CrimA 149/12

Asher Almaliach

v.

State of Israel

The Supreme Court sitting as the Court of Criminal Appeals
[26 March 2012]

Before Justices E. Arbel, U. Vogelman and T. Zilbertal
Appeal of the judgment of the Beersheva District Court in CC 8047/09, dated 23 November 2011, issued by Judge D. Avnieli

Facts: The appellant was convicted of the crimes of carrying a weapon, intimidation, and possession of stolen property. The indictment charged that in the early morning hours of December 2, 2006, in the city of Ashdod, the appellant carried a stolen grenade into a building in which the Biton family resided, and then taped the grenade to a piece of cardboard which he then taped to the Biton family's front door, leaving a string tied to the grenade's safety mechanism. He ran away after a family member woke up and opened the door. The indictment was based on DNA evidence linking the appellant to the crime, through DNA traces found on the adhesive tape used in the taping of the grenade to the door. The appellant was sentenced to 24 months in prison plus a one-year suspended sentence, and was ordered to pay compensation to the family member who had been woken by the noise. The appellant submitted an appeal claiming that his conviction was improper in that it was based only on the analysis of the DNA traces found on the main exhibit in the case, without any additional corroborating evidence. The appeal was also based on the fact that the indictment was brought two years after the initial incident, leading to an unjust impairment of the appellant's ability to prepare a defense. Finally the appellant challenged the sentence imposed by the district court, arguing that it was not commensurate with the offense committed.

Held: A defendant can be convicted solely on the basis of DNA evidence, but such a conviction should only be permitted in exceptional cases and substantial care must be taken when DNA evidence is the sole evidence presented by the prosecution. The appellant's conviction meets the standards to be applied with regard to such exclusive DNA evidence. An analogy can be drawn between DNA evidence and fingerprint

evidence, in that both types of evidence can identify an offender based on scientific data that are unique to each person. With regard to both types of evidence, inferences must be drawn in order to determine the needed facts, and the court reaches its conclusion regarding the reasonableness of such inferences on the basis of expert testimony presented to the court. However, exclusive reliance on DNA evidence presents a higher possibility of wrongful incrimination than fingerprints because DNA evidence can be collected from a wider range of sources (e.g. from skin cells, saliva, or blood, etc.) and the cells from which DNA evidence is produced are more mobile than fingerprints. The court must consider the propriety of the methods with which the DNA was collected and examined, the degree of certainty of the analysis, the nature of the DNA that was found and its location and what these factors indicate, and the defendant's explanation and evidence for a reasonable and exonerating version of the events. Finally, all the elements of the crime must be proven in order for the DNA evidence to be an acceptable as the basis for a conviction. In this case, the totality of the DNA evidence, combined with the nature of the item on which it was found (adhesive tape) and the insufficiency of the appellant's explanations of how his DNA came to be on the tape, lead to only one logical conclusion – that the appellant committed the crime of which he was accused. The court noted as well that the two year delay between the incident and the appellant's questioning – although it did impair his ability to defend himself – was not the result of any defect in police procedures or conduct, and therefore did not conflict substantively with the principles of justice and fairness. Finally, the court found that the sentence was appropriate in light of the high risk presented by the use and possession of the particular weapon as well as the appellant's prior criminal record.

Appeal denied.

Israeli Supreme Court cases cited:

[1] CrimA 9724/02 *Abu Hamad v. State of Israel* (2003) (unreported)
[2] CrimFH 9903/03 *Abu Hamad v. State of Israel* (2004) (unreported)
[3] CrimA 10365/08 *Aliaswi v. State of Israel* (2011) (unreported)
[4] CrimA 1132/10 *State of Israel v. Anonymous* (2012) (unreported)
[5] CrimA 2132/04 *Kase v. State of Israel* (2007) (unreported)
[6] CrimA 4471/03 *State of Israel v. Krispin* [2004] IsrSC 58(3) 277
[7] CrimA 9154/04 *Hanuka v. State of Israel* (2005) (unreported)
[8] CrimA 10360/03 *Shadid v. State of Israel* (2006) (unreported)
[9] CrimA 4117/06 *McCaitan v. State of Israel* (2000) (unreported)
[10] CrimApp 5174/99 *Haldi v. State of Israel* (1999) (unreported)
[11] CrimA 897/12 *Salhav v. State of Israel* (2010) (unreported)
[12] CrimA 9352/99 *Yomtovian v. State of Israel* [2000] IsrSC 54(4) 632
[13] CrimA 347/88 *Demjanjuk v. State of Israel* [1993] IsrSC 47(4) 221

Legislation cited:
Criminal Procedure Law [Integrated Version] 5742-1982, s. 149(10)
Firearms Law, 5709-1949
Penal Code, 5737-1977, ss. 144b, 144(c)(3), 192, 411, 412, 413

For the appellant — T. Gabbay

For the respondent — E. Kadosh

JUDGMENT

Justice E. Arbel

This is an appeal of the judgment of the Beersheba District Court (Hon. Judge Dafna Avnieli) in CrimC 8047/09, dated 23 November 2011, in which the appellant was convicted of the offenses of carrying a weapon, intimidation and possession of suspected stolen property. The focus of the appeal is the question of whether a defendant can be convicted solely on the basis of DNA evidence.

Indictment

1. According to the facts presented in the indictment, at around 4:20 a.m. on 2 December 2006, the appellant took a fragmentation grenade that had been stolen from the security forces and approached the home of the Biton family in Ashdod. When he arrived at the apartment, he taped the grenade to a piece of cardboard with thick adhesive tape and taped the cardboard to the door of the apartment, leaving a string tied to the safety mechanism. The family's daughter, Reut Biton, who was sleeping in the apartment at the time, was woken by noises coming from the direction of the front door and went to the door. When she opened the door, the appellant ran away and left the grenade attached to the door. For these acts, the appellant was indicted for the crimes of carrying a weapon pursuant to s. 144b of the Penal Code, 5737-1977 (hereinafter: "the Law"), intimidation pursuant to s. 192 of the Law and possession of suspected stolen property, pursuant to s. 413 of the Law.

The district court's judgment

2. The appellant's conviction was based on DNA evidence that was found on the strip of adhesive tape that had been used to affix the grenade to the piece of cardboard and to attach the piece of cardboard to the door of the apartment. The district court accepted all the findings in the opinion submitted by the prosecution expert, Police Superintendent Shlomit

Avraham, of the National Police Headquarters Forensic Biology Laboratory (hereinafter, "the Expert" or "the Prosecution Expert"). The opinion stated that the genetic profile produced from two separate sectors on the strip of adhesive tape (1A and 1C), and from a piece of a glove (1E) and from a hair (18D) – both found inside the strip of adhesive tape – matched the appellant's genetic profile, with a margin of error of less than one in a billion.

3. The district court rejected defense counsel's arguments against these findings. Thus, it was argued that the result obtained from Sector 1A of the roll of adhesive tape was inconclusive, since on one locus in Sector 1A, the sample contained a foreign allele – one that did not come from the appellant. The court noted that there was no professional certification presented to support the defense counsel's argument; the court therefore accepted the position of the Prosecution Expert that this was an unequivocal result and that the genetic profile could be considered "clean" for the purpose of a statistical calculation.

4. The district court also rejected arguments regarding the Prosecution Expert's professional abilities. It had been argued, *inter alia*, that statistical calculation was not within the Expert's area of expertise, and that her opinion, which made reference to statistical components, was therefore meaningless. The court found that the Prosecution Expert's opinion was supplemented by the testimony of Professor Uzi Motero of the Hebrew University of Jerusalem, who guided the Expert in her statistical calculations, and that this supplementation created a presumption of propriety – which the defense counsel had sought to refute. It was also noted in this regard that the appellant had chosen not to present his own expert witnesses to refute either Professor Motero's statistical explanations or the Prosecution Expert's opinion concerning the biological evidence.

5. The court also rejected claims relating to the procedure followed in collecting the evidence, and held that there was no fault to be found with respect to that collection or with respect to the chain of evidence – beginning with the removal of the cardboard with the taped grenade from the apartment door, through the transfer of that evidence to the appropriate parties, and concluding with its analysis in various police laboratories. In particular, the court rejected the appellant's argument that the piece of the glove on which the appellant's DNA was found had been stuck to the strip of adhesive tape at some point during its transfer from the crime scene to the biological evidence laboratory. The court held that although the glove was not visible in the photographs taken at the crime scene, it was reasonably likely that the piece

of glove had been stuck between the many layers of the strip of adhesive tape, such that it could not be seen even when viewed close up, and that it was discovered only after the tape was peeled open. Alternatively, it could be that it was stuck to the back part of the Exhibit (the adhesive tape) which had been used to attach the grenade to the piece of cardboard – and that this was why the policemen at the site did not notice it. The court added that DNA samples were taken from the policemen who were at the scene in order to rule out the possibility that the glove had been torn off from a glove worn by a policeman. The results indicated that none of them matched the genetic profile produced by the examination of the piece of the glove.

6. The appellant's explanations of how his DNA was found at the scene were rejected as well. When questioned at the police station and in court, he denied any connection to the incident, claimed that he did not know the owner of the apartment on the door of which the grenade had been taped. He suggested various possible explanations for the presence of his DNA on the tape: that someone had taken the strip of adhesive tape from the counter of the convenience store in which he worked at the time, or that it had been taken from his car. The court rejected these suggestions on the grounds that they were hypothetical and far-fetched and did not cast doubt on the appellant's culpability, taking into account the fact that a roll of adhesive tape is an inexpensive and simple product, and that it is not likely that a person would take it from someone else to be re-used.

7. The appellant's attempt to mount a defense based on principles of justice (in connection with the relatively lengthy period of time between the incident and the arrest) was also unsuccessful. The defense counsel argued that because the appellant needed to provide explanations long after the occurrence of the incident, the ability to present a defense had been impaired. Nevertheless, the court found that the police had not been complacent during the interim, and that it had used all available means to investigate every possible suspect in the case. Thus, the court held, the time aspect did not work in favor of the appellant, and the principles of justice doctrine did not apply in his case.

8. Ultimately, the forensic findings tying the appellant to the crime, along with the appellant's weak explanations for the discovery of his DNA at the site, led the district court to the conclusion that the appellant had carried the grenade and taped it to the door of the Biton family's apartment; that the taping of the grenade was done with the intention of intimidating the members of that household; and that the appellant must have suspected that

the grenade was stolen, since a fragmentation grenade is not a product that can be purchased lawfully. Based on all of the above, the district court convicted the appellant of the crimes with which he had been charged in the indictment.

9. In its sentencing, the district court noted the severity of the crimes and surveyed, at length, the trends that are generally being followed in connection with sentencing for crimes involving weapons. It was noted that it was extremely fortunate that the criminal objective was not achieved, and that the grenade did not explode. The district court added that although the appellant had the right to continue his trial until its ultimate conclusion and to persist in his claim that he did not commit the crime attributed to him, the fact that he did so indicated that he had not internalized the severity of his actions. In addition, the court noted that it was aware of other cases in which defendants had been convicted of similar crimes, but had not been subjected to the full power of the law and received lighter sentences. In light of all this, the court sentenced the appellant to 24 months in prison and twelve months of a suspended sentence, and ordered the appellant to pay compensation to Reut Biton in the amount of NIS 2,500.

The appellant's arguments

10. The appellant argued that there were various flaws in the chain of evidence and attacked the findings in the Prosecution Expert's opinion. The appellant's main argument in this context was that it had not been proven that the piece of glove on which his DNA was found was originally part of the Exhibit. The claim was based on the fact that the forensic investigators who photographed, took apart and packaged the Exhibit had not seen a glove at the crime scene. Therefore, the appellant reasoned that no weight should be given to this piece of evidence. Another argument made was that the hair on which the appellant's DNA was found was brought to the laboratory for testing only after the appellant was arrested, some two years after the incident had taken place – while the respondent had nevertheless presented the evidence to the district court as if the DNA that was found on the hair as well as the DNA on the strip of adhesive tape and on the glove were all found and examined at the same time. Regarding the findings in the Expert's opinion, the appellant argued that they were not conclusive, and that traces of DNA that did not belong to the appellant were found in some of the samples – an indication of the involvement of others in the criminal act. For these reasons, the appellant argued that the Expert's opinion submitted by the respondent was poorly grounded and could not be used as the basis for his conviction.

11. The appellant further argued that a conviction cannot be based solely on DNA evidence when there is no other evidence supporting the conviction. According to his argument, the courts have always referred to additional evidence tying the defendant to the crime, in addition to any DNA findings.

12. He further argued that his explanation for the presence of his DNA on the objects at the crime scene was reasonable, and that it raised reasonable doubt about his culpability. He insisted that it was indeed possible that the roll of adhesive tape was taken from the convenience store where he worked at the time, or that someone took the roll from his car. He also stressed that adhesive tape is a portable object and can easily be transferred from one person to another. In addition, he suggested that there were other possible suspects who may have committed the crime, and that these included the apartment owner's creditors – who were also prosecuted for intimidating the apartment owner.

13. Finally, the appellant argued that he was entitled to raise a defense based on principles of justice, in light of the amount of time that passed between the incident and his questioning by the police – a length of time which affected his ability to present an alibi. He further argued in this context that the police who questioned him did not inform him that the incident had occurred on a Friday night, and that had he known this, he could have ruled out his involvement easily, because he is a Sabbath observer.

14. Regarding the sentencing, he argued that the court was overly harsh with him, and that the sentence imposed went beyond the threshold for punitive measures established in the case law for such crimes, and that the court decisions on which the sentencing had been based involved factual situations that could not be compared to the circumstances of this case. He further argued that the district court was fundamentally mistaken in finding that his intention was to explode the grenade, and that this finding contradicted the holding in the decision itself – that his intention had been to intimidate the members of the household. For these reasons and others, the appellant argued that his sentence should be reduced.

Respondent's arguments

15. The respondent argued that the appellant's claims regarding the alleged defects in the Prosecution Expert's opinion and the professionalism of the author of that opinion were baseless. According to the respondent, the appellant's arguments, which were not supported by a countering expert opinion, were extremely flimsy in comparison to the position taken by the Prosecution Expert – a position reinforced by Professor Motero's testimony.

With respect to the allegations concerning the defective handling of the chain of evidence, the respondent argued that these were nonspecific claims that lacked any evidentiary foundation; all the exhibits and the reports produced by the parties who were in contact with the Exhibit were submitted to the district court, and these indicated that the laboratory personnel had indeed noticed the hairs on the strip of adhesive tape when the Exhibit was first transferred to the fiber and polymer laboratory, but that the hairs were not examined at the time of the event in accordance with standard police and forensic identification procedures. There is no basis for the claim that the hairs were found only shortly after the appellant's arrest. Regarding the glove, the respondent relied on the district court's holdings and emphasized that the possibility that the glove came from one of the policemen who handled the crime scene had been investigated and ruled out.

16. The respondent further argued that there is no obstacle preventing the conviction of a defendant on the basis of DNA evidence alone. According to the respondent, DNA evidence is no different than any other "traditional" circumstantial or scientific evidence. The respondent argued that an analogy can be drawn between this issue and the rule that applies to fingerprints; the rule regarding fingerprints is that in certain circumstances, a defendant's fingerprint could suffice to allow for the defendant's conviction – when there is no reasonable explanation from the defendant as to why his or her fingerprints were found at the site. The respondent argued that the case before us is a clear example of the type of case in which a conviction on the basis of DNA alone is possible, since the DNA evidence consists of more than a single piece of evidence taken from a single segment of a relevant exhibit, and is comprised instead of several pieces of DNA evidence, produced from various sources, all of which are components of the Exhibit.

17. The respondent further argued that the explanations given by the appellant for the presence of his DNA on the Exhibit are not plausible. The respondent relied on the reasons given by the district court in this case; it added that the appellant's explanations were inconsistent with the location of the findings on the Exhibit, and with the various sources from which the DNA was produced, and especially with the piece of the glove – which on its own provided an evidentiary foundation that, according to the respondent, sufficed to incriminate the appellant.

18. Regarding the appellant's claim relating to principles of justice, the respondent reasserted the holding of the district court – which was that the passage of time between the incident and the arrest does not provide any

support for the appellant's defense, since his connection to the incident was discovered only after he had been arrested as a suspect in a different case. The respondent also argued that the appellant's alibi claim, based on his being a Sabbath observer, must be rejected as it is an argument presented at the last moment – and one that was in any event not proven by any evidence.

19. Finally, the respondent believes that the sentence imposed on the appellant is proper given the severity of the circumstances of the offense, and that no judicial intervention is needed regarding this matter. The respondent referred to the appellant's character, his lifestyle and his serious criminal past, which included a number of earlier convictions for a variety of offenses.

Discussion

20. I will begin by discussing the general question of whether it is appropriate to base a criminal conviction exclusively on DNA evidence. I note here, at the start, my ultimate conclusion that in the proper circumstances, such a conviction is indeed appropriate. I will therefore turn to the issue of whether the appellant can be convicted of the acts attributed to him on the basis of the DNA evidence that was found at the scene of the crime.

Conviction on the basis of DNA evidence

21. DNA is a molecule that contains all of a human being's genetic information. It is the "genetic code" ingrained in every cell of a person's body. The DNA molecule is built of a sequence of approximately three billion units, called 'bases' that are organized into structures called chromosomes, upon which are situated the genes, which govern the expression of a person's individual characteristics (phenotype). Each gene (other than those on the gender chromosomes) has two alternative forms, called 'alleles'. The permutation of the DNA bases is fixed and identical in each cell of the body (other than in the reproductive cells), and it is unique to each person, such that no two people (other than identical twins) have completely identical DNA sequences in their cells.

22. A forensic DNA test is based on a comparison of genetic samples, with reference to the frequency of the particular genetic profile within the relevant population. The comparison is not based on the entire DNA sequence; rather, it is based on a sampling relating to several hundred of its component sequences, on the assumption that if identity is found in the sample, the entire sequence will also be identical. When presented in court, DNA evidence will consist of two components that complement each other.

The first component relates to the degree of conformity between the two genetic samples (the sample found at the crime scene and the sample from the defendant). The second component consists of an estimation of the probability of the particular profile's incidence within a particular population. In other words, the DNA evidence will indicate the chance that two different people in the same population will have an identical genetic profile. (For further discussion of the structure of DNA and the manner in which it is examined for forensic purposes, see Y. Plotsky, "The Weight of DNA Evidence After the Decision in *Murad Abu Hamad*", 30 Medicine & Law 174 (2004); A. Stoler & Y. Plotsky "DNA on the Witness Stand" MEDICINE & LAW, JUBILEE VOLUME (2001), at p. 143; N. Galili & A. Morbach "DNA Analysis for Forensic Purposes" 2 Criminal Law 225 (1991)).

23. The potential for using DNA analysis as evidence was discussed at length in CrimA 9724/02 *Abu Hamad v. State of Israel* [1]. The Court, *per* Justice Cheshin, noted that although DNA analysis is a relatively new form of scientific evidence, it is currently accepted by the scientific community as well as by courts in Israel and in other countries. The Court held that DNA analysis is admissible and proper evidence, which can be accepted without the court needing to reexamine the scientific method on which the analysis is based every time such evidence is presented, Two conditions, however, must be fulfilled for it to be admissible in this way: the main principles of the method and of the examination must be subject to examination and refutation at any time and in any legitimate manner; and it must be proven that the specific analysis that was submitted in the particular case was carried out in accordance with the rules required by the relevant scientific method (*Abu-Hamad* [1], at para. 20).

24. Justice Cheshin further noted that DNA analysis had not yet been used as the sole evidence supporting a conviction, and that a review of the case law indicated that the courts have always required additional evidence. In the *Abu-Hamad* [1] case as well, there was additional evidence beside the DNA evidence – evidence that tied the defendant to the commission of the crime. Nevertheless, Justice Cheshin stated his belief that:

> 'A DNA analysis indicating a high statistical probability (without deciding here the actual level of probability that will be considered to be sufficiently high) should be treated in the same manner as fingerprint evidence. And in the absence of a reasonable explanation – one that might raise doubt in the mind of the court with regard to the defendant's guilt – a defendant may

> be convicted on the basis of such evidence alone.' (*Abu-Hamad* [1], at para. 35. See also Justice Turkel's position, at para. 2 of his opinion in the instant case).

(It should be noted that a petition for a rehearing was filed with respect to the decision in *Abu-Hamad* [1], and it was rejected by Justice Mazza – CrimFH 9903/03 *Abu-Hamad v. State of Israel* [2]).

25. Justice Procaccia took a similar position in a different case:

> 'As is the rule with respect to fingerprints, DNA analysis that ties a defendant to the scene of the crime with a very high likelihood of identification can, under certain conditions, serve as a sufficient basis for a conviction, in the absence of a reasonable explanation from the defendant regarding his presence at the site at the time when it is estimated that the crime was committed' (CrimA 10365/08 *Aliaswi v. State of Israel* [3], at para. 9).

26. On the other hand, Justice Naor took a different position – that DNA findings cannot by themselves provide a sufficient basis for the conviction of a defendant and that additional evidentiary support is required (CrimA 1132/10 *State of Israel v. Anonymous* [4]), at para. 35-38). It appears that this holding was based in large part on the specific circumstances of that case, which I will discuss at length below.

27. In my view, a defendant can be convicted on the basis of DNA evidence alone, under certain circumstances. I also believe that an analogy can be drawn to the rule that we follow with respect to fingerprint evidence (subject to my comments on the subject below). That rule is that a criminal conviction can be based on fingerprint evidence as a single piece of evidence, so long as none of the evidence presented in court provides an "innocent" explanation for the fingerprint that was found at the site – to a degree that creates a reasonable doubt regarding the defendant's guilt. (See, for example, CrimA 2132/04 *Kase v. State of Israel* [5], *per* Justice Procaccia, at para. 14; CrimA 4471/03 *State of Israel v. Krispin* [6] , at p. 285, and the references cited there).

28. Like a fingerprint, DNA evidence is also scientific and circumstantial evidence that can tie a defendant to the scene of the crime, to the point where the matter of his guilt regarding the commission of the crime can be established. The two types of evidence are both based on a comparison of findings at the crime scene, and an analysis conducted with respect to the defendant. With regard to both types of evidence, the court receives information from experts in the field. Neither type of evidence is immune

from human error, either in the collection of the evidence or in the handling of the evidence in the laboratory or elsewhere. Nevertheless, both the scientific and legal communities accept that both types of evidence enjoy a high degree of reliability because of the assumption that a genetic code and fingerprints are unique to each and every person (see A. Tshernov, "Scientific Evidence and Witness Testimony in Court, MEDICINE & LAW, JUBILEE VOLUME, (2001) at pp. 177, 179-181). For this reason, both types of evidence have been granted the status of "sound" evidence (*Aliaswi* [3], *per* Justice Procaccia, at para. 7; CrimA 9154/04 *Hanuka v. State of Israel* [7]). Furthermore, there are those who believe that the evidentiary weight of DNA evidence is greater than that of fingerprint evidence (see Plotsky, "The Weight of DNA Evidence", at p. 174; "in our view, the *potential* weight of DNA evidence is tens of times greater than the evidentiary weight of a fingerprint, but at this stage, within the existing systems, this potential cannot be realized." (I will discuss below Plotsky's argument that this potential cannot be realized).

29. Alongside the characteristics that the two types of evidence have in common, there is also a difference. The genetic code of a human being is stamped on each cell of his body, while a fingerprint can be found only on a person's hand or foot. DNA evidence may therefore be produced from a greater variety of sources (saliva, hair, semen, blood, skin cells, etc.) Furthermore, the sources that contain our genetic codes can easily fall off a person's body and "roll off" onto the crime scene. The simplest example is a hair that falls off of a person's head and coincidentally falls onto the crime scene. This does not mean that fingerprint evidence is a more incriminatory type of evidence, but rather that given the many possible sources for DNA traces, and given that the cells producing the DNA evidence are themselves highly mobile, there is a greater concern that any DNA evidence found on the scene came to be there as a result of coincidence – as compared to the possibility that the finding of fingerprints at the crime scene would be the result of pure coincidence. When we examine this difference, it appears that even though there is much similarity between the two types of evidence, an exclusive reliance on DNA evidence leads to a greater chance of reliance on evidence that was produced by chance, and thus to the increased possibility that a defendant will be wrongly incriminated. This difference will have consequences for the range of circumstances in which we will permit a conviction based solely on DNA evidence.

30. Thus, my position is that as a matter of principle, there is no impediment preventing the conviction of a defendant on the basis of DNA evidence; I therefore do not believe that we should establish a sweeping rule prohibiting such convictions. However, just as it would not be appropriate to establish a blanket prohibition, it would also be inappropriate to issue a sweeping approval for such convictions. A conviction which is based only on DNA evidence should be permitted only in exceptional cases, with each case being examined on its own terms, subject to its particular set of circumstances. Substantial care must be taken when reaching a decision to convict on the basis of such evidence, and a court must do so only with trepidation, given that the entire decision rests on a single piece of evidence (compare CrimA 10360/03 *Shadid v. State of Israel* [8], *per* Justice Naor, at para. 14).

31. In examining DNA evidence that is presented as the only evidence in the prosecution's case, the court must take note of the *procedure followed in carrying out the examination* that produced the relevant DNA findings – meaning that the court must address the question of whether the examination was appropriately carried out and documented by properly trained experts. In this context, Plotsky argues that Israel's crime scene identification laboratories have no standards requiring a supervisory mechanism for the execution of DNA tests and that it is therefore impossible for a court to determine whether the testing was done properly. He therefore believes that at present, the full evidentiary potential of DNA evidence cannot be utilized, and that the courts cannot, consequently, convict a defendant on the basis of this type of evidence alone (see Plotsky, *The Weight of DNA Evidence*, *supra*, at pp. 178-179). This is a criticism of which the legislature and the enforcement authorities should certainly take note. To the extent that the Israel Police does not have guidelines regarding the manner in which DNA tests are to be carried out, it should develop clear and organized standards, so that the test results can more easily withstand challenges from defense counsel and from the court. However, the absence of such directives does not impede the defendant's right to attempt to point to defects in the manner in which the test was performed, or to attack the prosecution's findings – either through a cross-examination of the prosecution's experts, through the conduct of independent testing of the samples taken, or through the testimony of the defendant's own expert. Thus, the absence of proper guidelines does not in itself prevent the court from using the tools available to it or from deciding an issue which is the subject of a disagreement among experts, in

the same way that it decides other issues that are a matter of scientific or professional dispute.

32. The court must also take note of the substance of the findings and of the critical question of whether they indicate, at the required level of certainty, that the DNA found at the crime scene comes from the defendant. I do not intend to make a final determination of the minimal level of conformity and probability that is required for such, if only because the parties did not present the foundation required for reaching a decision regarding this important question. I will therefore leave the matter open at this point, and it will be resolved in due course. It is sufficient to note here, with all due caution, that it appears that a genetic match at a level of one in one billion is sufficient to establish a person's identity (see and compare Justice Cheshin's discussion of this matter in *Abu Hamad* [1], at para. 25, and see also the position taken by Justice Levy in CrimA 4117/06 *McCaitan v. State of Israel* [9] and in CrimApp 5174/99 *Haldi v. State of Israel* [10] as examples of cases in which the match found by the prosecution's expert was not strong enough to support a conviction.

It is important to emphasize, insofar as it is not automatically understood, that even though expert testimony is required concerning a DNA issue, the experts do not make the ultimate determination that the DNA that was found at the site does in fact belong to the defendant. The experts can testify regarding the probability of the match. But it is the court that determines the identity of the offender, and it must not fail to exercise its authority to make that determination.

33. In addition to the propriety of the examination and of the findings, the court must also examine the quality of the evidence, including the type of DNA that was found (saliva, semen, blood, etc.) and its location and the number of places from which it was taken – and whether it indicates a particular use or action (semen in a rape victim's genital area, blood on the blade of a knife). The court will also look at other factors that may have implications for the probative value of the DNA findings.

34. We must recall that DNA evidence is circumstantial evidence, and a conviction based on such evidence is possible only when the sole logical conclusion that can be drawn from it is that the defendant is criminally liable (*Kase* [5], at para. 6, and the sources cited there). That being the case, the weight to be accorded to the evidence and the issue of whether or not a conviction can be based on it will be determined after the court considers the explanation offered by the defendant regarding the presence of his DNA at

the scene of the crime. If the defendant can offer an acceptable explanation or a version of the facts that exonerates him and creates a reasonable doubt regarding his culpability, then he must be acquitted, in accordance with the rule followed with respect to fingerprint evidence.

35. It must also be recalled that when circumstantial evidence, unlike direct evidence, is presented, we rely on inferences and conclusions regarding the direct facts that must be proven. In cases that are based on this type of evidence, an evidentiary gap may always remain – in which more is hidden than is disclosed. This is even more the case when the entire matter will be decided on the basis of a single form of circumstantial evidence. Therefore, while the DNA can provide a strong link – a link of "heavy chains", as Justice Cheshin wrote in *Abu-Hamad* [1] – between the defendant and the commission of the crime, the court must still determine whether all the elements of the crime of which the defendant is accused are present. On the other hand, we must also recall that not every doubt arising from the evidentiary material will rule out the possibility of a conviction. A criminal conviction must be based on a proof of guilt beyond any reasonable doubt – not beyond any doubt at all.

36. Generally, when the court assesses the weight to be given to DNA evidence which is presented as the only evidence in the case, the court must pay attention to the propriety of the DNA examination, the degree of certainty that characterizes the expert's findings, the nature of the evidence and the circumstances in which it was found. The court must also take note of the defendant's explanations and the possibility that there is a reasonable version of events that exonerates the defendant and which can be supported by the evidence that is before the court.

37. I will conclude my comments by discussing, briefly, the decision in the case of *Anonymous* [4], in which Justice Naor held that evidentiary supplementation is required in order to uphold a conviction that has been based on DNA findings. I believe that her holding in that case can be understood, to a great extent, against the background of the specific circumstances of that case. The crime was a sexual assault that was attributed to two defendants acting together – one was accused of raping the complainant; the accusation against the other defendant was that while the rape was occurring, he "climaxed and ejaculated in the complainant's underwear." The defendant who was accused of the rape was acquitted because the version of the facts that he presented, which exonerated him of the crime, was found to be supported by the evidence. In these circumstances,

the conviction of the second defendant could not be supported. In any event, as a substantive matter, the only proof that tied the second defendant to the commission of the crime was a forensic opinion; the opinion stated that DNA traces found on the lower part of the complainant's dress were a one in one billion match to the defendant's profile. However, the totality of the details in that case did not make it possible to base his conviction on this expert opinion at the level of proof required for a criminal conviction: there was no dispute that the two defendants were present near the complainant; the second defendant confirmed that he had given the complainant a ride and that it was possible that he might have touched her shoulder (a detail which was not itself incriminating); the forensic data presented did not include details as to what kind of DNA had been found (whether it was semen or another type of DNA) and the data did not prove the character or nature of the acts that the defendant committed vis-à-vis the complainant; the complainant did not testify against the second defendant as she had against the first defendant, and she had not incriminated the second defendant at all; the description in the indictment of what he was accused of doing was laconic and did not specify the elements of the crime. It thus appeared that this was a strong example of a matter in which more was hidden than was disclosed, as Justice Naor found as well, and it was therefore not possible to convict the defendant on the basis of the DNA evidence alone. However, in my view, a sweeping rule that no conviction can be based on DNA evidence alone cannot be inferred from that particular case. The fact pattern in that particular case would not, in any event, have satisfied the standards that I outlined above.

I will first discuss the arguments raised by the appellant concerning the flaws in the collection of the evidence, and I will then move on to his arguments regarding the substance of the findings. After that, I will discuss the matter of whether or not the instant case falls within the category of cases in which a conviction can be based on DNA evidence alone. My view is that the evidentiary material presented here indicates that the appellant was indeed the source of the DNA traces that were found; and that under the circumstances of the instant case, we can base the conviction on such evidence exclusively.

39. Before I turn to an examination of the instant case, I wish to note that an appellate court will not generally intervene in the findings of fact as they have been determined by the trial court, and the reasons for this are well known (see, for example: CrimA 897/12 *Salhav v. State of Israel* [11] , at para. 30; CrimA 9352/99 *Yomtovian v. State of Israel* [12] , at pp. 643-645).

Nevertheless, when the trial court has no advantage over the appellate court with respect to such findings, the appellate court must subject the trial court's findings to its review, and it must reconsider the issues of reasonableness, logic and common sense in connection with the lower court's factual determinations (CrimA 347/88 *Demjanjuk v. State of Israel* [13], at p. 329).

40. *Collection and handling of the evidence*

The appellant claims that there were various defects regarding the handling of the evidence. The district court discussed these arguments in detail and I see no cause to interfere with its analysis or with the conclusions that it reached. Thus, for example, I am not convinced by the appellant's arguments that there is any reason to doubt the district court's conclusion that the piece of the glove came from the Exhibit itself, and that it was not – as the defense counsel claimed – attached to the Exhibit at some point while the Exhibit was being moved from the crime scene to the laboratory. The district court also dealt with the claim that police personnel who reached the scene of the crime did not examine the piece of the glove, and that the glove cannot be seen in the pictures taken at the scene. I find that the possible explanations suggested by the court regarding this issue – such as that the piece of the glove was caught between the many layers of the strip of adhesive tape in a manner that made it difficult to find, or that it was taped to the back of the Exhibit and was therefore located only afterward, in the laboratory – are acceptable arguments. They are even more acceptable in light of the fact that the district court had the opportunity to examine the Exhibit directly. In any event, a single DNA profile was developed from the piece of the glove, and that profile was identical to the profile that was developed from other parts of the piece of tape that were sampled, and which matched the appellant's genetic profile. Moreover, if the glove had actually come from one of the policemen who handled the Exhibit, the expectation would be that DNA traces from one of the policemen or at least a mixture of different types of DNA would have been found. A memorandum was submitted to the court (P/40) which ruled out a match between the DNA profile found on the strip of adhesive tape and on the piece of the glove, on the one hand, and the DNA samples taken from the relevant police officers, on the other. I therefore believe that there is no real doubt that the piece of the glove was originally in the Exhibit, and that it was not attached at some point while the Exhibit was being transferred from the crime scene to the laboratory.

41. There is also no reason to interfere with the trial court's findings regarding the hair. The proofs presented (P/15, P/17 and P/18) all indicate

that the hairs that were found on the Exhibit were discovered when the Exhibit was received at the fiber and polymer laboratory, shortly after the incident – however, they were only *examined* after a match had been found between the appellant's genetic profile and the DNA on the strip of tape and on the glove, which was some two years after the incident. The respondent explained that in light of the findings derived from the DNA testing at the biological laboratory, there was no need to examine the hairs. In other words, once there was no match between the DNA on the adhesive tape and on the glove and the samples taken from the suspects who had been questioned shortly after the incident, there was no need to examine the hairs, until the match to the appellant's sample was found, accidentally. I would add that the district court's decision indicates that the court was aware that the hairs had been sampled at a later time. Thus, even if, as the appellant claims, a representation was made to the trial court that all the findings from the crime scene had been discovered and examined at the same time, the court was not "fooled" and there is therefore no need to examine the relevance of the said representation, insofar as there is any such relevance.

The forensic findings

42. In this context, the appellant's counsel relied heavily on the unprofessionalism of the Prosecution's Expert and the consequent defects of the findings presented in her opinion. He argued, *inter alia*, that the statistical calculations included in the opinion are not within her area of expertise, and that the fact that she referred to the piece of the glove as being part of the adhesive tape testifies to her lack of professionalism. Here as well I accept the reasoned findings of the district court, and I will only address some of the appellant's claims. The appellant pointed to the fact that the Expert's first assessment regarding the profile obtained from the Exhibit was refuted in her later opinion. According to him, since she was mistaken in her first assessment, none of her findings in her later opinion may be relied upon either. This argument is baseless. Indeed, a memorandum prepared by Investigator Kapuza shortly after the event (P/40) indicates that the Expert had proposed to him that the profile produced from the Exhibit was similar to that of a suspect in the case, and that it was possible that the source for the DNA in the profile was one of the suspect's relatives. However, this conclusion was refuted after the relatives were called in for the required testing and no DNA matches were found. We are therefore dealing with what was only a very preliminary assessment – one that was never supported by an official written and organized opinion (a fact that was also indicated in the

Expert's opinion); this assessment was indeed refuted when a more exact and scientific examination was conducted. But this has no implications for the findings that were obtained regarding the appellant in the later scientific testing, which the appellant was unable to challenge successfully, as will be explained below.

43. The appellant also attacked the Expert's professionalism, charging that she is not familiar with the type of examinations that are carried out in Israel in the field of genetic identification. He based this conclusion on the fact that she stated in her testimony that the customary procedure at the Israel Police is based on an examination of only ten loci, in addition to the locus relating to gender, and that there is no facility in Israel that allows for the examination of 17 loci. (As noted, the loci are composed of the chromosomes of the DNA molecules). The Expert's declaration conflicts, apparently, with the testimony of Professor Motero, according to which it is possible, in Israel, to carry out an examination of 20 loci. It is agreed that the more loci that are examined, the more accurate the result will be. I agree with the district court regarding this matter as well. First, the answers given by the Expert and by Professor Motero indicate that at the Israeli Police, specifically, the norm is to examine sets of ten loci each. Professor Motero added that within other entities there are systems that allow for the examination of 20 loci; an example would be Hadassah Hospital. I do not believe that this matter reveals a lack of expertise or professionalism on the part of the Expert. Second, the Expert is not responsible for the fact that the Israeli Police uses a particular system for DNA examinations. This is not a matter that is up to her personal choice, and thus an argument based on this aspect should be addressed to the police and not personally to the Expert. Third, to the extent that the appellant tried to minimize the level of accuracy of the examinations carried out on the basis of the number of loci that were checked – the expectation would be that this line of argument would have been supported by an opinion based on an examination of more than 10 loci, which it was not. In any event, I note that Professor Motero stated in his testimony that although an examination of more than a specific number of loci will lead to a difference in the statistical calculation, this difference is not relevant, given the size of the Israeli population. The appellant was unable to refute this argument either.

44. The appellant also attacked the substance of the findings. For the purpose of this discussion, we must again specify, at length, the findings of the Prosecution Expert, which, as stated, the district court adopted in full. In her opinion dated 24 February 2009, the Expert sampled five loci on the strip of adhesive tape (marked as 1A through 1E), with area 1E referring to the

piece of the glove attached to the adhesive tape. She found that the DNA profiles produced from three of these sites – 1A, 1C and 1E (the glove) – were identical and matched the appellant's DNA profile, and that based on a statistical measurement and after a statistical correction, the appellant's DNA was a match to the profile of only one in more than one billion individuals. Thus, the likelihood that the DNA that was found belongs to anyone other than the appellant was only one in a billion, within the Israeli population. With regard to area 1B, the Expert noted that the DNA found represented a mixture of material from more than two individuals, and that it was not possible to rule out the appellant's contribution to that mixture. In Area 1D, the genetic material found was not of a sufficient quality to allow for testing (see P/32). In an additional opinion dated 18 March 2009 (P/28), the Expert examined four hairs located within the strip of adhesive tape. She found that one of the hairs, marked 18D, produced a DNA profile – in eight of the ten loci that were examined and in the gender identification locus – that matched the appellant's DNA profile. (No result at all was obtained at the other two loci). Here as well, the appellant's DNA profile was a one in a billion match to the profile that was found. In the other regions that were sampled in this opinion, the genetic material that was found was not sufficient to allow for testing.

To sum up this issue, the Expert determined that the genetic profile produced by the two sites on the strip of adhesive tape (1A and 1C), from the piece of the glove (1E) and from the hair (18D) is a match to the appellant's profile, to a degree of certainty of more than a billion to one. These findings were supported, from a statistical perspective, in Professor Motero's opinion and in his testimony.

45. The appellant claims that these results are not "clean" or unequivocal enough to tie the DNA findings to him. He points to the fact that according to the opinion, none of the examined regions produced a complete match to his genetic profile. Thus, for example, in region 1A there was a sample of a foreign allele, the source of which could have come from an instrument or another person, and in region 18D there was a match in only eight out of ten loci. Furthermore, according to him, the fact that the DNA mixture comes from several persons weakens the court's conclusion that he committed the crime.

46. I cannot accept these arguments. The district court examined, in depth, the results that were received in each region; it reviewed each of the appellant's claims, and decided to adopt the respondent's findings. Indeed,

the evidence presented to the district court, the main part of which was the Prosecution Experts' opinions and testimonies, provides sufficient support for the conclusion that the DNA traces found on the Exhibit belong to the appellant. The Prosecution Expert testified that she was not satisfied with relying only on the match between the DNA on the Exhibit and the appellant's DNA that was already in the police database from a different case – instead she asked to take another sample from the appellant in order to eliminate the possibility of human error and to verify the result in accordance with the laboratory's guidelines, as is also indicated in the documents in the Exhibits file (P/35). In her testimony, she expressed her opinion that the results obtained were unequivocal and that the genetic profile obtained could be viewed as "clean" for purposes of a statistical calculation (see pp. 22-23 of the trial transcript, from 7 December 2009). In response to the district court's question as to whether in her view her submitted opinion was complete, she answered that it was, and explained the reasons for this position (p. 24 of the trial transcript, from 7 December 2009). She also explained the significance of the partial matches that had been obtained. She noted, with regard to region 1C, for example, in which a DNA profile was produced from nine out of ten loci, that this was not a situation in which one of the loci produced a profile that did not match the appellant's profile, which would have led to the entire finding being disregarded because of the non-match; it was instead a situation in which no result was found in some of the loci, while a full match was found in the other loci.

47. Professor Motero supplemented her remarks by discussing the statistical aspect, noting that according to the data that had been obtained, the likelihood that the DNA traces belong to anyone other than the appellant was one in more than a billion. In particular, he referred in his testimony to the probability with respect to region 1E (the glove) and stated that there the likelihood of a mismatch was 1:7,638 billion within the Jewish Israeli population (see p. 7 of the trial transcript, from 12 April 2010). (This is a probability comparable to that found in *Abu Hamad* [1]). Using a statistical calculation that included a theta correction (a correction which compensates for, *inter alia*, the possibility of marriages between relatives within the sub-population to which the profiled person belongs), the probability of a mismatch was found to be 1:1,255 billion. Professor Motero testified that these two probabilities meant that a mismatch was "not within the realm of possibilities" (see p. 9 of the trial transcript, from 12 April 2010). It should also be noted that although Professor Motero repeated that there was no need for a theta correction in this case, since the appellant does not belong to any

sub-group in which there are marriages between relatives, or to any sub-group that is not properly represented in the database (such as Ethiopians and Bedouins), the district court based its decision on the probability that favored the appellant (i.e., that of 1:1,255 billion).

48. Furthermore, it should be noted that in region 1E – the piece of the glove – there was a match for all ten loci; it was thus, undoubtedly, a complete match, as the district court wrote. This is a detail that the appellant has chosen not to discuss, and it weakens his arguments against the other findings considerably.

49. Moreover, the appellant's arguments regarding the body of the findings were not supported by any professional parties. The appellant chose not to carry out any independent testing of the samples and did not present his own scientific opinion to contradict the findings of the Prosecution Experts. This was despite the fact that this is a clear example of an issue that requires expertise. See, in this context, the comments made by Justice Mazza regarding similar behavior in *Abu Hamad* [1]:

> 'The history of the proceeding regarding the petitioner's case indicates that the petitioner did not even attempt to object to the reliability of the prosecution experts' scientific findings. The attorney who acted as his defense counsel did question the experts; nevertheless, he chose not to present his own expert and even waived the opportunity given to him to carry out an independent genetic test. Consequently, the court was not presented with any professional dispute regarding which it needed to render a decision. Under these circumstances, the court was entitled to presume that there was no defect in the procedures involved in the execution of the genetic tests and that the results of the tests were correct . . . ' (*ibid.*, [1] at para. 9).

These words are pertinent for this case as well. Although I am not certain that we need to go so far as to say that the district court was not presented with any "professional dispute regarding which it needed to render a decision" in the instant case – because the appellant did attempt to refute the respondent's findings in his cross-examination. However, this effort was unsuccessful, as the sporadic arguments he raised were satisfactorily answered by the Prosecution Experts' response, and I therefore do not see that he succeeded in presenting any grounds for rejecting the respondent's findings.

50. Finally, with regard to the argument that the DNA mixture found on some of the items on the Exhibit raises questions regarding the appellant's guilt – the discovery of a foreign profile on the Exhibit does not rule out the possibility that the appellant made use of the strip of adhesive tape when the crime was committed. The fact that traces of DNA from other unknown individuals were found does not create a reasonable doubt regarding the possibility of the appellant's involvement in the crime.

51. Thus, the evidence presented indicates that the DNA traces that were found did come from the appellant. Can the appellant's conviction be based exclusively on such findings? I will now respond to this question.

Conviction on the basis of the DNA that was found

52. This issue involves a number of pieces of evidence which match the appellant's genetic profile – the two samples from the strip of adhesive tape, the hair and the glove. The Expert could not determine the particular type of cells that were the source of the DNA that was found, and assumed that they were either skin or saliva cells. She noted in her testimony that she chose to sample the edges of the strip of tape because that is generally where DNA traces are found (either because skin cells from the user adhered to the strip, or because the user tore the strip off from the roll by using his or her mouth). When questioned regarding the matter of the exact location on the strip from which she took the samples and the length of the section that she sampled, the Expert responded by saying that she could not point to the exact spot or to the exact length of the piece, and she explained that when she received the Exhibit from the fiber and polymer laboratory, the adhesive tape strip was open. She also noted on several occasions that the tape was sampled at four different locations (in addition to the hair and the glove). She did not know whether the DNA was found on the piece of the glove had been taken from its external side or from its inner side. She testified that she could not rule out the possibility that had been raised – that the DNA that had been on the tape was transferred to the glove. She also testified that a momentary touch of a roll of tape will not generally leave a trace of DNA –"its not someone who just took the tape from one place to another" – and that only the use of the tape would lead to that result (see p. 4 of the trial transcript, from 7 December 2009).

53. The above details indicate that this is not a situation in which the court is presented with a single item of DNA evidence that was produced from a single segment – rather, the evidence consists of a group of DNA samplings produced from four different locations on the Exhibit: the two pieces of adhesive tape that were taken from different regions on the Exhibit, the piece

of the glove that was found inside the tape, and the hair that was also found attached to the tape. Even if there had been some "internal pollution" within the Exhibit, such that the appellant's DNA was transferred from one part to another – that fact does not negate the presence on the Exhibit of DNA that matched the appellant's details. The Expert's testimony indicated that the presence of DNA on adhesive tape is generally the result of *actual use that was made of the tape, and not of momentary contact with it* – a fact that the appellant did not attempt to contradict. Even if the samples were taken from a piece of the tape that was only ten centimeters long, that fact would not be sufficient to rule out the possibility that it had been used. Additionally, the DNA found on the Exhibit and which belonged to the appellant was found in the course ofa random sampling – according to the Expert, the edges of the strip were cut randomly. I do not believe that a random sampling that produces a number of locations bearing the DNA of the appellant weakens the evidence – to the contrary, it strengthens it.

54. Although the DNA evidence was found on a moveable object which may have been brought from a different place to the crime scene, the evidence indicates that the use that produced the DNA traces took place at the scene of the crime. Thus, for example, Re'ut Biton testified that she heard the noise of someone attaching adhesive tape coming from the door, and that when she opened the door she saw a person (whom she could not identify) who quickly removed his hands from the apartment door, apparently after the taping, and ran away (see pp. 5 and 10 of the trial transcript, from 17 June 2009). We note again that momentary contact with a roll of adhesive tape would not result in the presence of DNA on the tape – only the use of that tape can produce such a transfer of DNA. Given the characteristics of a roll of adhesive tape, it is difficult to believe that the criminal would have *re-used* a strip of tape that had been *previously used* by the appellant. As the district court astutely noted:

> ' . . . A roll of adhesive tape is not the type of product which is re-used. This is due to, *inter alia*, the character of the product, because of which it is almost impossible to revert (the roll of adhesive tape) back to its previous state' (p. 20 of the decision).

55. We now come to the appellant's version of the events. During his questioning and testimony, he denied any connection with the incident, and claimed that he did not know the person who lived in the apartment on the door of which the grenade was taped. He suggested that someone had taken the adhesive tape from the convenience store in which he worked, or removed it from his car. The appellant did not recall what he did on the day

of the incident, and noted that two and a half years had passed since that time. The district court found that these hypotheses had not been proven, even on a *prima facie* basis, and that they were insignificant explanations that did not create any reasonable doubt regarding his guilt. I agree with this conclusion and I have nothing to add, except to repeat the district court's reasoning regarding this matter. The court noted that a roll of adhesive tape is a simple and cheap product and that it is logical that anyone who wishes to use one will use a roll of tape that is already in his house or will go out and buy a new roll. It is also unlikely that a person would re-use a used roll of tape, as described above. Moreover, the appellant has not made any claim regarding the existence of a person with whom he has a disagreement who would wish to incriminate him by planting the adhesive tape at the scene of a crime. Thus, the possibility that he has been deliberately framed must be rejected.

56. I would add that during his interrogation at the police station (P/3), the appellant, who lives in Kiryat Gat, stated that he often goes out to Ashdod at night. He also stated that he has a friend who lives in Ashdod, whom he has visited on several occasions, but never at night. The appellant agreed to point out the location where his friend lives (the demonstration report, P/6) and it appears that his friend lives in a building close to where the Biton family's apartment is located. When the interrogating police officer asked him if it could be that the Biton family's apartment was in the building in which he visited, he stated that it was possible that he went there by mistake upon returning from a night of entertainment and then called his friend who informed him of his error (P/6, at p. 3). When, during his cross-examination, he was confronted with the question of how it was that he had never visited his friend at night but may have accidentally been in the adjacent building when returning from a night out, he changed his story and stated that this had been the only time that he visited his friend at night, and that all the other visits took place during daytime hours (see pp. 24-25 of the trial transcript, from 1 November 2010). When he was asked why he had not provided that information during his interrogation, he responded that much time had passed since then, and he had not recalled the night-time visit when he was being questioned by the police. The fact that the appellant was present so close to the crime scene, and the change in his story regarding the hours during which he visited his friend, provide a certain level of support for the DNA evidence, even though he could have been convicted even without such support.

57. Does the considerable time that passed between the occurrence of the incident and the appellant's police interrogation regarding the incident carry any weight? The appellant believes that he can raise a "principles of justice"

defense pursuant to s. 149(10) of the Criminal Procedure Law [Integrated Version] 5742-1982, arguing that his ability to defend himself was impaired because he was required to provide explanations after so much time had passed since the incident. Included in this, he argued, is his inability to present an alibi defense. He also argued that the police interrogators did not inform him that the incident took place on a Friday night – a fact which ruled out the possibility of his involvement in the incident, as he is a Sabbath observer. From this perspective as well, I did not see a need to interfere with the district court's holding. I do not dispute that the time that had passed before the appellant was questioned had the effect of impairing his ability to mount a defense, but this impairment is not a result of any defects in the process followed by the Israel Police, or in its conduct. The police are not to be blamed for the fact that evidence tying the appellant to the crime was found, by chance, only after two years had passed – when the police had spent this period of time investigating every possible suspect, using every method available to them. Furthermore, the interrogators informed the appellant of the exact date on which the crime attributed to him had taken place. The appellant, knowing that he was a Sabbath observer, could have clarified for himself the day of the week on which the incident had occurred. Either way, the date of the incident was expressly mentioned in Re'ut Biton's testimony, who was the first witness to testify for the prosecution, but the Sabbath observer argument was raised for the first time only a year later. Under these circumstances, I do not believe that the way the case was handled conflicted in a substantive way with the principles of justice and equity.

58. To sum up, the aggregate DNA evidence, combined with the nature of the item on which it was found, while taking note of the appellant's theoretical explanations, leads to a single logical conclusion – that the appellant committed the crimes with which he is charged in the indictment. The appellant carried the grenade from its location to the Biton family apartment, where the grenade was taped to the apartment door. There is no dispute that the grenade falls within the definition of the word "weapons" in s. 144(c)(3) of the Law. The evidentiary material shows that the appellant was involved in taping the grenade to the piece of cardboard and to the door of the apartment, and in this sense the appellant held the weapon on his body or within his reach in a manner that allowed him to use it when needed. Thus, all the elements of the weapons offense, as set out in s. 144(b) of the Penal Code, are present (see Y. Kedmi, *Criminal Law, Part 4* 1973 (2006).

Additionally, I have no doubt that this was an act that was intended, at the least, to constitute intimidation, as that term is defined in s. 192 of the Law. As the district court noted, a person who tapes a grenade to the door of a family's home does so with the intention of harming the residents of the home, or at the very least with the intention of intimidating them, particularly when the residents of the house do not know whether the grenade's safety mechanism will or will not be released. I therefore believe that the elements of the crime of intimidation are also present.

The elements of the offense set out in s. 413 of the Law have also been proven; s. 413 deals with the possession of an item that is suspected of being stolen. The district court held, in this context, that "unlike other weapons, the possession of which is regulated by statute (see for example the Firearms Law, 5709-1949), there is no statutory regulation for the possession of a fragmentation grenade, and no argument can be made that the defendant was licensed to possess it. There is no dispute that a fragmentation grenade is not a product that can be legally and properly purchased from a business or in any other place" (p. 25 of the decision). It can be inferred from this that a fragmentation grenade creates, by its very essence, a non-rebuttable presumption that the item should be suspected of being stolen. However, it is possible to think of ways in which a fragmentation grenade can be obtained in an improper or illegal fashion but not by way of theft, as required by s. 413. (This is in distinction from the provisions of ss. 411 and 412 of the Law, which deal with items that have been obtained through the commission of a crime or a felony. See Y. Kedmi, *Criminal Law, Part 2* (2005) at p. 820). However, in our case the fragmentation grenade had the appearance of an IDF grenade. The appellant even noted, on his own initiative that "there are grenadeslike this in the army" (see P/4, Q. 14), when he was shown a picture of the grenade. Under these circumstances, it appears to me that we can find that a reasonable person, viewing the matter from the appellant's perspective, would understand that this is an item which should have been suspected of being a grenade *that was stolen from the security forces.*

Appeal of the sentence

59. As mentioned, the appellant was sentenced to 24 months in prison and a 12 month suspended sentence, and ordered to pay compensation to Reut Biton in the amount of NIS 2,500. I see no reason to intervene with regard to this sentence. The appellant taped a fragmentation grenade to the door of the Biton family's home; such a grenade is a powerful assault weapon, the use of which is likely to cause random death. The police bomb squad who handled the grenade at the scene offered contradictory opinions of whether the taping

of the grenade was intended to serve as intimidation only, or whether the taper had actually intended to explode the grenade, but was interrupted because the door opened. This question was not decided by the district court in its decision, but the court expressed its opinion in its sentencing decision: that given the manner in which the grenade was attached with a string attached to the safety mechanism, the intention was to set it off. In my view, even if the intention had only been to intimidate, the sentence that was given was appropriate in light of the high risk involved in the use of this type of weapon and in the manner in which it was attached. This risk was one that the appellant took upon himself through his actions. Added to all this is his serious criminal record, which includes many convictions for property and drug offenses, for which he had previously served several prison sentences. He also committed crimes after this incident, despite his claim that he has been reformed since his marriage in 2005. Given the relevant considerations, I believe that the sentence that was imposed on the appellant is an appropriate one and accurately reflects the severity of the acts that he committed.

Final comments

60. For the reasons described above, I suggest to my colleagues that we deny both parts of the appeal.

Justice U. Vogelman

I join in Justice E.Arbel's opinion, which holds that there is nothing in principle that prevents the conviction of a defendant on the basis of DNA evidence alone and that, under the circumstances of the case before us, there is no reason to intervene in the district court's decision.

Justice T. Zilbertal

I concur.

Decided as *per* Justice E. Arbel

8th of Tishrei 5773.

24 September 2012.