ARTICLE:

The Garlasco case and the digital alibi evidence: a difficult relationship between law and informatics

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This article focuses on investigating the importance of the computer-based alibi in what is an emblematic Italian case, known as the Garlasco case. Critical analyses of the procedural findings are considered, and the author questions the difficult relationship between science and law.

A reconstruction of the decisions in Garlasco case: the digital alibi evidence

On 31 October 2008, the Public Prosecutor's Office of the Court of Vigevano filed a request for referral to initiate a further investigation against Alberto Stasi, the only person registered on the crime register for the murder of Chiara Poggi, committed in Garlasco in the province of Pavia on 13 August 2007.[1] By a decision dated 30 April 2009, the judge of first instance ordered the acquisition of further evidence in the case, including a technical assessment of an informatics expert (hereinafter 'digital evidence professional'), under the provisions of art. 441, paragraph 5 of the Criminal Procedure Code (c.p.c.).

In this judicial phase, a number of questions had already been raised by the judge, including the issue of the falseness of the digital alibi annexed to the evidence presented in court by Stasi. Alberto Stasi claimed that he had worked on his laptop computer to write his degree thesis at the time Chiara Poggi was killed. In previous evidence, he had never spoken about his study activity, and he reconstructed the contacts he had with his girlfriend, by mobile telephone and by fixed telephone. On 22 August 2007, Stasi (who was now the only person accused of the murder) specified that on the day of his girlfriend's murder, he was busy writing at his computer between 09:45 am and 10:00 am. He received a call from his mother on the fixed telephone line, and then he claimed that he continued using his computer until 12:20 pm.

Stasi spontaneously handed his laptop to the police on 14 August 2007, the day after the murder. From that moment until 29 August 2007, when the computer was handed over to the technical advisers of the Public Ministry for the execution of forensic copies of the content, the police obtained access to the computer, failing to apply any forensic investigation operational protocols, as recognized by the computer forensic community.

At the end of the technical investigations carried out by digital evidence professionals, it was shown that his computer was viewed seven times (not five as originally reported) on the morning of Chiara Poggi's murder. It was also established that a number of USB devices were installed and used, and the Stasi opened and closed (and saved) the thesis files many times, and with different files. All the inaccuracies of the first improper investigations carried out on the computer were clearly highlighted in the first paragraph in the report of Dr Porta and Dr Occhetti. The technical advisers from the Public Ministry (Ris of Parma) confirmed this analysis, concluding in the following terms:

> (i) On 13 August 2007 (the day of Chiara Poggi's murder) Stasi's laptop was turned on at 09.36.
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> (ii) Digital photographs were opened until 09.57 pm (pornographic images).
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> (iii) After 10.17 there were no further traces of use to prove the active presence of a user.

The evidence from the technical defence counsel underlined that the thesis file was opened at 10.17, and at least two pages were written and stored during the morning of the crime. The judge questioned the legal basis of the first investigations on Stasi computer because the investigating authorities failed to indicate

[1] This article reconstructs only the main part of the decision in the proceedings against Alberto Stasi. For a full view, we invite you to read the complete text, Trib. Torino, ud. 19 aprile 2011, Franzoni e altro, Est. Arata.

the legal reasoning for their initial search of the computer. The initial searches on the computer could not be traced either to a legally authorized search or to an inspection, or to a non-repeatable technical assessment, because the investigators failed to provide a complete analysis of what they did in IT report. The judge defined this activity as an active intervention, according to the combined provisions of artt. 55 and 348 c.p.c. in order to gather all the useful elements for the reconstruction of the fact.

Art. 55 Funzioni della polizia giudiziaria.

1. La polizia giudiziaria deve, anche di propria iniziativa, prendere notizia dei reati, impedire che vengano portati a conseguenze ulteriori, ricercarne gli autori, compiere gli atti necessari per assicurare le fonti di prova e raccogliere quant'altro possa servire per l'applicazione della legge penale.

2. Svolge ogni indagine e attività disposta o delegata dall'autorità giudiziaria.

3. Le funzioni indicate nei commi 1 e 2 sono svolte dagli ufficiali e dagli agenti di polizia giudiziaria.

Article 55 Functions of the judicial police.

1. The judicial police must, on their own initiative, take notice of the offences, prevent further consequences, seek the perpetrators, and perform the necessary acts to secure the sources of evidence and collect anything else that may serve for the application of the criminal law.

2. It shall carry out any investigation and activity that is prepared or delegated by the judicial authority.

3. The functions indicated in paragraphs 1 and 2 shall be carried out by officers and judicial police officers.

Art. 348. Assicurazione delle fonti di prova.

1. Anche successivamente alla comunicazione della notizia di reato, la polizia giudiziaria continua a svolgere le funzioni indicate nell'articolo 55 raccogliendo in specie ogni elemento utile alla ricostruzione del fatto e alla individuazione del colpevole.

2. Al fine indicato nel comma 1, procede, fra l'altro:

a) alla ricerca delle cose e delle tracce pertinenti al reato nonché alla conservazione di esse e dello stato dei luoghi;

b) alla ricerca delle persone in grado di riferire su circostanze rilevanti per la ricostruzione dei fatti;

c) al compimento degli atti indicati negli articoli seguenti.

3. Dopo l'intervento del pubblico ministero, la polizia giudiziaria compie gli atti ad essa specificamente delegati a norma dell'articolo 370, esegue le direttive del pubblico ministero ed inoltre svolge di propria iniziativa, informandone prontamente il pubblico ministero, tutte le altre attività di indagine per accertare i reati ovvero richieste da elementi successivamente emersi e assicura le nuove fonti di prova.

4. La polizia giudiziaria, quando, di propria iniziativa o a seguito di delega del pubblico ministero, compie atti od operazioni che richiedono specifiche competenze tecniche, può avvalersi di persone idonee le quali non possono rifiutare la propria opera.

Art. 348. Provision of test sources.

1. Even after notification of the criminal offence, the judicial police are to continue to carry out the functions referred to in article 55 by collecting, in particular, any useful element for the reconstruction of the fact and the identification of the offender.

2. For the purpose indicated in paragraph 1, it shall, among other things:

a) search for things and traces relevant to the offence, as well as the preservation of them and the state of the sites;

b) search for persons able to report on circumstances relevant to the reconstruction of the facts;

c) complete the acts indicated in the following articles.

> 3. After the intervention of the public prosecutor, the judicial shall police carry out the acts specifically delegated to him pursuant to article 370, execute the directives of the public prosecutor and also on his own initiative, promptly inform the public prosecutor, all other investigative activities to ascertain the crimes or requests for elements that subsequently emerge and to provide new sources of evidence.
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> 4. The judicial police, when acting on their own initiative or following the delegation of the public prosecutor, may use suitable persons who cannot refuse their work to perform acts or operations requiring specific technical skills.

The same judge also understood that this activity was carried out in violation of the rules laid down by the forensic investigation protocols (although they are not binding) and that the investigators omitted to appoint an appropriately qualified digital evidence professional. However, notwithstanding the adverse effects that occurred because of such inappropriate action by the first investigators (Carabinieri, Polizia and Guardia di Finanza), the Court of Vigevano recognized the goodwill of the actions undertaken.

The digital evidence professional appointed by the judge was able to reconstruct the alibi put forward by Alberto Stasi, recovering the integrity of the thesis file prior to system crashes, and they were also able to obtain a copy of the document provided by the technical defence consultants.

However, the digital evidence professionals for the public prosecutor pointed out that the lack of temporary files demonstrated a clear proof of the absence of activity at the computer on the morning of the murder. The digital evidence professional for the defendant concluded that the accused had concentrated on writing in accordance with the activity on the thesis file. The underlying doubts, generated in particular by failure to view the computer in an appropriate forensic manner, created some debates between the digital evidence professionals. A further issue addressed by the digital evidence professionals concerned the correspondence between the times associated with the computer activity detected on the laptop and the real time, as well as the absence of evidence that the clocks on the computer were altered. The digital evidence professionals found that Alberto Stasi had limited computer skills.

At the end of the first trial on 17 December 2009, Alberto Stasi, the only defendant, was declared not guilty of murder.

The importance of the digital alibi evidence for the defence was clear in the judgment. Based on the technical findings, which were accepted by the judge, Stasi was at in his home and was working on his computer during the morning of Chiara Poggi's death. This computer alibi, although initially undermined by the wrongful acts of the police, causing a large part of the data to be altered or destroyed, was considered to be correct and, taken together with other evidence, led the judge to decide on acquittal.

The whole process was very complex, full of technical assessments and testimonies and statements of the accused. The prosecution and Chiara Poggi's parents appealed the first-instance decision. In particular, the lawyers for Chiara Poggi's parents noted that the computer, due to the destruction of many of the data, did not permit a correct reconstruction of the facts. The Attorney General also argued that the technical evidence demonstrated that the alibi was not to be trusted. By judgment of 6 December 2011, the Court of Appeal in Milan confirmed the first-instance verdict.[2] In particular, considering the alibi of the evidence of digital activities on the computer, the court underlined that the digital evidence professionals used methodological approaches approved by the scientific community, so the results could be considered valid and deserving of acceptance. The judges made no mention of the wrong approach of the first investigations that changed the evidence, other than stating that the data saved were sufficient to be reliable evidence. The court said that the digital evidence demonstrated purely casual circumstances that did not allow a complete investigation of what really happened, leaving a reasonable doubt about the culpability of Alberto Stasi.

Following an appeal to the Court of Cassation in a judgment dated 18 April 2013, the appeal was annulled and the case was sent back to another section of the Court of Appeal in Milan. The Supreme Court discussed the evaluation and use of the evidence. It is for the judge, in the formation of his free belief, to evaluate all the findings. According to

[2] Trib. Torino, ud. 19 aprile 2011, Franzoni e altro, Est. Arata.

the provisions of art. 192 paragraph 2 c.p.c., the result of logical reasoning must lead to a decision with a high degree of credibility:

> Art. 192. Valutazione della prova.
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> 1. Il giudice valuta la prova dando conto nella motivazione dei risultati acquisiti e dei criteri adottati.
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> 2. L'esistenza di un fatto non può essere desunta da indizi a meno che questi siano gravi, precisi e concordanti.
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> 3. Le dichiarazioni rese dal coimputato del medesimo reato o da persona imputata in un procedimento connesso a norma dell'articolo 12 sono valutate unitamente agli altri elementi di prova che ne confermano l'attendibilità.
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> 4. La disposizione del comma 3 si applica anche alle dichiarazioni rese da persona imputata di un reato collegato a quello per cui si procede, nel caso previsto dall'articolo 371 comma 2 lettera b).

> Art. 192. Test evaluation.
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> 1. The judge shall evaluate the evidence by taking into account the justification for the results obtained and the criteria adopted.
>
> 2. The existence of a fact cannot be inferred from clues unless these are serious, precise and concordant.
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> 3. Declarations made by the convicted person of the same offence or by a person charged with a proceeding pursuant to article 12 shall be assessed together with the other evidence confirming their reliance.
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> 4. The provision of paragraph 3 shall also apply to declarations made by an accused person of an offence related to the one for which it is proceeded, in the case provided for in article 371, paragraph 2, letter b).

Also, according to art. 533 c.p.c., the court can only find the accused guilty if he can be considered guilty beyond reasonable doubt:

> Art. 533. Condanna dell'imputato.
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> 1. Il giudice pronuncia sentenza di condanna se l'imputato risulta colpevole del reato contestatogli al di là di ogni ragionevole dubbio. Con la sentenza il giudice applica la pena e le eventuali misure di sicurezza.
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> 2. Se la condanna riguarda più reati, il giudice stabilisce la pena per ciascuno di essi e quindi determina la pena che deve essere applicata in osservanza delle norme sul concorso di reati e di pene o sulla continuazione. Nei casi previsti dalla legge il giudice dichiara il condannato delinquente o contravventore abituale o professionale o per tendenza.
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> 3. Quando il giudice ritiene di dover concedere la sospensione condizionale della pena o la non menzione della condanna nel certificato del casellario giudiziale, provvede in tal senso con la sentenza di condanna.
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> 3-bis. Quando la condanna riguarda procedimenti per i delitti di cui all'articolo 407, comma 2, lettera a), anche se connessi ad altri reati, il giudice può disporre, nel pronunciare la sentenza, la separazione dei procedimenti anche con riferimento allo stesso condannato quando taluno dei condannati si trovi in stato di custodia cautelare e, per la scadenza dei termini e la mancanza di altri titoli, sarebbe rimesso in libertà.

> Art. 533. Convicting the defendant.
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> 1. The court shall rule on the conviction if the accused is guilty of the offense complained of beyond any reasonable doubt. With the judgment the judge applies the penalty and any security measures.
>
> 2. If the conviction concerns more than one offence, the court imposes punishment for each of them, and then determines the penalty that must be enforced in accordance with the rules on offences and penalties or on continuation. In the cases provided for by law, the court declares the innocent convicted or a habitual offender or professional or tendentious.
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> 3. When the judge considers that he has to grant the conditional suspension of the sentence or the non-mention of the conviction in the criminal record certificate, he or she shall order the conviction.

> 3-bis. When the conviction concerns proceedings for offences referred to in article 407, paragraph 2 (a), even if related to other offences, the court may, when pronouncing the judgment, separate the proceedings with reference to the same convicted when some of the convicted are in custody and, due to the expiry of the terms and the lack of other titles, they would be released.

The Court of Cassation, for its part, did not re-evaluate the evaluation of the content of the evidence, but found that the Court of Appeal's method of assessing the evidence was flawed, as it did not assess the evidence comprehensively. For example, the court failed to consider that there was no alibi for the accused other than the digital evidence. The Court of Appeal also failed to consider the negligence of the police committed during the investigation. For this and other reasons, the Court of Cassation annulled the judgment by referring the case back to the Court of Appeal, which took note of the decision of the Court of Cassation and found Alberto Stasi guilty of the murder of Chiara Poggi. A further appeal to the Supreme Court brought by the defence was declared invalid, and the decision was confirmed on 12 December 2015.

Alibi evidence in the Italian criminal system

The alibi has always been the subject of reflection for scholars of the Italian criminal trial[3] because of its unique position in criminal trials. Often alibi evidence is considered to be of decisive value in Italian jurisprudence.[4] The alibi should attest to the truthfulness of the fact alleged, or attest to another fact that necessarily admits or excludes it. The attention focuses on the establishment of the alibi. The value of an alibi in a legal system is devoid of any hierarchy of evidence, yet (and above all) the debate is about the classification of the alibi in the Code of Criminal Procedure: in Italy it is considered as a test medium and in particular as a negative test, or indirect evidence. The term 'alibi' is not defined within the Code. The term, often used in common language, is generally considered an excuse. The legal gap, however, is partly covered by reference to art. 358 c.p.c. by which the public prosecutor is required to carry out investigations that exonerates the accused as well as to demonstrate possible guilt:

> Art. 358. Attività di indagine del pubblico ministero.
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> 1. Il pubblico ministero compie ogni attività necessaria ai fini indicati nell'articolo 326 e svolge altresì accertamenti su fatti e circostanze a favore della persona sottoposta alle indagini.

> Art. 358. Investigative activities of the public prosecutor.
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> 1. The public prosecutor shall perform all necessary activities for the purposes specified in article 326 and shall also carry out investigations into facts and circumstances in favour of the person under investigation.

The alibi involves establishing, as a preliminary issue, where the accused says they were at the time of the fact. In this respect, it limits the free evaluation of the evidence, taken from the consolidated jurisprudential decisions that provide for gravity, precision and concordance, duly codified in art. 192 c.p.c. In the case of Garlasco, the suspect provided the alibi at a late time in the investigation, thereby activating the duty of the public prosecutor to carry out investigations aimed at confirming or undermining the alibi.

Alibi evidence is important, but less valuable when it is provided late and can therefore be invented. This doubt, according to the provisions of art. 530 c.p.c., is not capable of being overcome by any reasonable doubt about the culpability of the accused:

> Art. 530. Sentenza di assoluzione.
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> 1. Se il fatto non sussiste, se l'imputato non lo ha commesso, se il fatto non costituisce reato o non è previsto dalla legge come reato ovvero se il reato è stato commesso da persona non imputabile o non punibile per un'altra ragione, il giudice pronuncia sentenza di assoluzione indicandone la causa nel dispositivo.
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> 2. Il giudice pronuncia sentenza di assoluzione anche quando manca, è insufficiente o è

[3] See E. M. CATALANO, *La prova d'alibi* (Giuffrè, 1998), regarding the alibi in the Italian judicial system and for a comparative view with common law systems.

[4] See V. MANZINI, Trattato di diritto processuale penale, vol. III, Utet, 1970 and 'Alibi' in Nuovo Digesto Italiano, Utet, 1937, p. 323 ss.

contraddittoria la prova che il fatto sussiste, che l'imputato lo ha commesso, che il fatto costituisce reato o che il reato è stato commesso da persona imputabile.

3. Se vi è la prova che il fatto è stato commesso in presenza di una causa di giustificazione o di una causa personale di non punibilità ovvero vi è dubbio sull'esistenza delle stesse, il giudice pronuncia sentenza di assoluzione a norma del comma 1.

4. Con la sentenza di assoluzione il giudice applica, nei casi previsti dalla legge, le misure di sicurezza.

Art. 530. Absent judgment.

1. If the offence does not exist, if the defendant did not commit it, whether the fact does not constitute a crime or is not provided for by law as a criminal offence or if the offence was committed by a person who is not imputable or not punishable for another reason, the court shall issue a judgment of acquittal indicating its cause in the case.

2. The judge also makes a judgment of acquittal even when it is absent, insufficient or contradictory evidence that the fact that the defendant has committed him is that the fact constitutes a criminal offence or that an imputable person committed the offence.

3. If there is evidence that the matter has been committed in the presence of a cause of justification or of a personal case of non-punishment or there is doubt as to the existence of the same, the court shall issue an acquittal pursuant to paragraph 1.

4. With the judgment of absolution, the court applies, in the cases provided for by law, security measures.

The alibi is no less relevant (as in Garlasco case) when it is annexed to the papers in the case at a late stage of the proceedings, since there is no strict statutory prescription imposing time-limits at the expense of inadmissibility or probative inadmissibility or inaccuracy.[5] However, an alibi remains an indispensable test that needs to be corroborated. Each clue and therefore every alibi must be investigated and studied to find its probative value and also the truthfulness of the assertions. If the evidence does not exceed the threshold of gravity and accuracy in accordance with the rules set out in art. 192 comma 2 c.p.c., it does not have to be assessed as part of the entirety of the results of the investigation (Court of Cassation 33748/2005, Mannino).

The false alibi evidence and the conviction of the judge

The trial for Chiara Poggi's murder has exposed the problem of the boundary between properly acquired and unaltered digital data as a means of proof. The operational misconduct of the police in their early activities on the computer led to problems of authenticity of the evidence. The judge deemed it necessary to have a digital evidence professional conduct an investigation, requesting them to make copies conforming to the original in order to guarantee the integrity of the digital data, and asked them to highlight alterations in the content of the data themselves, as well as to quantify the loss of digital evidence. It turned out that more than 70 per cent of the digital data was lost. Despite this, however, the judge felt that the evidence of the digital data that was presented remained reliable, because the police responsible for conducting the first investigation of the computer did not act in bad faith. In addition, the evidence from the computer constituted the first and only field contact with the offence and the police, acting, as they did, within the powers granted to them in accordance with the provisions of art. 55 c.p.c. The importance of this activity should have required a more rigorous investigative methodology by the use of digital evidence professionals in order to avoid the contamination of the digital evidence.[6] The problem is, the neither the Criminal Procedure Code nor any other legislation, regulations or relevant case law specify the investigative and intervention methods to

[5] See E. M. CATALANO, La prova indiziaria, in AA.VV. Prova penale e metodo scientifico, Utet, 2009. The case law on legitimacy was criticized in a decision of merit, part of which included the allegations of alibi that were not satisfied because the texts were late (Court of Cassation, 21 October 1992).

[6] See P.L. PERRI, Un'introduzione alle investigazioni scientifiche, in Ciberspazio e diritto, vol. 9, n. 2, pp. 145 ss.

be followed regarding computer data to provide for maintainance of the integrity of the data.[7]

The Garlasco case is not an isolated case where the erroneous acquisition has led to the loss of digital data in the absence of the use of best practice regarding computer forensics in the acquisition of electronic evidence. Although the principle of *stare decisis* is not applied in Italy, a court decision could open the field to greater sensitivity to the problem. Italian law enforcement officers have drawn up intervention guidelines for computer investigations, but for the sole purpose of internal use. An *Electronic Evidence Guide* was drafted and translated at European Union level, and there are also other important guidelines, but none of them are binding.[8]

The conclusion reached by the judge of first instance in the case of Garlasco is not surprising, considering the favour towards the accused, recognized in the criminal and constitutional law in articles 24 and 27 of the Constituzione della Republica Italiana (Constitutional Law). However, the methodology of computer forensics should be analyzed not only in the perspective of the rights of defence and freedom, but also according to the neutral requirements of the reliability of the assessment, especially because the data can be altered or rendered inaccurate.

The exclusionary rules protect the reliability of the evidence. Where data is acquired incorrectly, it would be appropriate to consider appling an exclusionary rule. However, the judge, even though he cannot ignore the standards set by the scientific community, remains free to assess the methods by which digital data is seized. Moreover, in the Franzoni case, 31456/2009 the Court of Cassation stated that a person could be considered guilty if it is not possible to reconstruct the facts to demonstrate they cannot be guilty.

The Court of Bologna, in the Vierika case, on 21 July 2005,[9] was the first to consider the invalidity of computer forensic analysis in criminal cases. Even though the computer operations could not be repeated, and the investigators failed to observe best practice forensics, the judge still felt that this did not give rise to the automatic exclusion of the probative material collected. The judge referred to art. 192, paragraph 1, c.p.c. by which the interpreter can also evaluate the digital evidence gathered in violation of any valid acquisition criteria.

Article 348 c.p.c. (noted above) contains only one limitation regarding computer investigations: the judicial police have an ability but not an obligation to avail itself of technicians for complex technical operations. If the process of computer data acquisition is rigorous and based on scientific standards, the likelihood is that the judge will be persuaded by the results. The provisions of art. 192 c.p.c. (noted above), clearly state the principle that the evidence gathered can be freely evaluated, and art. 191 c.p.c. sanctions the unsuccessful outcome of the evidence obtained in violation of the prohibitions established by the law:

> Art. 191. Prove illegittimamente acquisite.
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> 1. Le prove acquisite in violazione dei divieti stabiliti dalla legge non possono essere utilizzate.
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> 2. L'inutilizzabilità è rilevabile anche di ufficio in ogni stato e grado del procedimento.
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> 2-bis. Le dichiarazioni o le informazioni ottenute mediante il delitto di tortura non sono comunque utilizzabili, salvo che contro le persone accusate di tale delitto e al solo fine di provarne la responsabilita' penale.

> Art. 191. Unlawfully acquired evidence.
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> 1. Evidence acquired in violation of the prohibitions established by law cannot be used.

[7] Some legislative reference in this matter is contained in the Italian Criminal Procedure Code by law n. 48/ 200 (Legge 18 marzo 2008, n. 48), but the system is still insufficient and deserves substantial implementation.

[8] *Electronic evidence – a basic guide for First Responders Good practice material for CERT first responders* (European Union Agency for Network and Information Security, 2014); *Electronic Evidence Guide A Basic Guide for Police Officers, Prosecutors and Judges* (Council of Europe, 15 December 2014, v 2.0) – this publication mentions the second edition of *Electronic Evidence*, which is now in the fourth edition and a free download: Stephen Mason and Daniel Seng, editors, *Electronic Evidence* (4th edition, Institute of Advanced Legal Studies for the SAS Humanities Digital Library, School of Advanced Study, University of London, 2017), available at http://ials.sas.ac.uk/digital/humanities-digital-library/observing-law-ials-open-book-service-law/electronic-evidence (this book includes the Draft Convention on Electronic Evidence, published as a supplement in the *Digital Evidence and Electronic Signature Law Review* in 2016.

[9] See L. Luparia and G. Ziccardi Investigazione penale e tecnologia informatica, Giuffrè 2007.

> 2. Usability is also detectable by office in every state and degree of the procedure.
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> 2-bis. The declarations or information obtained through torture tort cannot be used unless they are accused of the crime and only for the purpose of proving their criminal responsibility

Regarding these provisions, there is a lack of well-regulated practices for the collection of digital evidence. The Court of Cassation, in the case of Franzoni, expressed itself as follows: 'the judge is free to evaluate the evidence collected, organizing them and giving each of them the weight and meaning it is considered appropriate and even more'.[10] In the probative judicial assessment it is correct to link to the maximum of experience, but it is also necessary to exclude any alternative explanation that invalidates the hypothesis to the most likely appearance.'[11] The decisions in Garlasco case are not consistent with the increased sensitivity regarding the use of the best practices of computer forensics in the collection of digital evidence. No one decision gives the right consideration to this important element.

The Garlasco case also raised the problem of the possibility of false alibi. The idea of creating a computer alibi is neither a novelty nor a sporadic event, but the tools to support both criminals and investigators are constantly evolving, and it is necessary to be aware of the changes that are easily made to digital data.[12]

It must be remembered, however, that the alibi evidence alone is not sufficient for an accused to be declared guilty, because other evidence must corroborate it. The defendant is not obliged to present an alibi as proof his innocence. Equally, if alibi evidence is not confirmed before the court, the judge cannot use it against the defendant. The position is different where it is demonstrated that the alibi is false. A false or misleading alibi can be used as evidence of dishonesty, although alone it is not enough to prove the defendant is the culprit. The jurisprudence permits the defendant to defend himself by lying.

Conclusions

There is undoubtedly scientific interest around the digital alibi evidence in criminal cases, and the Garlasco case is certainly emblematic. The decision of first instance in the Garlasco case was clearly incorrect, not argued comprehensively and devoid of critical issues related to computer investigations and evidence. However, even in the revised judgment, the judges did not give a more accurate evaluation of the incorrect computer forensic activities. Computer science is constantly evolving, and as a result, it is not possible to specify and regulate precisely each activity, but it is possible to provide general guidelines that are useful in any investigative activity in the field of computer science.[13]

As far as a false or misleading alibi is concerned, it must be corroborated by other elements, although a false or misleading alibi could have been presented not so much to prove innocence, but to hide other elements (even private ones). The decision in the Garlasco case, although not the only case involving a significant computer alibi, helps to focus on several forensic computer science issues. It is necessary to review the Italian Criminal Procedure Code, especially regarding the system of evidence and digital evidence in order to help the interpreter who, more and more often, has to evaluate scientific evidence. All these problems have to be solved not only by considering the national legal system, but also by looking at the experiences in other jurisdictions, considering that we are moving towards the creation of the European Public Prosecutor's Office and that the evidence is not just locked up within a single nation.

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[10] Court of Cassation 14 febbraio 1992, n.8040.
[11] Court of Cassation 21 ottobre 2004, n. 4652.
[12] See *Electronic Evidence*, chapters 2 and 9 in particular.
[13] See *Electronic Evidence*, chapter 7 and the tests set out at 7.128, which are replicated in the Draft Convention on Electronic Evidence.