location) showed explicit variability. Somatic body construction features of individual persons recorded in the evidential material were assessed with to categorisation into ectomorph, mesomorph and endomorph types (Malinowski, Wolański, 1988). These are three main types of body construction, but the combined types are much more often observed. Basing on selected photographs, from which it was possible to analyse descriptive non-measurable features, such as head appearance and characteristics of descriptive morphological features of head, they were marked and assessed, according to the adopted criteria (Malinowski et al., 1988; Dębiński et al., 1994).

According to the same criteria (Malinowski et al., 1988; Dębiński et al., 1994) descriptive features of the head and individual morphological elements or the defendants were assessed and the set of features was marked and described. Obtained data on the measurable features, weight and height of the defendants were used to calculate the Body Mass Index

$$BMI = \text{weight [kg]}/\text{height [m]}^2.$$

The BMI value indicates underweight or overweight in adult persons, although it should be emphasised that it is not very precise and does not take into account individual body type (http://apps.who.int/bmi/index.jsp?introPage=intro_3.html). In case of persons of athletic type, e.g. body builders, BMI may indicate obesity despite a very low content of body fat tissue and abundant muscle tissue.

Interpretation of results was achieved according to extended WHO classification according to the following scale (http://apps.who.int/bmi/index.jsp?introPage=intro_3.html)::

- < 16,0 – starvation,
- 16,0–16,99 – severely underweight,
- 17,0–18,49 – underweight,
- 18,5–24,99 – normal weight,
- 25,0–29,99 – overweight,
- 30,0–34,99 – obesity class I,
- 35,0–39,99 – obesity class II,
- ≥ 40,0 – obesity class III.

For each of the defenders, the type of somatic body conformation was determined. Obtained and collected data underwent comparative analyses.

8. Results of identification

The man denominated as M1 – from the first pair that had entered the shop – was the tallest among five individuals in the recording and could have been approx. 190 cm tall, which was compliant with witness's testimony. During the indirect identification the witness had "recognised" person M1 and indicated on the demonstration chart a picture of the detained man who was 160 cm tall - the shortest among three detained males. The examinations demonstrated distinct differences as regards physical characteristics including those concerning defender's height and the height of M1 person height, as well as marked features of head morphology including its front part (the face) of the perpetrator (denominated as M1) and the defendant "recognised" by the witness. A group of several differing features was found, in morphological elements of the head, shape and profile of head top and occipital area, as well as the head hair.

The man denominated as M2 could have been of medium height/tall. His height fell between M1

and M3 and he had somatic conformation indicating ectomorph type. Basing on witness's testimony, M2 man had a diastem between medial upper incisors. M2 man was recognised by the witness without any doubt. Basing on analysis of the case file his height and body weight in the period close to the date of the incident were determined, i.e. 186 cm height and 127 kg weight. BMI calculated for this height and body weight amounted to 36,7 and indicated obesity class II. Characteristics of somatic conformation of the defendant (mesomorph /endomorph) unambiguously recognised by the witness did not correlate with characteristics of somatic conformation of man M2. Man M2 did not show any features indicating a possibility of being as overweight as the defendant during the incident. In the case file no information whatsoever was found on whether a day after the incident a dental examination had been performed to check for presence or absence of a diastema between medial incisors and the defendant did not have it. Identification examination demonstrated distinct differences in physical characteristics including height, somatic conformation and several head features, including the front part of M2 and defendant's faces.

The man denominated as M3 – the shortest one among three men in the surveillance recordings, which the witness did not see and as regards which he had stated during the interview on the day following the incident: "I am not able to recognise this man". The M3 man was slim (ectomorph type) and he could have been of medium height as concluded from measurements of the stature on digital images and the proportions. The defendant indicated by the witness during the identification was characterised by tall height (173 cm) and the measured height with footwear on was approx. 179,5 cm. The conformation of the defendant was of mesomorph /endomorph type and calculated BMI equal 25,2 according to WHO scale placed in the lower range of obesity. Identification examinations showed clear differences between M3 and defendant's physical features, including the measurable characteristics and the set of head features (in the area of head top and occipital characteristics). Face features were impossible to assess because of the shots and bent down head. It was doubtful whether the witness might be able to recognise M3 basing on photograph of the face in the forehead area during the indirect identification.

As regards the woman denominated as K1, the identification examinations showed differences in the set of head conformation features including its front part (face) and somatic construction of K1 and the defendant.

The woman denominated as K2 was characterised by somatic conformation of the body indicating the endomorph type (with signs of possible obesity), which was in compliance with testimony of the witness who mentioned a plump stature, round and full face. The witness categorically recognised the defendant during the identification and pointed to woman K2 in the surveillance recordings. The defendant was characterised by a somatic conformation of ectomorph type both at the time of detention and during collection of comparative material and BMI fell in the lower range of standard on the borderline between normal and underweight, which did not correlate with features of somatic conformation of woman K2 from the surveillance recording. Examinations demonstrated clear differences between physical features of woman K2 and the defendants, including those concerning somatic conformation and the set of several head characteristics and particularly its front part.

It should be emphasised that the characteristics of individuals visible in the surveillance recording were not verified. Neither were distinctive differences in height and characteristics of somatic conformation noticeable in the recording compared with features of the detained persons.

9. Evaluation of conducted proceedings

In the presented authentic criminal case, the result of the demonstration, despite its power of persuasion, i.e. unambiguous identification by the witness of all five accused persons, was incorrect. It fully confirms the existence of the danger of indicating of innocent people by the eyewitness. Therefore, it is justified to postulate the entire figure, not just the face should be presented. Therefore, whenever possible, one should always try perform a direct identification rather than indirect one. The result of visual identification in the case where surveillance material is available requires a particularly careful verification of the physical characteristics of registered and recognised person, if possible in the shortest time from the time of diagnosis.

The presented case of theft from a shop is seemingly trivial. However, experience gained from it can be used in matters of greater importance, where sometimes the only evidence is made of identification by eyewitness of dubious value. A good example of this is the case of Adam Kauczor, who was wrongly accused of murder and spent almost 8 years in temporary custody (Wójcikiewicz, Kwiatkowska-Wójcikiewicz, 2010). It is also important in the light of research carried out by Paweł Waszkiewicz (2011), which demonstrated lack of knowledge among a great part of surveyed prosecutors and judges as regards the possibility of analysis of material from surveillance cameras preventing them to fully use

the potential of those recordings. More than half of questioned prosecutors and judges stated that in the cases they had dealt with evidence from surveillance cameras had not undergone any expert examinations.

10. Summary

The main purpose of the criminal proceedings, as stipulated in art. 2 § 1 point 1 of the criminal proceedings code is "that the perpetrator of the crime is detected and held responsible, and the person who has not been proved guilty is not held responsible". In the said case we had to do with fulfilling this aim, because the results of anthropological examination did not play in it the role of the incriminating evidence but of the exonerating evidence for the wrongly accused persons, i.e. so-called, evidence of innocence. It is possible even in situations where the quality of surveillance recordings is low, there are distortions of the face resulting from its masking or peculiar mimics, and also when the recordings were made by means of a camera mounted on large height. Despite difficulties and poorer legibility of face features, quite often characteristics of statures are visible and distinct, and thus suitable for assessment. In performed analyses features characterising a given person must not be ignored and these features may be determined by means of appropriate methods of examination.

The issues of proper presentation and proper verification of the information provided by witnesses are very important. Anthropological analysis undoubtedly increases the amount of information that is needed by the court to properly assess the evidence of the presentation. It allows obtaining much more information that may be relevant in the process of verifying collected information about suspected or accused persons in the recordings. They can prevent convictions of innocents or confirm the identity of perpetrators. The prospects of using them are increasing, which is due to the widespread presence of video surveillance cameras in public places, but also the development of technology and better quality of recorded image, which leads to increasing accuracy. Good image quality means better legibility of details and much greater ability to identify the persons in the recordings.

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