

COURT OF PERUGIA Assize Court
SEC. Hearing

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PRESIDENT Dr. Maseo

CRIMINAL PROCEDURE No. 8 / 2008 RG

AGAINST: AMANDA MARIE KNOX + 1

SITTING ON 23/05/2009 Classroom

Result: RETURN TO May 29, 2009.

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COURT OF PERUGIA

Assize Court

Chairwoman

- Mr.

Masseo

Assessors:

Dr.

CHRISTIANS

Prosecutor:

Dr.

COMFORTABLE

Prosecutor:

- Mr.

Mignini

Chancellor:

Mrs

BERTINI

Technical Assistants:

Mrs

Lioi

Audience Hall 23/05/2009

No criminal proceedings 8 / 08

AGAINST AMANDA MARIE KNOX + 1

At this point, the Chairman of the Constitution shall

Parts such as the minutes prepared by the clerk of the hearing.

PRESIDENT - It shall inform the expert transcriber has filed a notice that is put at the disposal of the Parties, shows a particularly large number of conversations I urge that the defense has requested.

DEFENSE - Attorney Maori - I wanted to say that the difficulties to which reference was made to Dr. Paggi are twofold, one in relation to the many, many phone calls about the family and urge another difficulty is inherent in the environmental-language conversations, it seems that there are of long

some eavesdropping to conversations in close American dialect, this is what Dr. Paggi, but I think it is appropriate and necessary to ensure that it is assisted by a translator. With regard to telephone tapping telephone conversations of 12 family urge that have been put under interception last time I referred to the fact that you can not, as was evidenced by the Public Ministry, extract only those

600 - 400 - 500 phone calls, you need to see everything in a unit for the reasons I can also believes that if re-explain.

PRESIDENT - I have brought to the attention of the Parties to verify the possibility of making a further reduction, if the Court can not be ...

DEFENSE - Attorney Maori - All or nothing. If the prosecutor agrees, then eliminate entirely the transcripts of phone calls regarding the family, I urge that, moreover, have nothing to do with this process, since the typical subjects, different from the current defendants. Or eliminate them all, so do not ask for a transcript of anything, or if you have to make the transcript is made of all calls. PRESIDENT - The problem has been placed and if it is possible to achieve a reduction in the terms indicated they will take note and if you can not possibly continue allowing the experts to make use of auxiliary officers to manage their

activities for the next hearing all the parties on this ... maybe because of the time it will take for the next hearing otherwise indicated.

It continues with an examination of the witness Dr. Stefanoni that is present, the examination was conducted by the lawyer by his widow. Go on, Lawyer.

CONTINUATION OF THE EXAMINATION

DOCTOR Stefanoni PATRIZIA

DEFENCE - Mr. Dalla Vedova

QUESTION - Hello, Doctor, and thanks again. So, I wanted to come back briefly on his thoughts on the points that you have considered and listed as the most important and worthy of study, especially on the

three indications of the bath, and correct me if I'm wrong, the first is the Q-tip, on the box a cotton swab, then the sink and bidet on the third, where there appears to be a mixture of biological element of Knox and Kercher, first of all I can confirm?

ANSWER - Yes, I take a moment ...

Q. - Perhaps, yes. Look I think the 73 of his slide.

ANSWER - No, I think it's something more ... Then, there is a sampling artifact 24, which is that of the tap, but only where there is blood Knox and then there are the others.

Q. - So what if you want to look first seen on the tap that has indicated, however, because I'd do it later. ANSWER - Yes, okay.

Q. - What is blood on the tap of Knox, and the first question is: Is the blood was fresh or stale?

ANSWER - No, it was definitely coagulated blood, we say.

Q. - And it's dated the moment when this blood was placed on the tap?

ANSWER - No, not dated.

Q. - So in theory could also be a month before?

RESPONSE - In the event, in the abstract, yes.

Q. - This was on the tap, tap on the top?

ANSWER - Yes, as you can ... in fact shown here with the green circle, is right on the front, just tap on the end which then goes to the sink.

Q. - But the other tracks on the sink, look now, are traces of substances found in the basin of the sink.

ANSWER - Yes, I've got aspects of this ...

Q. - If the photo otherwise we can also see a ... Here.

REPLY - Oh, that one of the sink. Q. - sink.

ANSWER - Okay, this one.

Q. - Well, this. She said, as he did for the bidet, which was actually a track red, pink ...

ANSWER - Pink.

Q. - And then she has defined as a substance diluted share, in technical terms seems to me that they say the blood washed away.

ANSWER - Yes.

Q. - So I ask: But do you think would like to say that both objects, ie the sink and wash basin, are actually water tanks and then everything ...

ANSWER - sink and bidet, I'm sorry.

Q. - The sink and bidet are actually pools of water where the use is made just for cleaning, so anything that is left in a sink and a bidet in action undergoes washing, and then is diluted. Do you agree with this statement?

ANSWER - Yes, if it is not rinsed, precisely the service, then the bidet or sink obviously what cola in can be diluted with water that flows, but, in fact, you can stay.

Q. - you said that the tracks that were found were wet or dry, dry?

ANSWER - They were dry.

Q. - And these can be dated? ANSWER - No.

Q. - And because I think the result is mixed Kercher - Knox she can explain and tell us if it was the first place of a biological element, for example of Kercher and then that of Knox, or vice versa, you can do this assessment?

ANSWER - No, it is technically possible, because it is being mixed and simultaneously present in the track you can not have a first and after the two DNA.

Q. - And also in relation to the amount of biological material of each, Kercher - Knox, if one is more or less of the other, as it is a mixed track, she first has to identify the quantity?

RESPONSE - In total, yes, because this is possible, you can analyze, from the quantitative point of view of course, the whole track, so in total before I take precisely the analysis of capillary electrophoresis, and real analysis own, I determines the amount of DNA in the tube, this amount was determined by technical factors but absolutely can not separate the amount of one and the other being the amount of quantification, it can be seen only in the analysis phase , then the electropherogram, for example we see here, shows the two reports say the DNA present. So we can not numerically under

separate quantification, however, you can do when I have the data.

Q. - But I wanted to know on information that there are different amounts of organic material mixed on the same track you can make an educated guess to put the track before the track B or not?

RESPONSE - Time-no, the quantitative side we say it can determine with a good estimate.

Q. - But what interests me is whether I can use it in a sink, I think on a daily basis, and a bidet, also used this in a daily basis by roommates it was possible that these mixed elements have been placed in their respective , at different times by two people, this is what I wanted to know, she can answer on this?

ANSWER - I told you it is not scientifically possible to determine if one followed the other or vice versa, however, are mixed in the same places, however, that there are exactly two points in the same DNA, championship course. Q. - You made a comparison with the DNA of the other roommates, that of Romanelli and Mezzetti?

ANSWER - No.

Q. - On the sink and bidet? ANSWER - No, it was done.

Q. - Also on _he bidet is a movie where you see the repertoire of these elements.

ANSWER - Yes.

Q. - And you can see a collection with a first buffer, with a special little piece on the board and then connecting it with the same rag that has come here to testify then raised the matter that was around the ring instead of unloading the bidet.

ANSWER - Yes it is.

Q. - On why she believes that those who have been complied with the protocols of the find, because only October 4th we heard her say, "But in reality it is a swipe of a same track," but in its report of June 12 you speak of tracks on the edge and then draw on the ring connection as if they were two different tracks. ANSWER - No, I do not think this thing is called.

Q. - were finding a trace on the board and then draw on the ring of the bidet, but she believes it's all ... We can point, to see if He's got a photograph, if He's got the movie.

ANSWER - There is a movie that we have ... I do not have movies.

Q. - I have it. President, this is an excerpt of the video of the November 2, which relates only to the bidet, this is the bidet, I can also zoom in on this picture and she, and she sees something in this picture?

ANSWER - Well, what you see in a more obvious is this part here, the more intense red.

Q. - This is 18 minutes and 52 videos 02/11/2007, exactly

18:52 and 43 seconds. But here you see a smear? REPLY - But the photo does not allow it to see a ... REQUEST - The photo does not.

ANSWER - I mean the video does not allow it, a track is so rosy, so clear ... let's say that only place you could see it, perhaps with the photographic documentation, but also from my images, projected on the ones I say in-depth, I I made a circle, but in fact do not realize, however, was definitely visually what the real facts, because we project even in a room that we say is quite enlightened, then it is not the optimal condition to see the paucity of this colorful track , so you do not see ...

Q. - So you do not see this strip? ANSWER - In this way, not, however, was present.

PRESIDENT - I'm sorry this track also has been analyzed ...

(unintelligible because the microphone off).

ANSWER - It is mixed: a victim - Knox.

Q. - Look but there it is said that the discharge of a bidet, that just collect a lot of great biological material, blood, various excretions, of all types, is actually something that lasts a long time these biological elements, although there is also the passage of water and then, from this practice in its sector, it is very easy, even in relation to other cases, the drain or in the ring, which I repeat is a ring

screwed to the cavity under the sink, between the sink and bidet you can place biological elements which can then remain for years and that

therefore there can also be an overlap of biological elements according to how many more people use it, this is true from his experience?

ANSWER - If you intend to link this then I can tell you: if you can not be washed with detergent in an accurate, of course, routine cleaning of the bidet, but we're talking about a track that is not right around the ring, we have not gone around the ring, scratching, below or on the ring, we went a bit 'on this side. Here, for example, here we see perhaps a bit more. We went to a point a little 'to the side, here, so it's not just the ring. You see this sketch out here? This rose above the 2?

Q. - Tell me when ...

ANSWER - Okay, here, without a moment here. I do not know if he appreciated, here is a pink track, here's a track pink, very similar in intensity to that, we say this is a part of the track more consistent, more red than it was then as a unique finding of This game is dripping from above, so it's not just the ring, ring because I mean something, some material left over right into the gap that lies between the metal and ceramics, then of course I agree that cleaning inaccurate can leave, "sparsidimentare" in time of biological material

various kinds, but here I mean any, even not so thorough routine cleaning of a toilet ... I mean i_ would still take off due to a frequency, I do not know, now depends on the hygiene practices of each, however, behold, a bidet I think that is ...

PRESIDENT - I saw that you said the strip is ... (unintelligible because the microphone off).

ANSWER - Yes, more intense red.

PRESIDENT - (Unintelligible it off microphone).

ANSWER - Yes, you can barely see. I see it, that I see here, here I see.

PRESIDENT - The witness says it works, we see the image. ANSWER - not just me, I think ...

PRESIDENT - You have analyzed both of these tracks?

ANSWER - Yes, because as I was just saying the tracks are not separated, I want to track something that is physically separate, then, if a track is physically united, that is seamless, for me is unique, so it's a track that must be ...

Q. - Do you see in this picture ... ANSWER - I'm finishing!

PRESIDENT - (Unintelligible it off microphone).

ANSWER - It is a track that I have to analyze and contemplate the analysis in full, there is no reason to take the middle, there would be no reason if it had been a track here, one washed the blood flow does not say, therefore, whole blood

so to speak, as flowing from a wound, then we say is no need to take a lot say overly abundant in our analysis, we say has a limit of resolution, sensitivity good enough, in fact it is useless to take a lot, but in this case from being ' visual appearance very dilute, a

blood really very very washed out, I did take, I have sampled all that was possible to sample from the top down.

Q. - President, I ask now to show instead of the repertoire that has been done ... bidet always on because I would like to see the top of the bidet, ie the edge of the bidet, if you authorize me.

This again is the video of the 03/11/2007, we identified at the time 16 hours 51 minutes and 02 seconds later, and you see water on the cloth first and then this is the part that interests me, here.

ANSWER - It is not the same. For God's sake! What is dirty, it is already sampled, this is another type.

Q. - Can I finish? I see that it was finding an upper edge of the bidet and then later with the same buffer to the official, the head which I believe was Dr. Brocci, the assistant Brocci, with the same buffer after reaching the top goes to even touch the bottom, and she, as she explained, believes that this is a single track?

ANSWER - Yes, Yes, because there was what is practically not visible from this angle, it is practically under this groove that is not lit, ie the counter-side of this part, so we are here, there was still a very slight thread of continuity between the two tracks.

PRESIDENT - We are talking about the existing track on the edge ...

ANSWER - On the edge ... of the first finding.

PROSECUTOR - Dr. Comfy - Del bidet, President. ANSWER - the bidet.

PRESIDENT - Of the bidet?

ANSWER - Yes, this is the bidet.

Q. - Then why do not you find this item as a started and finished on the edge of the exhaust? It is a biological element in the exhaust of the bidet, also as a definition, however, if the item was initially identified on the top and then be one unit, as this strip that frankly do not see from this shot, and then ending in that part near the exhaust, because ... the question is: why did not you find as an element on the board?

ANSWER - Because the main part of the track resides here, was the most abundant.

PRESIDENT - (Unintelligible it off microphone).

ANSWER - On the edge of the cap almost on the edge of the discharge, so we say that being the main track and the secondary track, because it is a matter

time to define primary or secondary, those findings must be the first main finding is that after should be the secondary, is simply a matter of abundance, there was definitely a track more abundant, perhaps we could have only repertoire here, we say, is a fact that has been taken to complete that area that, in fact, in this case it is definitely not a track to suggest that a substantial portion of the edge ...

PRESIDENT - (Unintelligible it off microphone).

ANSWER - That's right. Because this area of the border did not seem to be an area particularly rich in blood DNA, the substance of an alleged blood, because as has been said many times blood has washed out, we

considered it useful repertoire even more so the part that was around at the edge of the discharge , indicated that in the end we all as of the bidet drain edge, because that was definitely more abundant, even from a visual standpoint.

Q. - But there has been removal of material on the ring of the bidet?
ANSWER - I'm sorry?

Q. - There was a bidet collection of material on the ring, you said that you have not seen the other hand ...
ANSWER - No, excuse me for not following it.

Q. - Do you see that also cleans the ring of the bidet?

REPLY - But look who was virtually contiguous, how can you not ... I mean ...

QUESTION - Listen to try to understand, because I repeat the official documents until June 2008, six months after the death was not a single track, but they were precisely described as a track and a track on the edge of the exhaust, then the Dr. October 4

2008 states that before the GUP should be, precisely because of this track washed away, a unique, then I ask him Sferon she called yesterday as a key element is according to international protocols to freeze the scene of the crime and for you to do further analysis in the laboratory without having to do the inspections, and therefore the risk of contamination, according to her is a means of contributing to better identify this track, we're talking about, to see if it is a single track or as a result instead be two tracks to be on the cards?
President, if we also want to show it.

PRESIDENT - No, no, of course. She says it was a question of a single track from visually seeing Sferon?

ANSWER - Yes, then seeing it visually, this is out ... PRESIDENT - (Unintelligible it off microphone).

ANSWER - Yes, this is beyond doubt, the cotton buds, the more so because there is also clear that there is just a haze of plastic, these tracks were really very small, that was a very rosy complexion, from Sferon probably not even you can appreciate why the Sferon the end is a photo video together, so I want to say no

is that it changes a lot, is not it ... say it is Sferon increases the limit ...

Q. - But she has described as essential? ANSWER - Yes, it is still essential because it freezes the whole situation, so objects, positions of objects, you can zoom in, you can always make a complete analysis so ...

QUESTION - Can we see it, Mr President? We also Sferon. PRESIDENT - We have heard the answer.

ANSWER - So.

Q. - We see the technical tool support. ANSWER - If you can appreciate from Sferon, let's see.

PROSECUTOR - Dr. Comfy - Excuse me, Mr. President, but if the witness has said that it was visually appreciated at the time of the find, now we see the Sferon to what end? What is the purpose?

DEFENCE - Mr. Dalla Vedova - we're on the examination of evidence we need to see exactly what the witness reports and because we have high quality technical support and treated according to basic international protocols, I say listen to the witness, and version, and compare the facts reported by the same documents and technical documents and movies that we have to see if indeed there is payment, that's all.

ANSWER - Yes, but I'm sorry, Attorney, may I say something? The fact that there is probably no payment because even

in the video is not to say that hard to appreciate what I have seen is false, that I declare myself.

Q. - I did not say that.

ANSWER - OR I believe or not believe me.

PRESIDENT - He wants to see the Sferon to see ... (unintelligible because the microphone off) the proximity of the track?

DEFENCE - Mr. Dalla Vedova - Exactly.

ANSWER - I think that because you do not see the video ... it's really hard for me to see from the photos.

PRESIDENT - However, it is a source of knowledge different from what I can appreciate technical instrument and what the witness tells us, the witness tells us they saw ... (unintelligible because the microphone off).

DEFENSE - Attorney Widow - President, we are being scientific, we have had some instruction from our consultants, so I follow the directions that are also those of our consultants. Our consultants were not present when he was finding, so they have seen the track and when they hear Sferon only say "But I do not see it", and then it is legitimate that I have the document that I do these questions. PRESIDENT - (Unintelligible it off microphone).

DEFENSE - Attorney From Widow - The Sferon actually enlarges ...

PRESIDENT - We see this Sferon is this?

DEFENCE - Mr. Dalla Vedova - Yes, this is the Sferon. Please see exactly from the bathroom, was also placed on how this Sferon, because actually it is a useful element, is an extremely interesting. This has been placed, you will see is a little 'dark, I do not know if you can lighten, and this element can actually see every single element of the bathroom.

PRESIDENT - You are seeing these images confirm what already has ...

ANSWER - Oh!

PRESIDENT - We are looking at.

DEFENCE - Mr. Dalla Vedova - Because this picture is not seen no trace on the board.

ANSWER - That's right.

QUESTION - Listen on Sferon only a curiosity because it is something that we have known during the trial, the question is this: you have used for the preparation of the report that you filed on June 12, 2008, that was an item you used?

ANSWER - No, they are different offices and different tests that are different ... that is, documents that are carried out, I for my investigation ...

PRESIDENT - Sorry!

PROSECUTOR - Dr. Comfy - I understand that consultants should talk to the lawyers ... because that is impossible to hear ...

PRESIDENT - (inaudible off mic). It is understood that the consultants are right to suggest and evaluate, etc., But must ensure that this is not going to counter with an examination of the witness must take place, allowing everyone to feel well, in particular the heads of hearing to those questions and puts them to make them with silence. Please, go on then.

Q. - So I wanted to ask her: she therefore did not use the Sferon the purposes of an investigation?

ANSWER - For the genetic analysis does not need the Sferon, you must ...

Q. - But not to control? Because her after the inspection of December 18 is back at doing other analysis?

ANSWER - No, not after December 18, if I do not control I need, I am part of the same office, I can capture all the documents that are available to the office so I did not need, that is not a technical data you need to 'genetic analysis, as we say it is a more purely documentary, so it has nothing to do with genetic analysis, mine is a technical report of DNA, so I can serve for my own reasons, to review a track the precise point where it was finding, but my analysis can be done in the dark about everything that is contained in Sferon, I do not tie the image to the data.

Q. - But then she did this kind of control using the Sferon in reviewing some of the situations?

ANSWER - Yes, I have seen for some facts, to place ... perhaps to understand something of artifacts, objects, yes, I've seen.

PRESIDENT - (Unintelligible it off microphone).

RESPONSE - In general, especially for the victim's room so I had a look then say a few times to see some data.

PRESIDENT - That led to changes in its report?

ANSWER - No, absolutely independent of any genetic analysis is not being influenced

PRESIDENT - (Unintelligible it off microphone).

ANSWER - No, no, it was only for my need to better document and remember things.

Q. - Why does not mention in the report of Sferon

June 12, 2008, nor in his testimony before the GUP as a documentary in support of its activities?

ANSWER - Because as I said it is something that Sferon the documentation of the inspection, I am speaking in my technical report of the technical data of the DNA, so do not have any feedback, that I see is that if I zoomed the Sferon changes genetic results, it is absolutely irrelevant. Regarding my statement I was made to GUP no question, _ could not do on my own spontaneous statements, so ...
PRESIDENT - (Unintelligible it off microphone).

DEFENCE - Mr. Dalla Vedova - Accurate, President, October 4 did not know it existed Sferon, we have known it was a document here, then.
PRESIDENT - (Unintelligible it off microphone).

DEFENSE - Attorney From Widow - But since it is vital, fundamental, perhaps he could also ...
PRESIDENT - (Unintelligible it off microphone).

DEFENSE - Attorney From Widow - said at the opening yesterday, said among the various major activities ...
PRESIDENT - (Unintelligible it off microphone) about the use of words and in some cases the need to point out the significance, even the heads of this vital we reported that the terms used and under what terms, in particular for his work , for his work, for his report.
Q. - Look's change the subject, we want her to illustrate two possibilities for the investigation of DNA, ie the first is the degradation of the biological element and the second is the possibility of contamination, these from what I understand are two key elements that must ascertain when doing this type of analysis. Do you agree that the degradation, enzymatic degradation is called an attack of bacteria or fungi to make findings, and then go to affect the molecules and thus make it more difficult analysis of DNA?
ANSWER - Yes.

Q. - And that the physical decline - in fact the physical DNA is a prerequisite for molecular lead to a result if there were not trusted?
ANSWER - No, trust is wrong, that is not the result, I find that because the DNA has been degraded, but little or as much as I have left is still reliable in the sense that if I made up a genetic profile of 16 loci, as we have seen, the degradation due to physical and chemical agents, such as precisely as the lawyer quoted the attack of the enzyme dell'endonucleasi ... in short, a class of enzymes of bacteria, what happens? That I maybe in one of the gene's DNA analysis can not find it because it is shredded, it is removed from the tube where it then I'm going to do the reaction, so I gave that I lose him, but it is a loss of data, a loss of information that remains for me, can be 10 loci, 5 loci, one locus, that is absolutely a given partial but a figure that remains, then is not an untrusted, unreliable that means that either happened to me a problem, so that data can be false or do not know, I do not know what to untrusted can also mean, I is not no other word.
Q. - Look and it is true that for a correct analysis, there must be a track that complements and integrates what it means?
ANSWER - I do not know what it means, that is not degraded. Q. - Do not degraded.
ANSWER - To me is not degraded.

Q. - Senta and the DNA molecules must be examined in a replicated finding, as we discussed yesterday, in part, especially when DNA molecules are very low, the confirmation?

ANSWER - No, not necessarily in the sense that if I have a chance to analyze the genetic profile for a too small amount of genetic material, I still do the analysis, I see what I rate as a result and returns the result, but any analysis that we perform to accomplish once, even if we have the swab saliva that has a very very significant amount of DNA compared to the tracks, so anyway if analysis is done according to all parameters of reliability and say good procedure laboratories, in a controlled, positive, negative, with the necessary precautions when using gloves, disposable material, everything you say is shown in the correct laboratory practice, I can also easily have a result with a small amount of DNA, then use it for virtually the DNA analysis alone, does not help you, even if I wanted to for some reason, to repeat, but that analysis, however, is absolutely valid, ie has no reason to be questioned by me precisely if the data is completely readable, interpretable. Q. - But, doctor, international recommendations on the matter does not require the examination and detection should be done when you can, of course, so

replicated the same if the matter can be d_vided, so that maybe in two or more machines with different reactions, this is not the general recommendation?

ANSWER - It is a recommendation, but not an obligation. CHAIRMAN - It has already answered.

ANSWER - It is not an obligation. If I have little material that I do not analyze?

Q. - Look on the other hand, contamination, I wanted to address the problem of contamination understood as a mixture of DNA samples, we knew that finding the 36 she made a comparison with DNA extrapolated from Kercher. ANSWER - Yes.

Q. - From the wound of Kercher. ANSWER - Yes.

Q. - How many times have you analyzed or extrapolated Kercher's DNA? I've already asked the preliminary hearing, I would like to repeat it.

ANSWER - If you can see ... we can see from the summary table is contained in the latter part of the relationship, just starting on page 264, after the conclusion on page 264 and following, up to page 265, then 264 and 264, are summarized in these two tables, that is two pages in this table, Table A, are summarized all the tracks relate only to the profile of the victim, Meredith Kercher, so if we want to count. Are summarized in these tables.

Q. - I am 50 as said at the hearing ...

ANSWER - Yes, roughly, 50 at the hearing said I did not say when they have the technical report, we are able to count, maybe they are ...

Q. - This is the period November 2007 - June 2008? ANSWER - Yes, May because May is completing his technical assessments.

Q. - So six months, 50 times in six months you have extracted DNA?

ANSWER - Yes.

Q. - Now for us to better understand which of course we do not know how, when she comes to extracting biological meaning that this substance, as well as amplified, as we understand it, is injected into a device that is an automatic sequencer.

ANSWER - Yes.

Q. - This Kercher's DNA was injected 50 times in the same automated sequencer?

ANSWER - We have two sequencers, one to four capillaries, one to sixteen capillaries were used interchangeably and that the other one, in fact for all tracks that are analyzed in our lab and then have these two tools are used Any one or the other way.

Q. - And it is true that in the laboratory, just like the beginning again from the recommendation on the matter, it is impossible to practically eliminate the risk of contamination?

RESPONSE - In the abstract, yes. It is impossible, but in practice it is done then, because otherwise ...

Q. - There are always some security protocols which require precise ye that work in analyzing these biological elements in the automatic sequencer, to clean up, clean up all the time?

ANSWER - Yes. Yes, I'm not saying ... I repeat protocols are part of those standards that are enclosed in saying good practice of each laboratory, not only of forensic genetics, any laboratory should constantly maintain their own tools or technical assistance through periodic scheduled, that is made in our laboratories with annual contracts, all machines are regularly audited, thus calibration at cleaning, in exchange for all the material that is worn over time, however, like for example, I do not know, valves, capillary tubes, all things, of course, whatever that is worn like a car, and then there's maintenance and cleaning before guests say paced laboratory, precisely because it is a tool that must then be cleaned constantly, added buffer, the polymer needed for the reaction, that is what is needed for normal operation, so yes, that is, of course, otherwise we could not use them.

Q. - Look of the sample and Kercher, the Kercher samples were analyzed before or after the trace analysis on the artifact that you found 36?

ANSWER - Well, some earlier, others later. 36 The finding was analyzed in a precise time.

PRESIDENT - The 36 exhibit the knife ...

ANSWER - It is the knife, so the finding ... say 36 Q. - Exhibit 36 we talk about the track B?

ANSWER - The track A, however, were both analyzed.

Q. - But the track B was compared with that of

Kercher?

ANSWER - Yes.

Q. - So when I asked her if before you have to compare the track B also compared to 50 times or less, I do not know, the track Kercher, I wanted to know precisely the timing that was made before and then after, and on which machine, and of course if you have taken all safety standards, as you accurately stated, to avoid contamination, this was my explanation.

ANSWER - Well, the knife has been analyzed almost like finding in the course of these 50 samples attributed to the victim, some are naturally prior to the analysis of the knife, and others are following, so these 50 were ... I do not know the knife is placed Now I do not know, a quarter to a third of this flow analysis, and in any case

However even if the knife had been analyzed at the end of all these 50, 60, those traces that are in any case this does not affect the goodness of the data, because every track is analyzed in a single, it is absolutely impossible to mix a track with another, because the file Kercher is one of many cases which we treat in the laboratory and at the same time that we've covered, is not that all of the Scientific Police Service has stopped dealing with the file and Kercher, simultaneously, perhaps in same plate, because they are a lot of plates with wells where the DNA is made, perhaps there was certainly the case on my other colleague who was involved in the samples that file, then we say absolutely, because there is not only the Concomitant treatment of multiple tracks on the same machine of the same issue, but also several files, of course we use all necessary precautions to ensure that mixing will not occur between the DNA of a track and the other, but apart from this single set or single track.

Q. - Always Look on this topic, you can still transfer the DNA from secondary deposits in case of analysis precisely on the same machine, is it possible?

ANSWER - That secondary deposits are formed in the machine? I do not understand.

Q. - Yes.

ANSWER - No, because the machine has a system for luck, as it were, of security, every capillary goes into a well, then it is washed, it is not possible.

Q. - But the contamination is not just the transfer of

DNA?

ANSWER - Yes, this is the contamination.

QUESTION - We have said that it is virtually impossible to avoid the risk of contamination in the laboratory?

ANSWER - The machine is impossible, has been certified, calibrated, there is a quality certificate from Applied Biosystems that certifies the proper functioning, that is, I'm not ...

Q. - No, I'm not talking about the operation, I say when you do the analysis ...

ANSWER - So in the laboratory?

Q. - Yes. The contamination in the laboratory we are talking about, is one of the risks of this activity.

ANSWER - Yes.

Q. - What you put in the account? ANSWER - Yes.

Q. - That even in the new international recommendations point out as being one of the vices of the activities, I wanted to ask there is a case study of contamination in the laboratory, there are data on this?

ANSWER - No. I have, no, I do not know the data that speak in particular of contamination, I repeat, if you applied all the recommended procedures for good practice

laboratory, then change the gloves, use of any material that is disposable in contact with each track, so I take the tip which physically so small a quantity of DNA after the throw, I throw the thing after another, and so on, so every track is virtually untouched by the material once it comes into contact, which is all plastic.

CHAIRMAN - In relation to this question if you can say in making this analysis, the subject of applications of this process, there have been anomalies, there were facts that could determine this contamination in the laboratory?

ANSWER - No, and no controls are adopted, the controls are placed within each session ... how to say, so if I do the extraction at the same time I also do an extraction of a blank sample, so to speak, that is a sample where I definitely know that there is no DNA, why not put it to him, there's everything else, so there's like saying all the other reaction mix, I must give the sample extraction zero, ie not to extract DNA, plus the part of extraction that we carry, also being a robotic system uses disposable materials, then there are the strip of plastic tabs which are attached below all the different tubes with the various liquids that are used, this strip is opened with a film that covers it, is open to the point of use,

is inserted into the machine along with the sample that is in a test tube, and this is treated, the operator then takes the tube, closes it and that's it.

CHAIRMAN - This is usually, if the subject has been done specifically?

ANSWER - Yes, because it was done ... PRESIDENT - There were no abnormalities rilevate ...

ANSWER - No, the next steps, the PCR analysis is very sensitive, so a fortiori must be controlled, will put a positive sample and negative, so the reliability of the analysis.

Q. - Well, change the subject, President. Thanks anyway for all the clarifications. I wanted to ask, I've done that in reality, the track on the inside door handle is a very clear track? There is a lot of blood on the handle, both on the lock on the door and also in close proximity.

ANSWER - Yes.

Q. - You have already reported yesterday, the question is this: it is possible that at least one track, like that of the knife 36, which we felt to be 20 to 22 microliters, in fact gives an analysis of DNA and instead of a track so big, so also completed with good material does

not give any results of DNA, and why? She explained that believes that blood has slid, there can explain it better?

ANSWER - No, no, wait, the handle has given the result. No The handle of the room and also how to say ... say that the scaffolding is in the ...

Q. - The look we can see.

ANSWER - Yes, because otherwise it is difficult to explain in words. If he can show.

THE CIVIL - Mr. Maresca - President, I apologize, there is opposition to the use of these ...

DEFENCE - Mr. Dalla Vedova - For two days I can see.

THE CIVIL - Mr. Maresca - I know, but there's opposition. I'm always defending the deductions not relevant at this time. The video is fine but the comments of defense for now I do not read them, thanks.

DEFENCE - Mr. Dalla Vedova - Please.

PRESIDENT - I think they are documents, notes that the questions to ask. The handle we talking about?

ANSWER - Yes.

DEFENCE - Mr. Dalla Vedova - I'm doing to see the video

02/11/2007 in paragraph 19 ... 29 minutes and 40 seconds later. I ask these traces of blood were identified as belonging to Kercher?

ANSWER - Yes.

CHAIRMAN - They are the ones on the handle? DEFENCE - Mr. Dalla Vedova - all are.

PRESIDENT - Even those close to the door handle?

ANSWER - Yes, the part where there is also the closing of the door, the bolt that goes in to lock. Yes, here. Q. - It was found some other biological element? ANSWER - No, the victim's blood.

Q. - It was made the detection of Y chromosome? ANSWER - On this part, no.

Q. - Why?

ANSWER - Why is not routinely done, I have already said yesterday. The analysis of the Y is not done routinely on all tracks that give genetic profile female or male, but only one, is made in a dedicated or in mixtures genetic male - female, to determine precisely the male part of that track or alternatively, as in some cases I did, for example on the bra, for example on the blue sweater, if you remember, four samplings were made, used, even if, in fact, in these cases we had in the first instance a not mixed genetic profile of a woman, the victim in fact, is done in order to discover, if we were present on those findings that might have in terms of reconstruction of the dynamics of the events ... as a very important meaning to say, the bra we saw was torn, now I imagine that the victim is seized with a fit and if it tears itself, so someone had obviously torn, now analyze in depth the most we can do those tracks was almost certainly compulsory

do it because there were strong suspicions that something might be found, in addition to the victim. Routinely we do not all traces of the profile Y women, because there is no indication, it would be a waste of both time and money. It was not done.

PRESIDENT - Because there were ...

ANSWER - There are, yes, indications, because, as I would like to add that maybe is not very clear because the pictures, words do not make the video to the computer with the lights of their actual substance, that handle in particular was very bloody, ie there was a good deal.

CHAIRMAN - This is the door handle ...

ANSWER - the inside of the door ...

DEFENSE - Attorney From Widow - the victim, the victim's room.

ANSWER - So it is also illogical to think that I can find a DNA different from that of the victim and because it is inside of her room, so maybe it is very difficult in their own room there is a bustle of people, especially from the inside, I always open the door, and then I could find a previous DNA, and because even supposing that the bloody hand of anyone who has, of course, necessarily, close the handle to exit, it is not conceivable that with that amount of touching her blood for a fraction of seconds, a time that is really small, just enough time to open and go away, not that there was

will to remain in the same place, there has been such a clutch, with all that blood, you can leave skin cells flaking useful for analyzing the DNA of this person, because the extreme amount that has been specially made by lubricant, that is, he slid his hand is very reasonable to think, even though none of us has seen it, but it is reasonable to think that not only for a short time I touch something, and then have it even without the blood he would presumably not find another, but more so because there is all that blood, a little 'instruction on how successful the two fingers on the wall of the room, surely the very reasonableness has not been the victim to affix the imprint of two phalanges, the two fingers on the wall, maybe it was someone else, but I have found, however, only blood of the victim, despite having re-sampled portion of the back wall, in two different ways, but especially on scraping the bottom of the wall, because it is there that is rubbed and then there was less blood of the victim and perhaps most cells of the person who rubbed, has not been shown anything, so it was unreasonable to think of doing such an analysis.

Q. - Look just a clarification, you said that an important element was the bra, so that you have also done research on the Y chromosome, the inside handle her in a blood-soaked crime scene where it is plausible that this is the hand murderer ...

ANSWER - Yes, I just said.

Q. - Do not deemed an important enough to justify even in this case, as in the bra, the need to also check the Y chromosome?

PROSECUTOR - Dr. Comfy - but has just reported ... ANSWER - I just said, I will not bore repeating the Court, I can even repeat the same things because I'm convinced, though.
PRESIDENT - (Unintelligible it off microphone). Q. - Not considered ...
ANSWER - I have not thought ...

Q. - Did not considered an important element. I wish that instead of the comments might give me the answers, just say "No, for me this is something that I did not feel important."
REPLY - But I've said, Lawyer!

PRESIDENT - The first has already said ... (inaudible off mic it).
ANSWER - I just said, I also brought ...

PRESIDENT - The evaluation is a comment, a comment that the question presupposes the answer, which he did. Please, go on then. ANSWER - I mean, if I have to give a comment.
DEFENSE - Attorney From Widow - The question was clear about the evaluation of this item, just say "It was an important element for me," say this enough.
PRESIDENT - But calls for an evaluation ...

PROSECUTOR - Dr. Comfy - He did not say that it was not a factor, said he expected that there would be no useful results, which is something completely different.
DEFENCE - Mr. Dalla Vedova - Maybe we respond to the heads, however, not the prosecutor, because I find it inappropriate that there is this explanation.
CIVIL PARTY - The first said.

PRESIDENT - (Unintelligible it o_f microphone).

DEFENCE - Mr. Dalla Vedova - President, if I do I want to answer a question, not a comment "I have already replied," if he has already said she needs to explain how he responded and if you insist, I must say why, and I do not have justification to have a third party, thanks.
CIVIL PARTY - The question is repeated unacceptable.

PRESIDENT - Excuse me, please. There was the question, lawyer, and there was the answer, the next question was merely a reiteration of the question already posed, as the witness pointed ... (unintelligible because the microphone off) then the evaluation was requested in the application itself, The fact was that it was done, the evaluation ...
ANSWER - I explained. PRESIDENT - Please.
Q. - Look again, changing topic, the repertoire of the sweatshirt, she can tell us something when the fleece was ...

blue-sky of the sweatshirt when Kercher was found the first time and when it was finding?
ANSWER - the first time ... So okay, we are not connected. The first time we saw her at the crime scene ...
INTERVENTION - wants?

ANSWER - To show just ... INTERVENTION - Let's see.

ANSWER - Let's go back a moment. Here. Then, you can see in truth, I thought we could see better, practically this little sleeve that comes out of the duvet that still covers the body of the victim, who is virtually arranged in this way, so the sweater was practically next door, wrapped, ie the ground so well, so was seen as early as the first inspection, was not finding the first inspection for a range of opportunities, of the finds have been chosen with respect to all, and was then secondarily, in the second survey of 18 December, finding, and then, in fact, subjected to laboratory analysis.

Q. - You have to find her?

ANSWER - It was seen by another provider, maybe not now remember if I was to bagging but was taken, was found and taken from another operator, perhaps I do not know I was present during dell'imbustamento, I do not remember .

Q. - Look where you found the position is exactly what we're doing to see the slide,

under the duvet, or has been finding the light blue sweater somewhere else in the room?

ANSWER - It was finding elsewhere. PRESIDENT - In the same room?

RESPONSE - In the same room.

Q. - How do you explain this shift?

ANSWER - I do not know, I have not moved during the ...

Q. - You could say that this case is the same as the hook of the bra, so that the hook was seen and then finding another part of the same room?

ANSWER - Yes, say ...

QUESTION - Listen she did tests on the pillow? ANSWER - No.

Q. - You have done tests on the sheet or coprilenzuolo, I do not know what to call it, the mattress Kercher's room? ANSWER - Yes, a mattress cover.

Q. - You have done tests on the jacket of the room

Kercher? ANSWER - Yes.

Q. - And the pillow she saw him, he knows where he was? ANSWER - It was half in the basin of the corpse.

Q. - And we can not explain why he did tests on the pillow?

ANSWER - Why is not it useful to conduct biological investigations and was found to be more ... let's say in terms of investigative information to analyze, as it was done by

point of view of footprints, fingerprints and palm, as it has been precisely determined, and from the point of view of shoe prints, so it was not analyzed, say, considering the other more appropriate analysis.

Q. - And this type of evaluation has made her opportunities?

ANSWER - Together with investigative agencies, and in consultation with the Public Ministry, with the squad, with me, with his colleague of the

fingerprint with fingerprints of the colleague of shoes, so we decided together, because obviously the genetic analysis of a tissue, then something on a garment requires physical cutting, so you just cut with scissors a zone because otherwise ...

Q. - As the sheet, I'm sorry?

RESPONSE - As the sheet as a mattress cover that was made in the survey not to bring the entire mattress in the laboratory, so we say because there were areas where the physical structure, and its design was so basic that they leave as they were created, so it was decided not to proceed with any cutting, no biological sampling.

Q. - Look only for clarification on the statements he has made. Your use suits that are equipped with a hood? ANSWER - Yes.

Q. - And she always used the cap? ANSWER - No, sometimes I will have it taken away because ...

Q. - But the hair is also the element of contamination of the crime scene?

ANSWER - Yes, it is possible but I had them tied, and the hair is still a physical entity, that you can not mix with other ... not a trace of blood that is mixed with another and then I then I can not ... and then, however, we typed, which I personally like all my colleagues and laboratory professionals, we know our genetic profile of the DNA, because in case of accidental contamination in any way, anywhere, or in the laboratory or the scene of the crime, or ... I do not know any other way to move the DNA of the operator of an exhibit once acquired by genetic profile, we can safely say it certainly is not ours, operator, and then is to identify an unknown person or a person is identifiable by comparison, so even if the hair had fallen, and there is no evidence among those who have analyzed here, a contamination of hair of mine, would not be a big problem because it would have been eliminated. DEFENCE - Mr. Dalla Vedova - I have no other questions, thanks.

DEFENSE - Attorney Ghirga

QUESTION - Hello, Advocate Ghirga. Two quick questions on two types of topics, we talk about finding 36, knife, my attention was stopped on the expression background noise, but I want to preface it with some

refinements, the knife, the knife analysis, finding 36, it is fair to say that she briefly ruled in point of analysis, technical examination of the data speak, she is a biologist, explained to us that something is the product of the machine and but then one thing is the experience, skills in assessing some results in this context I ask is fair to say that she states, establishes a correlation between peak height and narrowness of the material under test, ie there is a ... I can say is no correlation between the height of the peaks, those who have said 100, above 100, el'esiguità of the substance being examined?

RESPONSE - As a first approximation, yes, from the scientific point of view is a bit 'different, but you can say.

Q. - Under the concept of background noise, which I re-read even in its statements to the GIP, but not materially acquired acquired our process, to page 11 for reference to his memory, but his memory does not need references, it is correct to say that the background noise in the sequencer, which makes it more difficult phase of amplification, quotes, attribution of the technical results in relation to the withdrawal?

RESPONSE - Any machine that uses analytical data as we say, then the final fluorescence, and fluorescence of any kind and for any analytical use is made, from the analysis is essential to have the background noise, which means? ... How to say something false peaks, very

very low, rather than what is then revealed as a true analytical data, so you can virtually have a background noise, at any electropherogram, and in any analysis because this is a fact essential, inherent in genetic analysis done of this type .

Q. - I'm sorry, if I understand it we are in the amplification?

ANSWER - No, the next analysis, electrophoresis. Q. - In the electrophoretic path.

ANSWER - That's right. Q. - Is that it? ANSWER - Yes.

Q. - What is done in the lab? ANSWER - Yes.

Q. - Then you receive these tests and evaluates them biologist? ANSWER - Yes.

Q. - That is the path electrophoresis was done by others, even if the knife?

ANSWER - There is an operator ... more than one operator, of course, that charge, so they say, the instrument with different samples for analysis, yes.

Q. - Then a kind of EKG, that is, the electropherograms, then all these results that close analysis of the sample say they brought him to her for finding the genetic evaluation.

ANSWER - Let's say I go to the machine to acquire them.

Q. - So there's a place where there is the laboratory where the analysis is done and there is a place where she receives or should take. ANSWER - Yes.

Q. - Where do you examine the results of the path ...

RESPONSE - In addition to the machine's software, there are several computers in truth, say where the data come out from the machine, the raw data, there is software that analyzes them and then it gives a result that I analyze another computers, because obviously they are linked.

Q. - So I, to end the argument, I understand that in addition to laboratory results, in short, the analysis in the evaluation of the data has much experience of the evaluator? ANSWER - Yes, otherwise the first ...

Q. - With low peaks, especially with background noise? ANSWER - Yes.

Q. - But the argument I heard terms to clarify the contradiction that I caught a small observation of the knife, she begins, but I was very correct, "clearly visible", but then I remember his motion at the preliminary hearing says "this ...", the question is this: when she says "Well see the blade of the knife" - we talk about the knife

seizure - because then he added with great accuracy that he could see scratches in the place where ... "Only ..." so she said "Only a corner under the light"

ANSWER - Yes.

Q. - But the eye, if I have a knife here I see the scratch?

ANSWER - If not well ...

Q. - Besides finding that, okay, but calmly ask if I have this knife scratch I see here? ANSWER - If it is not well lit, no.

Q. - Why do the experts appointed by the GIP evidence of the incident have said yes, it was packed but the professor was so ... (it seems to say: Umaionti) for all three, then brought her finding someone or ...

ANSWER - Yes, yes, they wanted to acquire it ...

PRESIDENT - (Unintelligible it off microphone).

QUESTION - The question is this: when you say "clearly visible to the naked eye", ie the eye, refers to this system say the angle under a bright light?

ANSWER - Yes.

Q. - And I modestly say here if I have a knife to scratch ... because I see half a meter or a meter scratch I see?

ANSWER - I do not know, depends on the ability to say ... PRESIDENT - (Unintelligible it off microphone).

ANSWER - I do not think you can see, but then you know the view is a very individual.

Q. - I have done a simple question: at a distance of half a meter or a meter you ...

ANSWER - You probably do not see.

Q. - Now I am referring to the last answer you gave to the prosecutor in the examination: luminol. I understand that the luminol test positive by blood but also by other substances, that luminol reacts both the blood and other types of bleach, bleach, fruit juices, we have learned by the inspector Bohemians ...

ANSWER - Although, some, yes.

Q. - Yes, Bohemians, the last time. ANSWER - Yes.

Q. - You said hemoglobin, iron, and then rust. ANSWER - Yes.

QUESTION - In response to the final question of the prosecutor ... and then she also said that there is some fluorescence if it is blood, there is another fluorescence if the tracks ... have a blue or blue to react differently when blood and reacts differently when all these other elements, I remember well, I summarized ...

ANSWER - Yes, generally, we say, we see a very appreciable difference to the eye but not by technical, physical, here. Yes.

Q. - These are the key points, then he also said that the reaction to these latent prints to be made in complete darkness, it should be done with a certain type of photography, for a time that lasts a few seconds, and then gives the idea of a establish the reality through the pictures say quite complicated, so it depends

the dark, depending on the type of machine, depending on the weather, I understand this?

ANSWER - Yes, depends on various factors, yes.

Q. - As part of this argument says, she said "Yes, but when, for example, reacts to bleach the test for the human DNA is not allowed", the specific test for human DNA does not allow the bleach, I understood that, if he wants to ...

ANSWER - Yes, in the sense that the DNA test is specific for human DNA, then we can not see DNA analysis in this cat's DNA, for example, to give an example that happened to us. Let's say if we had a sample made of a false positive luminol, for example ...

Q. - There has called them, that's right.

ANSWER - That's right. For example, the bleach I definitely would not have absolutely no signal from the point of view ...

Q. - Fruit juices, doctor?

ANSWER - The same, do not have human DNA, fruit juices ... Q. - I ask you why ... then we also had some distinguished according to the fruit juices.

ANSWER - This just ... such as fruit juices do not know. Q. - Saliva?

ANSWER - No, that is not Fluorescent_H saliva.

Q. - This was a clarification. So remember this for what it is ... the fact that luminol human DNA can not be ... if the reaction is not human DNA in the blood can not ...

ANSWER - To be detected.

Q. - It is the specific test for human DNA, do not bleach. ANSWER - Yes.

DEFENSE - Attorney Ghirga - Okay, thanks.

PRESIDENT - The Public Ministry and the plaintiffs to exhaust the exam.

PROSECUTOR - Dr. Mignini

Q. - Look back to the fragment of a bra with the hooks, then she said "It appeared that the presence - correct me if I'm wrong - the traces of DNA and the Y chromosome on one of Sollecito hooks" ...

ANSWER - I'm sorry, I did not feel well.

Q. - The presence of DNA and the Y chromosome of a reminder of the hooks.

ANSWER - Yes.

Q. - Are there other biological traces, no other, biological urge in the apartment on Via Della Pergola? ANSWER - The only urge, as a single genetic profile, no, there is a high profile mixed, mingled with that of Knox on the cigarette butt, is finding the 145 if I remember

correctly. Q. - You do not know if it was ... I wanted to confirm this detail, it is true that shortly before withdrawing the fragment December 18 you had changed the gloves? ANSWER - Yes.

Q. - The last time you were at home when you call on?
ANSWER - While ...

Q. - Before December 18.

ANSWER - During the site inspection on December 13 at the same time ... that is, subsequent to the investigation carried out sull'autovettura Audi.

Q. - The gloves and protective clothing, the shoes that you used on that occasion were new on December 13? ANSWER - Yes. November.

Q. - On 13 November, sorry.

ANSWER - I am new at each visit.

Q. - Of course, these gloves, the shoes you have them or not reused, they have thrown away?

ANSWER - They are discarded at the end of the business.

Q. - Another thing, the inspection of December 18 remembers what they did, what they objected advisers to the defense, especially defense urge? I wanted to know if they were present at the time of the discovery of the fragment of a bra, you know ... that there was a vehicle positioned at a time when the fragment of the bra was found there were advisers to the defense, especially defense urge, and if so, some argued, the protests have made, what they said about this ... and then, last question on this

point, have always been present or they are gone, she saw them leave or not? If I want to answer this question. ANSWER - So, during the inspection of December 18 was just installed an external location of the house, a car with cameras attached, and then using the camera monitor in the house pretty much do the video images of the inspection, then all that happened in the house from the point of view of technical operations were resumed course, as must be known to all through the videos were also delivered precisely to the defenses, and everything was internal image could be seen outside in this position on this monitor our operators had installed, ie in order to allow all technical consultants, lawyers, and all those who wish, even the prosecutor who was present, say in real time to follow the stages of processing and the technical steps that occurred inside the house, in particular urge to defend Professor Xavier was present power that was, except for a break, say, a few hours, but the times that I h_ve not been precisely established by a transcript, a note, because I was engaged in technical activities, so I followed the timing of those who went away and returned to the house, it was still definitely present until the end of the technical findings of that day, then up to the execution of luminol, which was the 'technical activity that was last

performed as a matter of opportunity, because he expected that there was total darkness, even though it was precisely on December 18 and then the darkness was already around 18.00, 17.00, however, those activities were carried out around 17:21, here in that 'period of time, those of the luminol and the biological survey, perhaps a little' before, because then there was an interruption to allow the colleague who will take care of the splash of blood on the doors of the cabinet to get to work , so there was a break and then we returned to us, so let's say a period of several hours, this time the consultants are pretty, especially the defense say Sollecito was present with some interruptions. It has not been anything reported in the minutes of the end of that place technical assessments regarding exceptions, objections, statements say it was absolutely free to do, the only thing that was requested by the consultant is only the removal, so the repertoire of rock, the stone that is present in the room to Filomena Romanelli at the time that we as early as November 2nd we came into the house, so there was this in stone, from my point of view it was useless to analyze it because we say you can not detect traces of biological ...
PRESIDENT - Perhaps if we can avoid the comments on ... ANSWER - background.
PRESIDENT - Please.

ANSWER - So I was not chosen as finding useful for the analysis and instead considered it useful to the defense and then was finding, was analyzed. So in that case has not been completely moved no objection, it was not detected any irregularities in our procedures. Also returning to that previously required for carrying out precisely, how we use protection during the inspection, survey course each has his overalls and has also more than one for each operator, because if the operator leaves, leaves from the crime scene to his personal needs to return once more set a new suit, of course, must put the new shoes if they are not expected from the suit, mask and gloves must be put, and obviously then the gloves are changed even more frequently during the course of inspection. So, say the inspections carried out between November 13 and December 18 have absolutely no relationship in terms of material, if not respect people who participated in both, and then ...

Q. - Look how many years she performs this activity? ANSWER - For almost 7 years.

Q. - about 7 years. It dealt with cases similar to this? ANSWER - Yes, Yes, yes.

Q. - In many such cases?

ANSWER - Yes, several similar cases in complexity we say, yes.

Q. - Do you remember if you have always followed the same method?

ANSWER - Yes.

Q. - In the acquisition of the findings into practice and then in the evaluation.

ANSWER - Yes.

Q. - Here, she finds the memory of contamination found?

ANSWER - No, I was never revealed such a problem.

Q. - So it has absolutely remember ... and you always followed the same methodology that we have described today?

ANSWER - Yes.

PROSECUTOR - Dr. Mignini - I have no other questions, I leave to my colleague.

PROSECUTOR - Dr. Handy

Q. - Doctor, a moment the question of close inspection. She spoke yesterday of translation of the hook and he said he remembers the first time it was photographed and the time that was then finding was in the same position, she has available for the case of photos, movies about it ?

ANSWER - Images, pictures. Q. - Here?

ANSWER - Yes.

Questions - can we see?

ANSWER - Yes. These are simply magnified image of what was photographed in two different surveys and what has been photographed in our laboratory was performed when the photographic documentation and cataloging of the exhibit prior to the execution of analytical steps for the extraction of DNA and subsequent analysis. So, I wanted to show, this is the hook as it was photographed in the first inspection, then that of 2 to 4 November.

Q. - So when we say has been lifted the pillow ... ANSWER - Raised the pillow and has been documented. Q. - In fact you can still see the present.

ANSWER - Well, fine, thanks. Q. - What is the pillow? ANSWER - Yes.

Q. - What you see at the top?

ANSWER - Yes, Yes, this. Then I have defined this, I called the A side, conventionally, the A side, as you can appreciate, I do not know if you appreciate, it is called side A side that has the hook on undeformed, deformed this is the hook This is the hook without distortion, that maintains its position, its original form, upwards, that is a hook, of course, to hook, just the hook to hook her bra, is a hook, then a hook facing up, this is how it is found during the

second survey, so here we see that ... maybe we can see it enlarged, then the two previous pictures just at higher magnification, the A side is always facing up, then the hook is always facing up. Q. - The photo identified as side A, say, the piece of cloth with the hook, is the picture of where the hook was found in the second survey.

ANSWER - Yes.

Q. - That is, before you or your co-workers would gather from the ground, but the B-side is where you have relocated to ...

ANSWER - Yes, to photograph it for documentation of carryover, behold, this pretty ...

PROSECUTOR - Dr. Handy - President, I printed the same photo that is projecting, so if I can present to the Court right now.
PRESIDENT - Displaying and also produce, after ...

PROSECUTOR - Dr. Comfy - and produce, of course. CHAIRMAN - We will show to the parties.
DEFENSE - Attorney Maori - are extrapolated or photos are photos that have been extrapolated from the movies ... or taken?
ANSWER - They are photos taken out by our documentation ... Yes, it is these, are these photos.
DEFENSE - Attorney Maori - That the question is this: if they are extrapolated from videos or photos pictures taken, because we never got pictures of the second survey.

ANSWER - There are photos of the second spot and the first inspection, this is the image ... the photo of repertoire. CHAIRMAN - Is this it?
ANSWER - Yes, the Y is pretty much the point with which I cataloged during the inspections this finding, I called the Y.
Q. - I'm sorry there was only the second visit or was there also a photographer who was filming?
ANSWER - No, there was also the photographer. Q. - Precisely.
ANSWER - There were two, and even in the first course, we always do a double video documentation - photos.
DEFENSE - Attorney Maori - never filed.

PRESIDENT - The prosecutor asked the witness to show the same picture of this?
PROSECUTOR - Dr. Comfy - Yes, your printed photos that are the same that you are projecting at this time. PRESIDENT - The slide asked to produce?
ANSWER - I mean I'm sorry for the precision is not the slide deposited.
PROSECUTOR - Dr. Comfy - This is not the slide.

ANSWER - There are photos, the photos are as they were of the inspection.
PRESIDENT - The number 2 what you see, what ... ANSWER - Excuse me, excuse me?
PRESIDENT - The number 2 is seen at the bottom.

ANSWER - It is the slide presentation that we say of this mini is connected to the main one.
PRESIDENT - Please.

DEFENSE - Attorney Hello - I have this exception now because the Code of Criminal Procedure states that occur in the immediacy of the occurrence of any cause of nullity of the exception. The supplemental investigation activities as well as the Code of Criminal Procedure provides that whenever there is a direct acquisition activities of documentation was never submitted to the Parties, this work of investigation that we know can be performed for the entire trial to be filed in a file beforehand, with notification being given notice to the defense and the defense can examine to what extent the activity that took place later, because this is the legislator provides intuitive

evidenc_, one of the defense needs is always to know all the activity that is complementary in place before or after the hearing, however, that has not been filed, so there is a right of defense to know all sorts of activities, activity refers to any kind of settled case supplementary activities, documentation of material possibly present but not previously filed, this means that if there are, as in this case, the second inspection of the photographs that have never been made available to the parties why initially stored in the file, in my opinion should be

deposited from the beginning, but if the Public Ministry, or of course transferring to the Public Prosecutor's office, will they fit in the process since it is something that is still relevant and is defined as supplementary activities, should have been filed, would the prosecutor had a typical warning us ex-430 and then we would take the lead and could have viewed this cross examination, however, even when they have these photographs. So I think these pictures because apparently there at the time should have been filed since then, in extremis, should have been deposited as supplementary activities, certainly can not suddenly appear out of a now-examination without a prior deposit, so use the state can not be done, there would be a real void, even, in my opinion, the entire deposition, so this will be recorded.

PROSECUTOR - Dr. Comfy - I can answer just a second?

DEFENSE - Attorney From Widow - The Knox defense is associated with this exception.

PROSECUTOR - Dr. Comfy - I am absolutely certain, the only thing I can report is to be sure I had access to these photos, then have also been the subject of discussion in the preliminary hearing, so there is absolutely no supplementary investigations ex Art 430, more

report it and say that ensure the truth of what I say I can not do. Since it is a separate booklet, but was made a separate booklet solely because the preliminary hearing focused not only tell, but almost exclusively on the hook, I do not have memory, and on this are just as sincere, from which evidence has been extrapolated that little booklet, but there are photos of hundreds of thousands, if this was possibly the magnification is a still-image or ...

ANSWER - Yes.

PROSECUTOR - Dr. Comfy - Of a still-image? ANSWER - Yes.

PROSECUTOR - Dr. Comfy - It is always the same speech, that hook, of course, and these photos, which I know at this time to report the origin, but say it is still a source ... the source is definitely the Police Scientific I do not know if they were reported or if the original picture is a still-image and then print photos as a convenience, but in any case refers to transactions, events, objects and places that have been reviewed December 18, 2007 I mean, that is no supplementary activities, there is no creative activity I mean, there's only a still-image with a magnification that is greater appreciation of the position of the first and the second time position in which it was for ... an appalling word the hook carefully, and to appreciate that the position is identical. Do not see what's new

both in the vision of these pictures, because the Public Ministry, the Prosecutor's Office seems to me that he has not, except in very special cases, objected that the use of films, summaries, graphics, photos that are not part of the acts investigation, and therefore are even re-workings of the defense, that with all due respect I think something different than a magnification of something that was done by the scientific police during preliminary investigations.

THE CIVIL - Mr. Maresca - May I, Mr President? PRESIDENT - Please.

THE CIVIL - Mr. Maresca - I have to say first that I urge the objection raised by the defense is probably a false problem because it is from them, we urge the defense teach the production of still photos from video extrapolated that appear completely identical, apart I make this observation in mind that the Court has already acquired the minutes of the inspection of December 18, where two cards on page 2 it is recognized that photographic surveys are carried out on page 3 and it is recognized that finding, and is marked with the letter Y, and then photographed, the hook of the bra with a small piece of fabric attached and found in Meredith Kercher's room, then, of course, the inspection of 18 is marked by the appearance of video, of course, and photos. I think that extrapolating from video or capture the photo is the same thing because the video is still available today, so we can revise the passage, so I think the

futile and insist that exception in the acquisition of associating these photos to the public prosecutor. The pictures, however, the acts should be in reference to the folder 102 in Volume 9 / A of the Public Ministry, which covers the inspection of 18 December with photographic report. Obviously we can not always wear ...

PROSECUTOR - Dr. Comfy - I was looking right at the binder on the recommendation of the Civil Party, and it lacks the booklet 102, even though I do not know the file is already part of the trial, if it is processed on other occasions, because there is the booklet 102.

THE CIVIL - Mr. Maresca - Yes, because the record has already been produced, President, and photographic evidence are attached to the minutes.

DEFENSE - Attorney Hello - For the purposes of all, of course, the exception does not apply entirely to the fact if a photo is taken out of the movie, because it is clear that we had the movie, as the doctor who told us the photos were made in ' scope of the survey ... it is clear that if we use are extrapolated for weeks and we always had.

ANSWER - Perhaps I expressed myself badly, that for me are the frames, photos, pictures, a video for me is something moving.

PRESIDENT - (inaudible off mic it) these images from what, has it?

ANSWER - No, I do not have it ...

PRESIDENT - The pictures that we are now looking at the pictures ... the inspection, we are now looking at this part of his report?

ANSWER - No, not part of my report. CHAIRMAN - So are the photos ...

ANSWER - The documentation of the inspection, and video documentation, are for the still-image, here, that I did, I did do on my instructions.

DEFENSE - Attorney Maori - If we can show the corresponding video, because we believe that they are photos.
THE CIVIL - Mr. Maresca - The video is the video of 18, President.
DEFENSE - But there are those photos, I've got.

THE CIVIL - Mr. Maresca - In the video of 18, yes, I see ...
DEFENSE - Maori lawyer - I can show you the piece of the hook 18. Then, President, although I make a clarification. With regard to the production of these photographs, which as we heard were done in conjunction with the video, in fact 415 bis of the folder 102, as reported by the survey is called a Civil Party with CD, CD contains original photos, visit the 18/12, 18/12 CD survey, the third part, there is actually a reference to photos, but I also in my file, I have here in digital, I have the pictures but I only have the CD, and I see that my assistant has a question mark when it requested copies, as if missing

photos from the beginning, so the picture we're talking about in essence, in the end were never provided. I also take to make it clear that the third part of the video has already been discussed, but this has been indicated in the list of 415, but in fact it was only produced the last hearing.

PROSECUTOR - Dr. Handy - President, there is no problem, we believe the filing of these three pages and then we will produce, there is absolutely no problem, so I mean it is not absolutely necessary to confirm that Dr. in short, a photo, here.
PRESIDENT - (Unintelligible it off microphone).

PROSECUTOR - Dr. Comfy - At this time it is really unnecessary, it was just for completeness but I can ...
DEFENSE - Deposit all, however, all photos ...

PROSECUTOR - Dr. Comfy - I do this I've got available, and that I want to use this store. That's enough. DEFENCE - (Unintelligible because outside microphone).
PRESIDENT - I'm sorry, sorry, but we avoid these moments that are difficult to interpret maybe ...
So the prosecutor regarding the exception says not to use the photos at the time to conduct the final part of the examination, reserves the right to make available those photos to parties and then later ask for the acquisition. DEFENCE - (Unintelligible because outside microphone).
PRESIDENT - I'm sorry, Attorney ...

PROSECUTOR - Dr. Comfy - This is a decision of the prosecutor, it is useless to ask the President. DEFENSE - We have all the photos.
PROSECUTOR - Dr. Comfortable - No, because the President ... President - (inaudible off mic it). The prosecutor is asked to continue.
Q. - But I saw that at this point ... I would like the doctor ... oh, no, she did not make the movie, right?
ANSWER - No.

Q. - So let's review of the movie 2, we review the movie of 18, when the cushion is raised, regardless of the picture, so the Court can ...

PRESIDENT - (Unintelligible it off microphone) the movie and we saw behind closed doors as the Court points out, was lifted when the body was then lifted the pillow and was ...

PROSECUTOR - Dr. Convenient - But the Court has memory, then, the position of the hook?

ANSWER - Basically this is it.

PRESIDENT - (Unintelligible it off microphone).

PROSECUTOR - Dr. Comfy - Very well, then do not waste time unnecessarily.

PRESIDENT - For charity, we're here, we do things that are needed to do. So when we saw the discovery of the hook in the first survey.

RESPONSE - In the first survey.

PRESIDENT - (Unintelligible it off microphone) was placed.

ANSWER - Yes.

PROSECUTOR - Dr. Handy - however, I'm sorry, there is the exception because on my booklet yesterday that these slides were projected, there has been no opposition in the sense that these slides will still be produced on record. PRESIDENT - (Unintelligible it off microphone).

PROSECUTOR - Dr. Comfy - Exactly the expected use will be produced at the hearing on the record, then those photos are the same that I had put in the paper for convenience in substance.

DEFENSE - Attorney Hello - So then it will remain the exception of nullity, if you do get the things that I have not seen ... PRESIDENT - I'm sorry, however, has requested production of these photos, there was the exception of defense, The prosecutor said "I do not use these photos, I reserve the right to produce them when the parties have seen", so now ...

PROSECUTOR - Dr. Comfy - This file, that is, these photos is that I can extract ...

PRESIDENT - It is not that we can go back, go forward with this test.

PROSECUTOR - Dr. Comfy - Exactly, because you already say yesterday were all aired and no one objected at all.

PRESIDENT - (Unintelligible it off microphone).

PROSECUTOR - Dr. Comfy - the booklet. PRESIDENT - (Unintelligible it off microphone).

I do not use the photos of the exception object. So go ahead.

Q. - We come to the protocols, certifications ... ANSWER - So we end up with this ...

Q. - No, close, close because both the hook we've all seen what was the position, on the other side has already told her.

Protocols and certifications. The questions will fairly accurate, there are binding international protocol for all police forces concerning the management of the crime scene? ANSWER - No, I do not know.

Q. - There are international protocols shared by police forces of several countries as a whole and shared by police of several countries?

ANSWER - No.

Q. - So what is it that exist, the guidelines? ANSWER - There are recommendations, the guidelines say that we follow the practice of technical inspection. Q. - Is it true that in the management of the crime scene, there are different rules, different of course that always give the same guarantees in short, plenty of those already explained, but there are different ways from state to state.

ANSWER - Yes, each state legislates and acts according to its legislation provides that, so each state is acting in a manner he sees fit.

Q. - There are international protocols that dictate specific rules on how to dictate decalogues repertoire? ANSWER - N_, no.

Q. - For example, there is a universally accepted standard that says that an exhibit once picked up by the biologist can not be repositioned to photograph?

ANSWER - No, I never read anywhere, not. Q. - It is compulsory to film the inspections? ANSWER - No, it is not mandatory.

Q. - So you because you do it?

ANSWER - We do it at our first ... as you can tell our guarantee, if there was need to review the actions conducted, review of specific points of the samples and the precise locations of the position of the finds, this was before the introduction of the Sferon 'only means that we had at our disposal, now and then, say, the Sferon also allows other solutions, other important information but the video is made in any case, in any case is already done.

Q. - The ISO 17025 is required?

ANSWER - No, no, it's on a voluntary basis, that is an institution, a laboratory, say, any institution, including private, public, or who willfully makes a request to the

certification in order to have that, too, he could boast of having worked as a laboratory.

Q. - The Scientific Police has asked that the result, the're asking?

ANSWER - Yes, and we have already asked to be here at all ... just say to start implementing all the procedures for accreditation then.

Q. - When she did, then a year ago, a year and a half ago when I started the investigation and the investigation began in Italy there were other public bodies, because never mind the private sector which is another thing, we are public She is public, I'm public, other public agencies involved in investigations ... forensic analysis, forensic type, so in essence the Scientific Police primarily for the Police and RIS for the Policemen, there were public bodies who had this certification?

ANSWER - No, no. We are the first with the Racis. Q. - You are the first to have it applied?

ANSWER - For having asked Racis with the Carabinieri. Q. - The Racis is the new symbol of the RIS is essentially the same thing.

ANSWER - Yes, basically it is our central counterpart, while the RIS is the regional counterpart of our toilets, that is, in fact, the RIS is the peripheral organ ...

Q. - What is commonly referred to as RIS, however, even the central one, that's why I ...

ANSWER - Yes, yes. Yes, indeed. Q. - The Racis is the middle. ANSWER - The central one.

QUESTION - Listen as you have asked to get this certification you should or you are changing modes of analysis, or you're editing or changing or replacing equipment, machinery, etc.?

ANSWER - No, because they already say, however, all our procedures are validated in forensics, which are used in forensics in the world and so there is no need to modify the procedures, you only need to write some things up to hours has not been done, also say this type of certification actually certify that all equipment and all the steps, all the working phases were carried out with instruments, equipment, diagnostic kits, test kits that are certified in their turn, makes it virtually is a certification that all that could be used for a certificate has been made, but in fact does not change anything, we say, because our instruments already being instruments of companies say absolutely world leaders in the field of course are certified for that instrument, because otherwise they would not be for sale in the world.

Q. - Look and when you will, you and Racis have obtained ISO 17025, which does not even know what it is for the truth, will lower the risk of contamination, deterioration of the finds of human error in the analysis and quant ' Another was to say here as argued, pleaded and commented?

ANSWER - No, I will never say ... that has no implication.

Q. - Do not change anything. Exactly. The degradation of the exhibit, she was clear, but I wish it were more clear, a degraded relic is an artifact that is likely to become useless?

ANSWER - Yes.

Q. - So finding a degraded may not give any results?

ANSWER - Yes.

Q. - So it's a loss, as you said, in terms of investigation?

ANSWER - Yes, informative.

Q. - For those who carry out the investigations in other words. ANSWER - Yes.

Q. - Why we are talking about biological analysis related to an investigation, not biological analysis of the universities or for pleasure. The degradation of the exhibit while it may affect the outcome of the analysis, a finding

degraded DNA can result in DNA instead of Tom

Caius?

ANSWER - No, it's just a waste of information, not an addition of information, so I can not ever be created out of nothing the allele that is of another person, I can not have more than one or more alleles

than person and therefore have a degradation precisely at a locus, or more loci.

Q. - Of course, however, re-formulate the question in another way because I am afraid that it was not clear, but not for her. So if a finding is not degraded, that's fine, absolutely perfect, supposedly as a result give my DNA, but once this finding has been exposed to the elements, has not been stored at the right temperature, it is filled with dust, bacteria , etc.. etc.. can give DNA Mignini of my colleague, Advocate Good morning, or I do not know, or of Dr. Stefanoni?

ANSWER - No, absolutely not. You do not create anything.

Q. - So it is that causes errors but causes the usability ...

ANSWER - The usability, namely the loss of information, if I have 16 loci, I can lose some, or all, but I can not add new one.

DEMAND - The loci are those rooms with the peaks.

ANSWER - I think there is something left of the loci if not ...

Q. - Of the small rooms with individual peaks. Because there are a number of loci is ... well, of loci to be discussed later, maybe I remember her.

ANSWER - Yes.

Q. - Then one track, not single, double, triple, small bath, bidet, edge, drain, she also seems to me that here was the view ... that is very clear in the reasons why it considered the single track, there in the bath n ' were more of these tracks, more than one was found.

ANSWER - Yes, more tracks.

Q. - So, for example in switch I think.

ANSWER - Yes, on the switch, we can also revise. There was the switch on the box of cotton buds located on the sink, on the mat at this time I'm showing, maybe we can also see them on the mat so that this is depicted with the three samples as well as I have done, the points I run as samples, so I cut a piece of the carpet at these points and then have them analyzed, so this is one of the finds ...

Q. - Where did you cut the piece out of curiosity, do you remember?

ANSWER - Just at the letters, so a little bit right on the cloth, that is one of the cloth say they are on the edge of this image.

Q. - And the result can not remember whether he said.

ANSWER - The result was three tracks on all human blood, as indeed is highlighted below the title, and profiles are all three victims, then the victim's blood and DNA. Then there is the famous switch with traces of pink here, on the monitor is quite noticeable even small specks ...

Q. - Yes, from the big screen can not see almost nothing. ANSWER -

Unfortunately the screen and the lights do not do it justice. Q. - By the fact of the analogy refers to the difficulty ...

PRESIDENT - (Unintelligible it off microphone).

Q. - I was saying about the difficulties we are experiencing even now see in those tracks, which is the same difficulty that we enjoyed in

the show traces of draining into the bidet, and dropping to the mat
He's got a different surface, and more absorbent .
ANSWER - Yes, it is also quantitatively different.

Q. - Math aside, let's say on homogeneous surfaces, similar surfaces
that can be the tile, the ceramic can be as of the bidet, I mean
appreciated similarities of these tracks? Even to understand the
timing of affixing the same track.

ANSWER - So from a purely visual point of view, then a visual
assessment that could be done when they were sampled and then were
seen, some of these tracks, which were placed in the bathroom, the
bathroom small,

were in coloring and then to possibly biological, that just looked like
blood, but until we say laboratory testing could not be said, however,
here, in coloring and then being able to imagine that it was blood, as
it has been established, these tracks appeared, some of them will tell
you that now, appeared very similar in terms of its vision, so was the
color faded, very faded, so they were definitely the same for ... but
you can also see the images exactly, you see why there can not see and
here you see more, surely this was not blood that was so obviously and
then the blood that makes me think of a blood that has not been mixing
with water, were some of these, I said, very similar in coloring, what
were they? This is one, there are several switches on these droplets
very close together, both on this switch, there were some spots on this
is very, very pink, small, and the same thing, the same type of track,
from the point of view, I repeat only visually analyzed or so without
having done anything, was also present on ... not so much on this even
if you appreciate that this is a still a little blood 'thinner, but
never mind this particularity, we say the edge instead, precisely
because as we saw before was just hard to highlight the image of the
computer, was also very, very pink, very diluted suggested that,
precisely, to a substance diluted blood, the same thing on the cotton
buds, here as

Usually you can not appreciate or perhaps you can appreciate it a
little 'more ...

Q. - So. ANSWER - I know not ...

Q. - I have to say that I see it very badly even though I see very well
from a distance.

REPLY - Oh, yes, I know, but, here, let's say that if you want to take
a good step, then another image that is what has been done on samples
collected in this area. I do not know if you remember, probably not,
because you have heard so many billions of words that probably do not
remember, however, I remind you, I'll do this. One of projected slides
that I say at the start of yesterday morning was about a little 'to say
... what are the recommendations in general, here, that we give to
those who then goes to do the inspection, then the operator, the video-
photo-detector as they say, then the operator of the Scientific Police,
which operates in the survey, one of these recommendations, as a matter
of chance, then our analytical laboratory, is to collect as much as
possible on a small surface area than the larger one that certainly in
this case ... that's how you might present to the sight of the operator

who must find, then you can collect as much organic material presumably you want to sample an area famous of these small discs of paper tissue, because this is how I test-tube

I try to put, to get a piece of paper all over the dirt, so to speak, so with sampling, because otherwise if the operator put the whole disk, if I remember correctly has a diameter of 5 cm, and a diameter much higher than the capacity of the tube that has a height of more or less an inch, an inch and a half, maybe two, would be virtually impossible to put across the track, then the track is picked as the more I can take it then throughout the laboratory, always given the small size with which we deal, we have to do, and then analyze it. So, here, we say that this surface appeared to the eye more or less half of the lid, cover the entire area, was roughly half, third, dirty, affected by this substance so rosy, the operator has collected in this tab, here in this small rectangle of paper, then once in the lab I do not take all the paper ... but they only take their own cut of the bar, in the phases of cutting only this portion, leaving the rest. So here, to conclude this image, even if you do not like almost nothing here, however, say the sample has the effect that maybe this picture is definitely sharper than the first, here is more clear, there is a clear pinkish substance, which was then precisely identified as human blood. Even here we have more or less the same problem. We have the pink substance, we say so much ... that was fortunately, I say, on a

white surface, because maybe if the sink or a cotton swab or the plate of light were of a differen_ color, maybe, I do not know, pink, pink was the best ...

Q. - The ultimate luck.

RESPONSE - In fact, we would not see anything, I confess this because, of course, a search even with the best intentions and with better accuracy, however, say the end is above the eye, in addition to the media, forensic lights, everything that can be used to help find, but ultimately it is the eye which is the main part, however, returning to the speech, if this had not been white, if the cotton swab was not clear, but there were a color say ... just not transparent, then a color determined, if the plate had not been white I probably I would not have noticed quite so rosy these tracks, would be at full attention ... say would be classified as traces d ' water, then limestone, which had been so, let there ...

Q. - Yes, yes, it is very clear.

ANSWER - So this is the visual data object, objects because I want to say even if it is subjective, the person is objective to say ...? Because only I have not seen, so the more players who were with me can definitely vouch that I have seen the same thing. So with absolutely reasoning based only on logic, not on other types of assumptions or extrapolations or whatever,

seems reasonable to suppose that these traces are so particular, that not a lot more and a less rosy pink, but let's say uniformly pink, can be left at different times, it seems strange, that's all I wanted to say that in fact there.

Q. - Okay. About the repertoire just a quick mention of the knife, the large knife, found in the house to urge in substance.

ANSWER - Yes, the one from 31 cm.

Q. - The find 36. She has plenty of reason for the reported location of the find, but there is still discussion on this point, although I do not understand, it appeared the knife clean?

ANSWER - Yes, it was not visible to the eye nothing.

Q. - For no eye had seen nothing. The handle, the finding of the point of no return ... that is the handle on the repertoire of the handle does not return because it was very clear in my opinion, it would perhaps be the case that you still specify why he decided to exhibit, then this sort of rubbing buffering ...

ANSWER - Yes.

Q. - What then is a Q-tip a little 'bigger, physically it is?

ANSWER - No, not cotton. No, not a cotton bud ... Q. - Yes, but I say ...

REPLY - Oh, as a form, yes.

Q. - As a form.

ANSWER - Yes, as the material is different.

Q. - Why did you decide repertoire so well on those spots?

ANSWER - Because it was virtually the only data that I had to orient myself in a sample of a blade that eye did not show any obvious biological trace.

Q. - I mean given that the blade was visually clean, in his experience, he has reportedly already believe before the judge for preliminary hearing, but we repeat, if anything could possibly be left ... ANSWER - It would be channeled, ie would remain in these scratches, especially in one of these grooves, furrows that call them but they are of scratches, perhaps a little 'deeper because he was opposed to say ... the light had an area a little' more shady, here , to put a little 'in the most practical, so these scratches is the only data I could say that would otherwise drive in a sample, as it happened next was completely random, the other samples that have been made on the knife, Therefore I am referring to ... in fact, the C that is contextual to as A and B samples, but also later ones in particular, the E and G, were made roughly more or less randomly, because I had no data , nothing to do just because they determine the sampling at this point rather than maybe I do not know, in another, that is because

here and not here, why here and not right on the tip, there was no evidence that would suggest it to me and this fact, then, among other things, gave a negative genetic analysis. The only information that I have addressed precisely this point is simply a morphological relief

that I could appreciate, and indeed this has also resulted in the victim's genetic profile.

QUESTION: - Instead of the hook about one question_ I do not know if he has already said, definitely yes, but remember, the track on which you have extracted the DNA of Sollecito were present on the hook or hook distorted sound?

ANSWER - On both, were analyzed in the sense that ... I have not been able to distinguish, were analyzed together, for the same reason, in that case I also do not see anything from the visual point of view, if the deformation, I do not know the bianchiatura not perfect, as it might be very bad ...

Q. - Yes, they were a little 'flaky, in other words.

ANSWER - They were a little 'bit flaky, but this happens all the hooks to use with bras, and nothing could make me understand that there could there be something biological, if not the deformation of one of the two hooks; speech rather than the piece of cloth, the fact that I showed you before the two sides, one of the two sides clearly showed two tiny little drops of blood, then of course there was the approach to sampling more targeted, has been driven , whereas the hooks were treated ...

Q. - At the czech.

ANSWER - The czech, so to speak. Q. - But they are so small ...

ANSWER - They were very small, both were included in a test tube and then say they were then subjected to the action of various chemical reagents that lead to the extraction of DNA.

Q. - Okay, now we come to his analysis, and then the alleles, the stat, if you please in the most simple and elementary as possible can summarize, describe, but then again so absolutely elementary ...

ANSWER - I'll try.

Q. - So that I can tell first of all, how to read those charts that we saw yesterday, so the electropherograms.

ANSWER - Yes, okay, taking that. I would say that we can take as an example one of the best, so maybe the speech because I hope that is as clear as possible. One of the best is definitely genetic profile as a reference and also the amount of genetic material that I had at my disposal is the comparison of the buffer profile of the victim.

Ingrandiamolo a little '. Then, as you can see in this electropherogram, so in this chart, there are peaks at certain points which we call loci, these peaks have a height different from locus to locus, this is a feature of virtually all electropherograms,

it is as if each locus was a little speech to himself, why? Because each locus is the product of a given chromosome analysis of those famous 22 pairs, so everyone in, say, a sort of history and characteristic of him. As you can see a profile that is absolutely good, readable from a scientific standpoint, there are greater heights of the peaks, there are fewer of heights, this is absolutely a particular physiological effect, ie, all the genetic profiles, with more than DNA with less DNA than have this fluctuation, that is not

a ... how to say? Something that happens once, it happens for some specific reason, because it happens ... that is specific with respect to the track, it happens for a specific reason I said that just depends on the history of its own each locus, so it's something absolutely physiological, so we alleles that operate on the 2000, rather than 2000 RFU, there are other alleles ...

Q. - I mean in height?

ANSWER - The height, the RFU is the unit of measurement of the height of the peak, there are other peaks, for example these: 20 and 23, at this point, practically touching, ie slightly over 1000, there are other peaks that go as that of X which is very high, comes to 7000 and beyond, because you remember the X is the overlap of the two X Therefore it is practically twice as quantitatively, and so on, so there are various possibilities. Now, if I ...

Q. - I'm sorry for interrupting. In each locus say for reading by the biologist who she is ... how many peaks we have here is ... that is if the electropherogram, this diagram refers to the DNA of another person we will find many peaks?

ANSWER - I have to have at most two peaks, so either I have two, because one comes from the mother and one comes from the mother, and are mutually different, let us say something ... say this is the rule _ecause they are much more frequent than those between different that those same two parents, but there may be several profiles that have the same peaks, it is not something totally strange, and some of these ... in this case, see for example the victim has only one locus with both peaks equal to paternal and maternal lineage and therefore overlap, so that surely means the genetic profile of this person as saying it has a higher degree of variability compared for example to mine that I've got a lot of peaks, so to speak, even if not you can see, I've got many peaks, say several loci where there are overlapping peaks, so the same. Then, also, that we must appreciate, however, is that the machine, as I said earlier, however, as a result of his also a whole series of other peaks lower, say almost invisible quotation marks, compared to the highest peaks, and here we can see some, I do not know if perhaps enlarging more ...

PRESIDENT - The car of her ...

ANSWER - The car ... as I said before all protocols involving the use of fluorescence for the analysis of them have a sort of background noise, so that we have already said, also, then, the process that leads to this analysis, then the PCR amplifies what I, however, produces a kind of ... let's call them artifacts, but of little mistakes we say, so to speak, that is, of course, certainly then overtaken by the result itself, in this case we have two peaks are very high, very sharp, very sharp, but we can not see that a careful analysis below, you see, there are smaller stakes, stakes here are also smaller, but I do not take into account because they are surely the things that have nothing to do with the determination of my genetic profile, or because they are in a particular location, are first, a unit of repetition, are in a position to understand that if this is this is 16 15, that is, they say one of the first bars of gray bars, so to speak, before ...

Q. - So when are first in this case what are they? ANSWER - In this case, no peaks but are genetic profile of the peaks are defined statter in forensic genetics, which is an English word. These statter what are they? They are like the little mistakes that makes the enzyme in the amplification process and that are absolutely essential from the analysis, I can not have, until now, then maybe tomorrow will develop an enzyme that does not do this

type of small mistakes, I can not have a profile that has at least some statter, because it is the polymerase that at some point by the chemical nature, for the type of DNA sequences makes these mistakes, these errors are expected, are measured and measurable and are such that they can be safely considered insignificant precisely because they do not know, have nothing to do with determining the genetic profile. There are also many definitions in the literature statter that if we want to we can see, only that they are all in English, I've translated so if someone chews a little 'English can still easily read in the original language. So these artifacts, these peaks are not always ... that is absolutely not related to the genetic profile, for example, there are others who are not related to the allele position, but they are ... that are not linked earlier, sorry, so you can not statter even consider, for example, we have an example here, maybe even an example below, there are some, you see? These peaks are then let's say more or less abundant, then this error occurs also with more or less frequently depending on the site, the locus that we are going to analyze, there are some loci due to their chemical structure, so their structure of DNA more likely to give problems to the polymerase, the enzyme that works then, and there are other sites, other loci have less problems for DNA analysis. Also another point to consider is that if this genetic profile, which in fact is so clear, so

Net, so we say good quality, we might almost say ... how many tens of dilute, short of several factors, we would have all of the peaks decrease proportionally, so if I could decrease by 10 _imes the amount of DNA present, so the amount fluorescence present in each peak, so I would become 286, 246 that I would become, that I would become 145, so I become 92, then proportionally be lowered when all the peaks, but would still ...

APPLICATION - All good?

RESPONSE - All valid because they are still not tied up to keep that in itself, but everything in general are linked to the genetic profile, which must still be a profile of good quality, so do not have a high background noise, because if alzassimo us a lot, that is, if we could get up here, unfortunately I can not do because it is an image taken from the computer, so it's not true ... that is not the software of the machine that I've got on your computer, if we could greatly expand the scale, so do not have a scale like this, ie 1000 - 2000, but we could have 50 - 100 - 150, below you would see a line you do not, you would see many small dashes that are just symptoms of the background noise, the noise of I have said and that still does not prejudice in any way ... that is physiological, not affect anything with respect to the analysis of the genetic profile that ...

Q. - Excuse me, doctor, because she spoke together of two different aspects that I would like to deal separately for better understanding by the Court, she spoke both statter on one side and a height of peaks to consider the other side, let them separated, we end up with the first peak, therefore alleles. Meanwhile, it is important to identify a peak as the allele, because you have to do the pairings?

ANSWER - We do the pairing, of course, I say ... by identifying those peaks in the same way then I can compare one or more other genetic profiling genetic profiling point to point considering what are the values that I come out, so I can say 13 and 16, the reference buffer, the track but I want to compare it, and I go to see the value of that point, so I do point to point comparison, and the only way I can give the track a person, so I can identify the track with an unknown individual.

Q. - Well, so I think it's clear why it is important to identify the peak to be taken into account, the allele to be taken into account, because then that's what ... ANSWER - Determine the genetic profile.

Q. - And that will be compared with the peak of the profile to compare in substance?

ANSWER - Yes.

Q. - And be attributed?

ANSWER - Yes.

Q. - You said that example by reducing or otherwise of changing the reference scale and then she said ... that fact is not said in the preliminary hearing, but maybe not yesterday said very clearly, the ' allele height is a criterion I mean ever to be adopted, or are there criteria or alternative, or additional, or at least equally valid to say, evaluation of the goodness of an allele to be considered as such?

ANSWER - Yes, because as I said a moment ago I've got this genetic profile to an average height ... so very consistent, but I could have the same genetic profile peaks also considering a much more low, so if I am here, as I said first, dilute 10 times, 15 times, 20 times I lower everything, but even these stakes Down here, we say these stakes, for example, this is the locus D3, or statter obviously related, so the statter in position 13 and position 17 statter, now, you appreciate the in this way because of course the profile is very high, so it's like saying a magnifying glass because we have good amounts of DNA, since the profile of the victim had a lot of blood available in the wound, the tracks usually do not know how we can extract DNA in priori, so happen the track where we get very little DNA and the track where we get a good amount of DNA.

Q. - And when it has little spikes are all little ones? REPLY - Of course, when there is very little peaks are lowered and not all for this but ... here is the criterion that has been reported before ... yesterday, the 50 RFU is definitely a good practice to follow, that if I have a height of 50 RFU Peak I feel safe in saying to a good result,

but if I go below 50 RFU in some locus, so I have some locus alleles that are lower, I do not why these alleles do not consider them a priori, ie not is that I make a clean break and say: "All that is above all and take what is below does not take it", because this machine can do it too, if you set the machine in such a way to say "I do not to see everything that is below this, a threshold ", precisely what is called cut-off, so if it gets below 50, below 60, I can also say" Do not make me see everything below 100 ", for some reason my machine does not see me, so I do not label what is below a certain threshold, or the machine can say" Do not remove anything, let me see everything, " this, of course, makes the machine automatically, but if all the genetic analysis to be resolved in this it could also make a technical, that is, with all due respect to a technician but not a forensic geneticist, that a person could do any, push the button, say 50, pushed okay and I get the result, but it is very important to evaluate all, or the entire graph, because all

I feel gives the performance of any race first, the amplification of all that happened before the race ...

Q. - That is, the electrophoresis is the one that is ... ANSWER - It is what gives the peaks.

Q. - ... represented by this whole series of peaks. ANSWER - Yes, but not the PCR you can see, there is something you can show the chemical reaction of PCR for short, is something at the molecular level, maybe I could do the doodles, but I have done the ' example of the propeller is amplified by a propeller in a different color that I had two, one in practice is what happens at the molecular level in the PCR. So basically, to summarize, the evaluation of a genetic profile I've got not only looking at peak - peak but above all looking at the genetic profile as a whole, that whole picture, what appears to me, so I can then once given me an idea to go see what's going point to point, then, that I have values, as I have, what position are other peaks that appear to me than the main ones, I can not consider them, but if I can not do not consider them, and so on, this is something that has to do solely with the professional competence that is acquired both in the field say every day and is, of course, from their cultural background. So, obviously, this is what needs to specifically say the forensic geneticist forensics, that's all.

Q. - Now on the other hand statter, she has already said yesterday that a statter, then a peak not to be taken into account as part of that error highlighting expected and predictable by its fluorescence.

ANSWER - Yes.

Q. - Have you ever said that must have dimensional characteristics of the particular.

ANSWER - Yes, height, height and position.

Q. - Here, the position we remember? All right, we remember both the accreditation criteria, which are criteria which established her because she so pleases, or even that ... just maybe.

ANSWER - I would be very happy to establish them from me, they have established course of international studies, of the bodies to make

rules in this field, for example, there is an international body that has produced a document, which is the ISFG, which deals to give directives to the international scientific community on what to consider and how to interpret, precisely to give directives. When we speak of statter, exactly who are these stakes to say that position should always precede a unit is said, of a repeat unit, but we can safely say precede a position to be very clear, the main allele, the 'main allele to be clear what I call allele that is part of the genetic profile, so what I call good allele, ie, an allele that allows me then

to complete genetic profile, then must precede a position, in addition this peak does not exceed 15% to wild root of its height, so I pretty much if this is 2460 ... I'll have this peak hours there the 'I measure because it does not say, but there is a scale that you can see, we say to orient this height to be at most 15%, say, a tolerance of plus or minus 0.5, owes 15% peak value of the reference otherwise _ will have to be considered as a peak, which is part ...

Q. - So according to a highest peak position can be considered statter, not necessarily what ... ANSWER - I do not know how far this frankly, because we have not measured, however, say there is no eye and ... I do not think the cross is above the 200 dash ... if this is 500, that is under 1000, this is more or less half of 500, I think it does not go above 250 RFU, so it is little more than 10 % I think, we can not say precisely, the speech also applies to this other peak. So some of these loci also have their own intrinsic, as perhaps I have said before, inclination, quotes, more artifacts to say, again because of the chemical nature of DNA, the type of DNA that is in the same locus, so when such a locus, such as this, is amplified, you see, gives more than others these pegs are not to be considered, so this is a statter, this is

a statter, but this is not, neither is this, so they are both ...

Q. - That is not to be considered but are peaks or background noise?
ANSWER - No, there are peaks to be considered is a sort of background noise, something that should not be taken into account, which comes out as given but compared to the main peak has absolutely no meaning in terms of ' interpretation of the data. I hope I was clear.

Q. - She was also asked why he did not repeat in some cases, electrophoresis, right?

ANSWER - The analysis of ... the electrophoresis was repeated in some cases.

Q. - Oh, it was repeated? ANSWER - Yes.

Q. - In some cases? ANSWER - Yes.

Q. - What circumstances, if you remember them?

ANSWER - For example, if the right of the blade of the knife, the analysis was repeated ...

Q. - And he gave the same results?

ANSWER - Yes, always gave the same results, we have more DNA results say ... just having a more or less down a bit 'lower in some loci, a little' less low in some loci, we repeated the genetic analysis injecting

in the machine, just in the capillary electrophoresis machine running twice the amount of DNA, of course ... we say this without being able to consider the repetition of the analysis, because I can not from the CRP, I have more material, we said that given the small size of the track I almost could not divide them into two to make two tests which would allow me to repeat precisely the analysis, so the only thing I could do is repeat the electrophoresis, because the volume of the PCR, then the volume total reaction I do not use all at once to perform the electrophoresis, we use a small part, one microlitre, microliter, and a half, that is one-twentieth or less, or slightly more, even, and then I injected almost simply more DNA in the car and I had a result we say that in some places, just because the alleles were not amplified, the machine failed to pick up, of course, is a completely random that the machine does not see the pieces that must take takes you to the event, of course, by the laws of chemistry - physical, so these pieces were aspirated, so to speak, at random, as always, if they were all well represented, as in this case, I can repeat a thousand times the 'capillary electrophoresis and this will always result, because they are all very abundant and so the machine can capture all with equal probability. But when we have a track so small, as in that case, maybe that has happened has happened ...

that some alleles at a locus were more amplified, so the enzyme has often found this couple to do it again, in other loci, always by accident, just because it is the DNA enzyme is not able to find many times the couple to which has amplified less. This affects how the analysis? Then the fact that when the car goes to aspire to do the peaks to the instrument, software, random ones that are less represented, it is as if we do not know, a bottle with many colored balls, if I I've got the same proportions of colored balls on average if I do I always pull out 100 draws the same colors, on average, but if I have balls that are less visible, so I've got 90 white balls and 10 black, if I do I randomly_draws 10 ...

Q. - It has more probability of drawing the white, of course. ANSWER - Yes, I always have the best chance to pull the white than black, then white will always be a higher peak than the black, or in other cases, as has happened, I do not just pull out the black, so what has happened? In some cases the peak was repeated, equal, in other cases, the highest peak is repeated, because I put more DNA, in other cases the peak was not just repeated, that there is a lack of alleles, because luck would have it, there was the possibility of having the uptake quell'allele and then ...

Q. - But it is happened that came out a different allele?

ANSWER - It never happened that came out of the green allele, ie, the green ball, because the green allele in reality we see, the green ball, that is, one thing has never happened to scratch, because there was in the first place. So what in the end, then to put it very simply, what happens? What I then comparing the two races, then the two profiles, I

have repeated on both loci, 11 as given, then the 16 then I have two identical alleles or one allele according to the locus for repeated 11 stations, for 11 points, the other alleles, then the other loci, other than 5 to 16, or have just given them both alleles, or they have one, then one of two of the couple was happily extracted from this lottery, but I never had something different, that is one more thing that would make me think that maybe that profile was not the victim but could be attributed to another person, unknown, unknown, however, another individual.

Q. - You've yesterday ... because, well, after all he talked about everything but in any case go back at least the most important topics. She has already spoken of the Y chromosome, the Y allotypes found in the track's hook, the hook we speak now, and has also made a comment at one point while he was answering questions from the defense, said, "Okay, some of Graphics can also discuss on the Y chromosome, however, say ... there is no question, "wants to explain to the Court? We repeat this thing that she did the exam also tests for the allotypes ... Y, and how do you think this gives the certainty

dell'attribuibilità track on the hook to Raffaele

Reminder.

ANSWER - So, when I spoke yesterday of precisely mixed and mixed profile of the track more precisely the victim urge I also added that although they may indeed consider the objections, the notes that I have been made with respect to the interpretation of this finding, certainly you can not take into account the objections that concern however another aspect of the analysis that I made, which is that of the Y profile. Remember how many times I have told you that in a mixed track, man - woman, there is the possibility to add more information by precisely analyzing the Y chromosome that is specific to the male part only of the track and of the male component. This analysis we have also said that the Y is not identifiable in the sense that it is not individualized one person, attributable to a single person because it is shared in the paternal line, so I can have a paternal line consists of 3 generations with as many children and grandchildren who are all derived from these have the same Y chromosome, because it's like the branches of a tree, then the father, son, sons of his son and so on, but what happens? To analyze in full, in addition to the analytical data as well as I produce, I can compare this with the DNA not as I do with what is rare in the population quell'allele rather than the other, I told you

allele to wild blue eyes, dark eyes, because this DNA comes only from the male, comes only from the father, so also the number of women that makes me say how likely it is in any position I have to meet clear eye, dark eye , light hair, dark hair, there is no mixing, so I compared this figure with only a collection of data, then of possible haplotypes that may exist, haplotypes will remember is the equivalent of profile Y, and then of possible haplotypes that have been collected in some internal database that are available online, then using the Internet, a database of reference at international level is one that has its

headquarters in Germany set up by Professor Luz Lower, this database holds genetic profiles of Y of different origins, then various international laboratories, all over the world who want to donate their data to this database, of course these data must be like saying a certification of quality control in order to enter, because they have to ensure the goodness of the data otherwise could also be obtained in a given absolutely no say in keeping with the procedures implemented in forensic genetics, and all laboratories are accessing both public and private laboratories that voluntarily submit their data and then placing them, pour them in this database. Now I can show you why I'm telling you precisely how data obtained from the database. These are the screens you see that I have printed, so there are things written

to me, but are printed on the computer, so I just printed, I photographed through the pages of my computer the computer, this is the site, "Echard Yorgo way," and this pretty much is what we can find on this site, the last update was made on February 13 this year, which means update? The last injection of haplotypes, then periodically collect genetic profiles from various sources and put into this database. What does the database? He has the ability to perform a search dell'aplotipo you want just make sure, so I entered in this screen, in these little boxes, as well as you can see, I entered all the values of the Y chromosome derived from dell'aplotipo hooks, I did Research on the total database, then click ... REQUEST - Excuse me, doctor, and those values are values that you have added that she has ...
REPLY - Those derived from the trace analyzed on hooks, then dall'aplotipo ...

Q. - Yes, but I say that has given her values? ANSWER - No, the car.

Q. - Here, the machine. ANSWER - If the machine.

Q. - Is that what I wanted her to say.

ANSWER - No, no. I do not attribute anything, is the machine that has given those numbers, short as it has read the genetic profile. At one point, then presses the small button search, and research, what came out, I do not know if

you can see, is that all stored in this database haplotypes, haplotypes, there definitely is a stress because maybe you do not have that information, haplotype length, and completeness of the data the same as what I tested, meaning 17 loci, 17 loci that is the maximum number of analysis currently possible for this Y chromosome, until a few years ago it was possible to analyze up to 11 loci, why? Because it was for sale a kit that analyzed more than 11, because there had not been there yet ... maybe at the university level knowledge to analyze more loci, but had not yet been commercially put virtually no kits on the market, and then having the need to standardize the results between laboratories, each laboratory that could not be created at home kit that would have analyzed that way, the data must be analyzed in the same way all over the world, so virtually complete profiles, then 17 loci say are a bit 'lower than that in total are included in the database, because, of course, the database was created several years ago when there was still complete the 11-loci haplotype, then among all profiles in the database that have 17 loci, and haplotypes that 17 loci

have this number, I do not know if you read, even after the resample, 15956 haplotypes, and different types, or maybe even if there is someone like then repeated, no matter ...

Q. - But that number refers to say the Y chromosome of natural persons, ie, 15956 or 15956 family men?

ANSWER - People, analyzing people, then the data that are placed ... then it is obvious that many people are that person, that is, every ...

Q. - It is as explained yesterday, fathers, grandparents, great grandparents, brothers ...

ANSWER - Yes, I already said anyway. So of course each of these haplotypes is a more or less large group of people who share the individual inserted say ...

Q. - Examined, put yes.

ANSWER - A number of other short his descendants who share the same genes.

Q. - And the result was?

ANSWER - The result was as you can read zero genetic profiles found in these haplotypes belonging to 15956 of 79 populations, were written here.

Q. - So in essence there is none of those entities included in the database ...

ANSWER - 15956 So basically these haplotypes were actually from 76 populations around the world.

Q. - 79.

REPLY - And the result was that in this database does not exist a similar genetic profile Y with respect to what I have analyzed, so that means that my haplotype Y

I can at least be considered rare, or not added to the database, which for me is say that I can still analyze the world, because I can not do the analysis to all people of the world, it is obviously impossible, so this is simply a tool available to forensic geneticists to assess the goodness of their data, that is, the reliability in saying the mistake to attribute this genetic profile Y only to this person and his direct descendants, so his father, brother, son, cousin by his father, uncle, that this branch of the family? In this case I can give to the bank according to this research data with good reliability because we say in this database I have not found another. Again, the database contains data updated to 13 February 2009. Of course, this analysis was also made previously, the database ... the moment I had in my possession the DNA of the Y, had a smaller number of haplotypes, because he was obviously less than 15000, then were updated, in fact other haplotypes were also included first and then I also had the same figure, because if you add can not be removed, so it was always zero ... maybe I do not remember, and 9000 haplotypes, can not remember the number, but the latest update this is available, then the conclusion of this course is that I have already said that this haplotype is not present in a reference database that contains 15956 haplotypes ensembles means ...

Q. - This is a negative feedback but she ... I mean that this is just a confirmation in some way the goodness of his work that had been attributed to the Y chromosome to urge, right?

ANSWER - Yes.

Q. - This is a confirmation? ANSWER - It is a confirmation.

Q. - The very latest demand. She said yesterday that when he examined the track on the hook, and possibly also other tracks, had already provided the genetic profile of the accused.

ANSWER - Yes.

Q. - of the then investigated. ANSWER - Yes.

Q. - And he also said that though ...

ANSWER - The analysis is done by looking at the genetic profile in front of me to interpret it and not watching what I can be more useful to interpret this in terms of ethics but also professionally, which I think is a requirement ...

Q. - And this has already been said, but let's assume that she was not ethically correct, and let's say that for some reason ...

ANSWER - Personal.

Q. - Well, he wanted at all costs attributed to the DNA

Raffaele Sollecito, and we, however, that despite this its

willful determination had not yet provided the DNA of Sollecito, so he first examined the track and then had become available to the genetic profile of Raffaele Sollecito, then after reading, say, the track, she exactly in his deliberate intention Raffaele Sollecito to frame, would have the tools to do it anyway, even at the rear?

ANSWER - No, I can not enter the allele that the more I like from the ...

Q. - But he could read the graphs?

ANSWER - I can always do this, I can always re-read graphics, those are stored in the software of the machine, so I can always re-read graphs, but read what is already there, do not put in or take away even that c ' is, because you can not do it right, that's not really ...

Q. - Yes, his answer of course is a biologist, honest and scientifically correct, but my question was even more provocative, I mean she still would have had maybe reading the chart differently, considering ... to say based on w_at said yesterday that deal in some way if he wanted the shot?

ANSWER - No.

Q. - According to his ...

ANSWER - No, as I understand it not.

PRESIDENT - But on this, excuse me, yesterday was reminded of a statement from which she had before ...

ANSWER - Yes, indeed, the profile ... PRESIDENT - The profile of the suspect. ANSWER - Yes.

PRESIDENT - Then this purpose to ... (unintelligible because the microphone off).

ANSWER - To not be affected. PRESIDENT - The influence that could ...

ANSWER - interpreting.

PRESIDENT - (Unintelligible it off microphone).

ANSWER - I play a statter, I first defined as allele, however, because it is ... that is a recommendation that is given, the statter is at most 15%, but I can decide that for me statter allele is a genetic true, is not an artifact, because the position is equal to that of an allele.

Q. - In this sense, I asked her, in fact, if she wanted to force fit Raffaele Sollecito could read differently in light of the profile chart that had the urge ...

ANSWER - Sure, statter, statter not consider, say that because it's something that comes out of the car, is shown in the graphic say, there are recommendations to international level of what is statter, and maybe we can also see, however, does not There is no law, including

quotes, which is set in the forensic geneticist to say: you mean you have to consider that the statter, or: what you mean you have to consider the allele, is the ability to judge the geneticist ...

Q. - It is clear, otherwise it would not help the geneticist. ANSWER - It would only car, 3130. Is the ability to say ... even in sensitivity seen in having several tracks with the same problems maybe, features, and their experience on the ground, in having analyzed thousands of tracks in the last year just seven years of work I and indeed in having been able to understand that some things count as general rules, and some are specific to a particular situation, and so on, so in that sense you can, in quotes, misinterpret the data, in wanting to give something however has a different meaning from the genetic point of view.

Q. - Precisely. Okay, but my question was aimed to understand ... in short, to say that if she wanted to do so could force a available later Sollecito's DNA to that extracted from the track. ANSWER - Yes, of course. Sure, in theory, yes.

Q. - The very latest demand. You have recently treated, cared for, of course, in his capacity as a biologist, other cases have also had national resonance?

ANSWER - Yes, I have dealt with the case of Public Prosecutor of Rome of rape in the first year, New Year's Eve.

Q. - What's the disco?

ANSWER - That the disco, the investigating

Davide Franceschini.

Q. - What was that adopted the mandatory detention in prison?

ANSWER - Yes, yes, I think it was the first case, which was then applied this provision ...

Q. - His analysis before or after application of the precautionary measure has been?

ANSWER - It is above the point of view of the facts, of course, that the facts then they have helped to make the measure law, that have shown ...

Q. - Your analysis on the DNA as a biologist was made when the boy was already in prison or ...

ANSWER - No, no. No, before that, then arranged the arrests were precautionary and was then later acquired the swab saliva, so the testing has been done before when the exhibits were acquired by the victim and then started ... even if he was however, already beginning to investigate this crime, but did not have the protective measure ...

Q. - And his analysis have encouraged the view accusatory or not?

ANSWER - No, because they have virtually cleared the track ... the genetic mixture has been found, I think I can speak even if it is a process not yet say ...

Q. - Yes, in general.

ANSWER - Generally speaking, because he had so ... INTERVENTION - (Unintelligible it off microphone).

Q. - I think it's important to understand if the doctor ...

ANSWER - That is still a case of national importance, however ...

ACTION - It is in the public domain.

Prosecutor - is in the public domain that had been arrested, perhaps not in the public domain the results of its investigations.

ANSWER - I was not going into detail. I was not going ... PRESIDENT - (Unintelligible because outside microphone).

PROSECUTOR - But is not covered by this news is absolutely secret.

ANSWER - The boy, however, the arrests were revoked protective measures.

Q. - But that's what I was wondering first, were dismissed ...

ANSWER - The arrests of protection.

Q. - I mean house arrest on the basis of the results of his analysis.

ANSWER - That's right.

Q. - What has comforted the thesis accusatory. ANSWER - No.

PROSECUTOR - Dr. Comfy - Thank you, no question.

At this point, this process is resumed.

At this point, this process is resumed. PRESIDENT - The Civil Part.

THE CIVIL - Mr. Maresca

Q. - Doctor, Lawyer Maresca is the Kercher family. Some clarification, I start with a general appearance and then something in particular.

So, she has prepared a technical report, we have also in paper, he has also the Court seems to me, right? Technical report, surveys of

forensic genetics, I refer to his conclusions, Dr.. I do not know if she has it on a support ...

ANSWER - Yes, the technical report. Q. - The report, the report. ANSWER - You want insert ...

Q. - Yes, yes, but it definitely is on record. PRESIDENT - The file does not find her.

THE CIVIL - Lawyer Maresca - It is with the file photo, I think both acts together with the file photo.

PRESIDENT - If necessary, we will acquire the outcome of the deposition.

THE CIVIL - Mr. Maresca - is on the record, binder 2, 119 - 126.

PRESIDENT - then we check the meantime.

THE CIVIL - Mr. Maresca - Yes, yes, we have already occurred to the acts, binder 2.

The want to continue, Dr., in support? ANSWER - Yes.

Q. - She concludes with cards referring to the biological traces of those concerned with the genetic profiles of this story, right?

ANSWER - Yes, I am of the tables.

Q. - Yes, from page 264 onwards. If we want to open, she divides the biological traces the genetic profile of Meredith Kercher, Rudy Guede then those related to Hermann, 265, 66. ANSWER - I go to the tables?

Q. - Yes, the end boards, thanks. If we can repeat the criteria of division of these cards around the traceability between the individual and mixed, and then we go on some finds in particular. ANSWER - So ...

Q. - Perhaps as comments ...

DEFENSE - But there is opposition on the fact that there is a repetition of the analysis of the findings, we did yesterday, we did it today, so if we repeat the analysis ...

THE CIVIL - Mr. Maresca - No, no.

PRESIDENT - No, no, this is certainly the intention ... CIVIL PARTY - Mr. Maresca - Absolutely, absolutely.

PRESIDENT - (Unintelligible it off microphone) the specification of the application.

Q. - I apologize if I have not been specific, I would just comment on that Dr. multiplication tables and explain to the Court, ask that the acquisition of the report, the division simply finds precisely in reference to the positions of the accused and the deceased. Not individual pieces.

ANSWER - No, no, absolutely. Let's say the criterion by which these tables have been prepared, which will show short, was simply to collect a ... shall we say, precisely, the table summarizing all the tracks and all the finds analyzed, and also, of course, related to convenience, with pages reporting the results of which we speak in fact tables, split, I said, the tracks for the genetic type of result obtained, then this table, which is the first, A, is summed up everything that concerns the analysis genetic provided as a result, in fact analytic, the genetic profile of Meredith Kercher, so as you can see the first column is the numbering of the exhibits, as they have been cataloged, the title track as they have been shown in a photograph, the type of

track that were inherent in these samples, and where the results have been reported in the technical report, simply a mode, I think, more streamlined, easier to see to indicate, in fact, the various

findings in an overall view in terms of results, then I believe is the key, say, of all the genetic analysis, that is the important thing is to know the result at the end of something.

Q. - We want to see, doctor, the division of cards?

ANSWER - Yes Then this, Table A which follows on the next page is all about the overall analysis of the genetic profile of Meredith Kercher, and then we all tracks ... sorry I did not say that the line in each table is highlighted in blue covers virtually the finding, then the tracks that have provided the result of genetic reference person, then return back to a moment of clarity, in the case Meredith Kercher have said that finding 21, the pad made by me in the morgue larger wound for me is the reference with which to compare each track for the assignment or exclusion of the genetic profile of Meredith Kercher.

Q. - So, Doctor, in each of these cards also try an indication of the reference specimen for each position?

ANSWER - Yes, exactly, so in this case the 21 findings, again, is that of Meredith Kercher, 58 will recall the finding is finding his toothbrush in the bathroom of Guede Rudy Hermann in use, practically with it, 58 finding the course are enclosed,

contains all the genetic results, in this case or the complete DNA, then the STR of the entire DNA, or specifically and / or haplotype Y, then some tracks have to say both the complete gene, then the profile is complete genetic STR nuclear, and Y haplotype, some others have only the Y haplotype, for example, the trace of the bra, track B has only the genetic profile of Y, then here are grouped, in this case, by finding 12 to go down, then we said the finding that 58 toothbrush, all tracks related to Rudy Guede, mixed biological traces in Table C, mixed with the genetic profile of Meredith Kercher - Rudy Hermann Guede, both for the autosomal STR, which is the full profile of DNA, specifically Y haplotype, so here are all enclosed ...

Q. - This finding, Dr., is the bag ...

ANSWER - It is the brown bag, the brown bag in the second survey findings, the 166, which resulted in the mixed genetic, then there are the autosomal STR, ie the mixed profile Guede - Meredith, the more the Y haplotype, and here shows the results page.

Q. - I'll quickly find a specific question on this, as the type of examination as a result and is comparable to that performed on the mode hook of the bra?

ANSWER - Yes, in many respects is similar. Q. - Can you explain why, please?

ANSWER - Well, first of all to tell his story, as the hook has been voluntary or involuntary transfer, however, the displacement relative to the area of origin, meaning the area of origin as the area where the bag was seen rather than the hook during the first inspection, then the

hook is the bag that have undergone a change compared to what I then found during the second visit. Moreover, another parallel can certainly be from the point of view of the genetic results obtained, both are mixed into a track, the hook has two tracks sampled: A and B, but the bag has only one, track A . Both, I repeat, have resulted in a genetic mixture victim - individual or Guede and Sollecito, more dell'aplotipo characterization of their Y males, then, say, in essence I would say from this point of view of parallelism. Q. - Let's go.

ANSWER - Yes, there is also a table, D, in which are enclosed in the analytical results obtained from biological traces of unidentified individuals profile compared to saliva swabs and swab of the victim that we have available, so they are, we can see, 7 men, 8 men and three women indeed. I should point out that many of these results you've seen them because they are not related to a part of the inspection, and therefore the findings of this survey, which were acquired during the survey of November 2 to 4

in the apartment below that of the victim, the one where he was found copious amounts of blood traces of this infamous cat, then say this area at the end of the inspection, the house has been completely abandoned by the analytical point of view, because results were obtained at first, then after say ... how to say the point of view it is a bit investigating 'the adjusted range, then you are obviously very precise investigation of the assumptions made, so this part of the analysis was then suspended.

Q. - Abandoned, rather than suspended.

ANSWER - Abandoned. Some findings are also always included in this table, were then derived from tissues that have been acquired by the Cabinet of Scientific Police in local areas immediately adjacent, then the street, because they were bloody tissues, and could lead one to suppose something related to ' homicidal event, so in conclusion these results were not shown for reasons of expediency, because they seemed to be absolutely out of the speech that we were doing, except, of course, you have seen here and there, there are some individuals falling in the analysis that we have shown, that I have shown, perhaps because ... well, for example, the 7 man, if I remember correctly, I found cigarette butts in the ashtray in the house, so some of these unknown profiles are returned in the analysis that I showed you,

others have been estranged for precisely that reason I have explained a moment ago. Then we go forward, there is a table, the table E, which is home to the analytical results obtained from traces on the genetic profile of Amanda Marie Knox, the reference profile is the finding 31, the swab of saliva, all other tracks are the ones we have spoken at length in these two days.

Q. - Let's go.

RESPONSE - Table F shows the summary of the analytical results of samples related to Raffaele Sollecito, both from the standpoint of the overall genetic profile, both from the point of view dell'aplotipo of the Y chromosome, the reference profile is that of finding 30 that in fact you see highlighted in blue, after which we turn to Table G, which

owns the only biological trace refers to a mixture that includes the genetic DNA of Meredith Kercher Raffaele Sollecito and, finding just the 165.

Q. - That is the hook of the bra?

ANSWER - The hook of the bra, the trace B in particular, of this, in fact, we have both the comprehensive analysis of the genetic profile, mixed, and the analysis of the Y chromosome, and finally, I think it's the last, maybe not, there is a table of biological traces with genetic profile of Meredith Kercher Amanda Marie Knox, and then reported to the mix several tracks, as you will remember most are those of the bathroom, the 183 and 177

are the traces related to luminol if I remember correctly, the analysis made on samples highlighted the luminol.

Q. - Let's go.

ANSWER - There is still this. There is a table that includes the biological traces the mixed genetic profile derived from the genetic profile of Raffaele Sollecito and Amanda Marie Knox, from the point of view of asotomici STR, then the mixed genetic profile, and if it is indeed was done as an alternative or exclusive male part of the Y haplotype. Q. - The last table is related ...

ANSWER - Yes, the only finding was the salivary substance of Lumumba, but as it was then excluded from the criminal proceedings do not talk about it.

Q. - Here, doctor, let's look back to the immediately preceding Table I, exhibit 145, correct me if I'm wrong, is that of the cigarette.

ANSWER - Yes, the cigarette in the ashtray. A moment that ... No. Q. - No, no, the next to last, before that of Lumumba. ANSWER - Here it is. This.

Q. - Where did you found a mixture of genetic profile

Sollecito and Knox, right? ANSWER - Yes.

Q. - And that turns out to be a further finding, in addition to the hook, referring to urge, is that correct?

ANSWER - Yes.

Q. - Do you remember when it was finding a cigarette?

ANSWER - Yes, during the first inspection, then the visit 2 to 4 November.

Q. - Of course directly into the ashtray? ANSWER - Yes, yes, directly from the ashtrays were placed individually in their butts various shells, and in the various bags of paper.

Q. - At that moment yo_ were already entered the room

Meredith Kercher?

ANSWER - Yes, we had already entered.

Q. - I go back to finding 59, the bra. She responded by saying yesterday that the bra, and we saw the video and pictures, was traced immediately to the feet of the corpse, it was obvious.

ANSWER - Yes.

Q. - He also said he was finding almost immediately, right?

ANSWER - Yes, one of the first findings, yes.

Q. - He reminds us that profile was traced on the bra?

ANSWER - Yes, we can also see from the tables shown here. Then in Table A shows the result of genetic ... Q. - Who is attributable first and foremost?

ANSWER - A Meredith Kercher, 59 the finding, and was acquired by the traces indicated by the respective letters of the alphabet, then A, B, C, D, E, F, all these samples have essentially resulted in blood and genetic profile

precisely Meredith Kercher. The other result from this finding is that Rudi Hermann Guede inherent only in terms of track B, was obtained ...

Q. - That is to say?

ANSWER - The track was found on the snug, if I remember right ...

Q. - Yes, he stated yesterday.

ANSWER - the bra ... to say the posterior, then placed a little 'closer to the cut of the bra, and this has resulted in genetic sampling only men say, Y genetic profile, has not produced genetic mixture.

Q. - So it's genetic profile was traced

Reminder course of this finding? ANSWER - No, no.

Q. - Let's go to the mat instead of a survey of 18 under which the hook is traced, what else has been found under the mat?

ANSWER - We say that a number of leaflets were not finding and then a short white socks, gym shoes, which was identified as Exhibit Z in the spot and I remember it ... but it is a bit 'hard as I look at the pictures ... because I do not remember the precise number of the exhibit, say a number of course included in this table as a fact finding laboratory, this sock has given as

... resulted in a three samplings were carried out on this sock and one of them was bad and was ...

Q. - Is the finding 167.

REPLY - Ah, thanks. So as you see the artifact 167 has only two useful results, the B and C, you remember, but we can also look at the pictures, two samples are made more or less on the back and the soles of the socks were evident traces of the alleged blood substance which later was confirmed to be essentially just gave blood and genetic profile as that of Meredith Kercher, the third sampling, which was to not give any results genetically, and was made by me on the edge of the sock because we say The idea is to say ... say ... investigation, we may say so, was that maybe it was also useful, apart from seeing the obvious traces of blood that it could be assumed to be those of the

victim, it was interesting to see who wear that sock, unfortunately the result was negative, then we can say nothing with respect to membership of the sock to a person rather than another.

Q. - Where was the sock under the mat, the mat over, you remember?

ANSWER - It was wrapped in it, in fact this is also evident from the video, say, in fact, so the operator after finding the hook up with the fabric pad in a more obvious and so from this, move, drop down the various

things, bits of paper and this sock was wrapped in it.

Q. - In all of these artifacts have been found genetic profiles of your operators?

ANSWER - No.

Q. - I go back a second input in the room of Meredith Kercher, the handle has already replied to the defense of Amanda Knox plenty of blood.

ANSWER - Yes.

Q. - So do not benefit in substance of the investigation. ANSWER - Yes, with regard to the characterization of the Y chromosome, because then the general biological assessment for the genetic profile has been done.

Q. - So you exclude the assessment of different genetic profiles of the handle?

ANSWER - Yes, there is nothing except that there was evidence the victim's genetic profile.

Q. - I shall focus on the findings in the small bathroom, you had to refer the dispute ... we start from the general fact, tells us how many and the outcomes._

ANSWER - So ...

Q. - If he wants to take pictures, as you say, I ended up with tables.

ANSWER - Yes, maybe you should go back to the technical report ... Q. - But I do not want to examine, warn you now ...

ANSWER - No, just to know the number by heart because now I do not remember.

Q. - I am 22 - 23 - 24, etc. .. ANSWER - Yes, those.

Q. - I would like to show us that those taken with the same hand, and those taken with egret egret different, and then tells us the result.

ANSWER - Okay, can start with this. That's the carpet that we have already seen several times now, this pad has resulted in three genetic samples of blood belonging to the victim, then the substance is blood from the switch, of course, was taken ...

DEFENCE - (Off microphone).

THE CIVIL - Mr. Maresca - I asked the question, Mr. President, I have no special obligations, not in cross-examination.

PRESIDENT - (Unintelligible it off microphone).

Q. - I direct the question: are there differences between the outcome of the investigation the sample taken with the same egret egret and

different? That is, correct me if I'm wrong, I think the cotton bud, so to speak, has been taken with egret say self respect ...

ANSWER - Yes.

Q. - Of course, that success has given us?

ANSWER - It gave resulted in a genetic mixture. Q. - What?

ANSWER - Victim - Knox, we can also see, here he is, 136.

Q. - It's the same outcome of the other samples, apart from the switch?

ANSWER - Aside from the switch and the tap ... Q. - That is essentially that of the bidet.

ANSWER - Well, that's one of the bidet and washbasin. Q. - That's the bidet and the sink?

RESPONSE - All three have resulted in genetic, here we can also see here, even the victim more of the interior basin Knox, also of ... I find it, I think ... Then this is the victim more of the interior basin Knox, that of the cotton swab over Knox victim, the victim of the discharge of the bidet as Knox.

Q. - So the same outcome for all? ANSWER - For all three samples.

Q. - With reference to the establishment sull'aplotipo Y which has already spoken, I am referring to the hook of the bra, then the assessment using the database, she said she used the contiguity, the identity of 17 loci.

ANSWER - Yes.

Q. - It is a very high number for a security of the investigation, low, average, high, what is the approximate number of reference?

ANSWER - Let's say for what is available on the market today, so that we can use to

Y perform haplotype analysis, is the maximum possible extent of analysis, then, let's say, now we can carry out this analysis on 17 points, up to three - four years ago it was possible to carry out the analysis on only 11 of these loci, and up to long before even on some gene locus. Nothing forbids, and say nothing can be predicted about the future, maybe in a few years it will be possible to analyze more genetic loci of this chromosome, but the kit currently on the market of Applied Biosystems Wayfarer is the kit used for the analysis of choice dell'aplotipo Y, the most complete.

Q. - So it's fair to say that in this case is the ultimate state of the art, as they say, usable, attainable? ANSWER - Yes, it is the best we can use for current availability.

Q. - The kit that you mentioned and machinery used in your laboratory course are all marked EU, are used around the world?

ANSWER - Yes, they are used so ubiquitously in all forensic laboratories in genetics, but short of a certain level, because they are the latest devices available, most innovative equipment available, there are some functions that are perhaps a little ' older than say from the perspective of the analysis, the software, then anything that involves the use of these tools for identification purposes, then

are still there but these are the best available market.

Q. - Returning to the hypothesis that the prosecution was malicious in his attitude, you can tamper with the machines they?

ANSWER - I can not even do that.

Q. - Can you tamper with the electropherograms and then come out the result_

ANSWER - No, no.

THE CIVIL - Mr. Maresca - Thanks. PRESIDENT - Please.

DEFENCE - Mr. Good Morning

Q. - Doctor, about the recommendations of the scientific community of which we thoroughly discussed, she said responding to the public prosecutor "is not about laws," you can tell they are the rules of the scientific community?

ANSWER - The recommendations, yes, if she intends to rule ... Q. - Who are coming?

ANSWER - By official bodies like, here, ISFG, which is an internationally recognized authority say ...

Q. - I wanted to know who is the source, that are not private, are ...

ANSWER - No, are also private or public institutions, say, of course, must have ...

Q. - What are these recommendations?

ANSWER - We say to dictate the rules of good practice, to suggest rather than dictate, to suggest best practices so that the result can be obtained not only consistent in terms of the different possibilities of analysis that can be done, but also because of the content that they may have.

Q. - You said that no one has these certifications that you are trying to achieve, at least in public bodies.

ANSWER - Italians.

Q. - Do you know instead of some university laboratories, including what the professor is part of their Tagliabracci actually have these certifications, or one of these?

ANSWER - Well, to me is that the certification ... at least to me, I repeat, is that the certificates for the test, just for the 17,025 we have some institutions but not involved in forensic genetics, but clinical testing, this the I know.

Q. - You can not be excluded that universities have the certification ...

ANSWER - No, I can not be excluded, I can tell you what my knowledge.

Q. - Certificate of accreditation, certification of accreditation means that you get this,

competent external means ensures that best practices are followed and the goodness of the results?

ANSWER - Yes, there is an outside agency that will certify that all the practices we carry that we comply with the rules.

Q. - Do you know if what you would have implemented coincident with those of laboratories at universities that already have the certification?

ANSWER - No, because I was not aware that even the private or university laboratories have ...

Q. - Do not private, university.

ANSWER - College had this certification in forensics.

Q. - Method of analysis, assuming that I want to trace a lifetime that no one thinks of a willful misconduct of the witness, because it seems so ... well, it is excluded, so I put him here so you ...

ANSWER - Well, I'm glad.

Q. - The scientific community, we have already said in the course of my examination is not recommended to use the method called suspicion-centric, ie random Excluded men nod, is an approach called this way because the genetic profile of the suspect has already and the recommendation of the scientific community is to avoid having the first profile to avoid being affected, this is correct?

ANSWER - Do not avoid it in my availability.

Q. - No, no, we were talking about the method for now, then in this case we know that you had taken and he could not throw, but I'm telling you the reason why these famous part of recommendations of which we said the approach must be a suspicion-centric approach is not what it is?

ANSWER - That's not to be influenced in any way from having a result of a genetic profile of a person who has been careful.

Q. - Is it correct so precisely that according to the scientific community should be avoided ... the geneticist should avoid saying: "This profile that I may be part dell'elettroferogramma?", This is what the scientific community does not want?

ANSWER - Yes, that's what will not.

Q. - From an objective point of view, however, it is fair to say that she had the profile?

ANSWER - Objectively, yes, I had it. QUESTION - How many profiles had?

ANSWER - When?

QUESTION - How many pads did he do?

REPLY - Ah, the two pads ... I had four pads, including

Lumumba.

Q. - But it was not considered to have pads or genetic profiles of oth_r people who were at home, such as fingerprints of persons who had been found in

home? We have seen that I know of others ... I do not want to name names I mean something else that seems suspect, since there are

footprints in the third house also why in that case was not considered to also make the DNA profiles?

ANSWER - I can not say because I decide which artifacts are acquired and which are not.

Q. - But is not an indication of ...

ANSWER - It is not my choice, no choice is defined purely investigative say, behold, I will not go on the merits. Q. - About everything you said, also correctly, the difference between the technician and the forensic geneticist, the technician may use these machines tested and perfect and bring out the electropherograms, the moment he begins the task if we brought the intellectual and scientific geneticist is able to interpret and transfer it in these electropherograms cards with numbers, and these cards with numbers that we find from this page ... if I point to the 202, is in fact the scientific interpretation, but subjective the individual geneticist.

ANSWER - Yes.

Q. - What is done doing what you said yesterday, I know that maybe it is not easy for the Court, the pair of numbers.

ANSWER - Yes, but I also want to completeness of the information she is giving me to tell the Court in this case, but also in all other cases of technical reports, I

Then join in a binder outside the relationship itself the chart, and I to this ...

Q. - In fact, in fact, she associates in the reports, the objective data and its interpretation.

ANSWER - That's right.

Q. - And it does so precisely because in the process, as happens here, from the same electropherogram of the defense expert will then make several pairs.

ANSWER - Yes, then gave me the data, interpretation, and the objective fact that given ...

Q. - Different interpretations usually take place in his experience on the basis of the height of the peaks, the amplitude of the peaks, the statter, which are usually the most discussed elements?

ANSWER - Everything, all of this. Q. - Everything?

ANSWER - Yes.

Q. - When there are heights of less than 50 is often debated whether a forensic statter or not?

ANSWER - No, under 50, no. Q. - What is it?

ANSWER - Because I could not see it, that is, if it is a statter below ... if a peak is 50, say, if it should be a statter my peak should be 10, should be 5, in fact, because 50 divided by 5 should be ... RFU, which is not even the background noise, I highlight that I do not.

Q. - But when it is above 50 is considered normal practice for the allele?

ANSWER - Generally in reference ... but it is a relative comparison, I can have a statter which is 100 because the reference peak is 1000.

Q. - Yes, but for now ... it does not enter, because yesterday I made the examples already there and then we will think my telling her, is to explain ...

ANSWER - So ... depends PRESIDENT - You say 15%?

ANSWER - Yes, so if my peak is 5000, because I can have a peak in 5000, I can have a statter of 500 or more. Q. - No, I did not say, however, the peak ... they told me that perhaps I had not explained well in

question, I did not say that the reference peak was 50, I was saying ...

REPLY - Ah!

Q. - So maybe I was wrong to do the question, I said if one has not the reference peak, one of these mounds, which are the peaks of fluorescence below 50 is usually construed, even then consider whether it is in the second track, or simply mingled, also seeing its position, however, is usually referred to as a statter under 50.

ANSWER - I usually but it depends on what I've got in front of me. Q. - And then again depends on the approach and the collective reading of my chart?

ANSWER - Yes.

Q. - Another thing that I wanted to say, what time is found the hook?

ANSWER - When the first time? Q. - The second time.

ANSWER - It is one of the first things found, so ... definitely before 20.30, behold, I can only give this indication. Q. - What time were you entered the second time?

ANSWE_ - I do not ... The second time, then ...

Q. - It is not tricky question because there is a problem that lacks the time in the video.

ANSWER - No, no, I will explain why I have trouble remembering, the survey actually, as you know, started very early in the morning, because it was made a ladder for entry, since there were several requirements that meet, then there were the expert witnesses and consultants who were part of the look of some things, there were possibly a fingerprint colleagues who have looked to see if she should find, analyze something 'another, and yet this was not, so let's say I am among the last people that as far as my business came.

Q. - So you do not know how many people had entered the 18 before the discovery of the hook?

ANSWER - Sure consultants, yes, there was Professor Pascali, Professor Power, they remember them, I think there was also a professor Vinci, then I remember

Some people, however, your total ... then there was our operator, of course, were the people involved in that day. Q. - And after the second she found herself the hook compared to the beginning of activities in which all were there? ANSWER - Sure after 6:00 p.m. to 7:00 p.m. the day because the activities started in the morning and then in the evening were made ...

Q. - Have you started doing these more ... ANSWER - Yes, about 18.00, I think.

Q. - And she said that was one of the first objects? ANSWER - Yes I remember ...

Q. - Even the first?

ANSWER - I can not say if this is the first or not, because we had to say as well ... let's say that work of putting in order, so to speak, with regard to the objects that were ... like garments that were been placed ...

Q. - I say if you remember the first was finding another? ANSWER - No, ...

THE CIVIL - Mr. Maresca - President, there is opposition, I apologize.

ANSWER - I do not know him ... there's the record.

THE CIVIL - Mr. Maresca - There is a report which gives the time and movement in the rooms and the presence of the other consultants, so ...

DEFENCE - Mr. Good Morning - The questions to the witness ...

ANSWER - No, I do not remember by heart.

DEFENCE - Mr. Good Morning - But the heads to serve their own questions to see if the witness has perhaps more in-depth knowledge than verbal.

THE CIVIL - Mr. Maresca - But since there is a list of repertoire with the same time I think it is useless to say groped different things ...

DEFENSE - Attorney Hello - No, look, there is no one who tries to do anything.

PRESIDENT - The questions have been asked, the witness has answered, then according to the minutes is on file you will acquire more items. Please, go on then.

Q. - At the time of the discovery of the hook you remember who precisely was in the room, only the scientific police or others?

RESPONSE - In the room just the Scientific Police. Q. - Only the Police Scientific? ANSWER - Yes, the room, yes.

Q. - Why did the movie would seem that perhaps there is someone else, right?

ANSWER - I participate in this survey also a member of the Perugia flying squad, the Deputy Commissioner Napoleon.

Q. - And he was present at the time of discovery?

ANSWER - What was in the room I can not say because I do not remember who was present at some stage of

inspection, for example in the hallway I remember, the location in which it was taken when the mop, for example, so I do not know if she was present in the room, this is not me ...

Q. - On page 201 of his report, please note that before we talked about when considering the amount of DNA ... the track on the famous hook.

ANSWER - Yes.

Q. - And there's a sort of small square where you think you write to practices carried out by placing an X

ANSWER - Yes, yes.

Q. - Here, there is a relevant fact, however, to indicate the amount that we have seen the importance of this can have on the peaks, because this indication is missing?

ANSWER - simply for not reporting the numbers that could give rise to error, zero point because maybe something can be problems ... that is precisely the transcription_ so if I put quantification performed and put the positive result, because it really refers to the executed 'DNA extraction, then the previous line, then run to extract trace, say the line below with respect to quantification indicates the result, so in that square with an idea I point to positive, that is, the amount is ...

Q. - It's been done.

ANSWER - It has been made but say it is quantitatively useful for amplification, this is the concept, otherwise there would be a circle with an X where it says bad quantification.

Q. - I noticed that it was this fact, as I tell my technicians, and then explain it, which is quite important to know how much ...

ANSWER - Yes.

Q. - I just reiterated the fact that we still will be a necessity, in the preliminary hearing she said she still was not a lot ... now we will find the exact page, that little was said that this amount of this track .

ANSWER - then a moment ...

Q. - Let the sentence that says so ... ANSWER - It is because the amount of track ...

Q. - What did I tell her so she has directed, "The track is not seeing the naked eye it is reasonable to think that it is extremely small, I think in the sense to keep the data", see if you talk about that, yes, and then repeats " small size, minimal track "... so that does not give a number.

ANSWER - No, I do not give a number, no, because I do not remember by heart.

Q. - Then I ask if this track was still very small from what she told us today ... this track than I wanted to ask because the relationship within the track

is a victim report 6 1 Sollecito, the amount of afferent Reminder is a small part of a sixth already small amounts?

ANSWER - No, and I wanted to highlight this fact, what I meant, and I think that what has been transcribed, in short, the way ... if I was watching the clip I noticed a trace of macroscopic, that is something like the blood that was visible to the naked eye, there you can make an estimate of what I can wait, watching the track, in that case because the hooks are already in itself a small amount of surface, already in itself did not show anything that could eye to suggest a quantity of track, I make an argument and say: "I expect a small amount of DNA." In reality, what then was found so small it is, because if she sees the total genetic profile, because I do not distinguish the two types with the quantification of DNA, so I do not distinguish as male, as female, for me it is a Total quantification, the total I do not have a small amount, so much so that if we look at the electropherogram of that

track, there are peaks that easily surpass even the 1000 RFU, something less, something more, especially, of course, that sex.
Q. - But, of course, could always be the

Kercher?

ANSWER - Sure, it would be of Kercher so much so that I was just saying just the part of X, then

the part of sex is clearly more pronounced because He's got X-Men also ...

QUESTION - The question is right on ... you can tell the total amount of the track and also the amount of urge? Only the amount of the track I think.

ANSWER - Only the total amount of the track.

Q. - So that's a given that you can give us, the state can provide me?

ANSWER - No, I do not have with me.

Q. - Okay. What has been found in or under the mat, sock, I think it's a map, I do not know if it is a credit card, is a sort of rectangle do not know ...

ANSWER - It seems a receipt, a piece of paper ... Reference - looks like a rectangle, I do not know what it is. ANSWER - Yes.

Q. - And then there's another object, you can always see in movies, she remembers when they were joined together, separated, apart?

ANSWER - No, no, no ... I think that it is not possible to determine at least from what I can see why you have to say leaked ... well, a bit 'in case, here.

Q. - Is it fair to say that when it was ... there was this mat a little 'and when it was rolled up it slipped down these objects, we have seen some others are on the ground and slid down?

ANSWER - Yes.

Q. - So they were wrapped in this rug? ANSWER - Ye_, these receipts, this sock, yes.

Q. - Receipt, sock and piece of cloth with hook?

ANSWER - No, the piece was not wrapped. Q. - Where was it?

ANSWER - The piece was placed on the floor. Q. - Then the piece was under?

ANSWER - Yes, he was placed on the floor and then the mat like that ... well ... just because the operator is the first thing that is under the mat, just lifting it. Q. - Then the piece was under, under the mat?

ANSWER - Yes, I covered the carpet, yes.

Q. - Under the mat? ANSWER - Yes.

Q. - This mat was moved in the first inspection?

ANSWER - Yes.

Q. - Since she first spoke of a shift. ANSWER - Yes.

Q. - What traverse path she told me on the piece of cloth, of course, is his imaginary hypothesis, then we do not know how it went, because there are 46 days of which we know nothing, then we have a translation of this stuff is , is this mat?

ANSWER - Yes, yes of course.

Q. - Let the Y chromosome, in the database who has consulted many Italian people are included?

ANSWER - I do not know, I think that is not reported, it is reported as populations.

Q. - Do you think it is important to know the homogeneity of the population, such as those from Umbria, Puglia many?

ANSWER - No, I think a thorough study so that you can not do it, in the sense that the Y chromosome is true ... that would be linked to phylogeny, beginning of humanity ... how to say almost, because there are Y chromosomes that are more prevalent in some areas and others in other areas, this is out ...

Q. - So it is safe when I speak of the reference homogeneous population, which comes from a certain geographical area, it makes sense when it comes to the Y chromosome?

ANSWER - Yes, it makes sense.

Q. - You know that in Italy there is no state database

DNA?

ANSWER - Yes.

Q. - And this is the reason why I think she had to refer to a database ...

ANSWER - Yes, there is not that of the total DNA and there is no more so than Y.

Q. - According to the scientific community this method Y chromosome, that's why we have said, is normally used to exclude and not to claim?

ANSWER - To exclude surely, to claim depends on the context in which we use it.

Q. - You say "I remember that in the survey had changed his gloves before taking this piece of cloth."

ANSWER - Yes.

Q. - His memory refers to itself or to all persons who were in the room?

ANSWER - No, and even to myself ... not to the reporters, the operator did not say why he virtually cinefoto gloves do not ever change, that did not touch anything, so me and the operator had to assist me in research, because the same operator was first applied to say a little put the clothing in a period and then must necessarily ...

Q. - So you have this memory, the name of this operator?

ANSWER - Piero Sbardella, is assistant chief.

Q. - If after a morning that I have been here I touched objects in shake her hand goodbye I leave something or not?

ANSWER - No.

Q. - Absolutely nothing?

ANSWER - No, unless you have a dirty hand.

Q. - A hand that I used this morning by touching these objects.

ANSWER - No, I mean that if you have something of a dirty hand.

Q. - that touched his sweaty things. ANSWER - No.

Q. - Do not just washed. ANSWER - Yes, no.

DEFENSE - Attorney Hello - Thank you. PRESIDENT - Not sweaty? ANSWER - No.

PRESIDENT - There's ...

ANSWER - No, not with a handshake, that I should have a close and prolonged contact.

DEFENSE - Attorney Maori

Q. - Just to clarify her before answering the questions of my colleague has said that you had a profile ... four genetic profiles.

ANSWER - By reference, yes. Q. - In fact there were five. ANSWER - The more the victim.

Q. - Of course over the victim, then we say that the genetic profiles were five in total, the two defendants, the victim, and Lumumba Rudy?

ANSWER - Yes.

Q. - And nothing else? ANSWER - No.

Q. - Look in the previous statements we have heard colleagues explain in detail how is the repertoire of latent prints, as it does and how it is handled on first inspection, in other words you are, let's say you make the biological, Be the first to touch the exhibits because of latent prints them as individuals must engage in broad-spectrum so to speak, we talked about smoking, cyanoacrylate, etc., so in other words, the latent prints of his colleagues make a general discourse within certain areas and then seek to identify all areas generally within the existence of fingerprints, right?

ANSWER - Yes.

Q. - But you do not do this type of work, yours is much more selective?

ANSWER - Yes.

Q. - Since you have so much more selective going to search for the biological profile in certain points, as you do, that is, what is the general or specific criteria by which you seek these biological profiles?

REPLY - First, the general criterion, but I think I've already talked about we say in the introductory phase, it does not then find the track but the first artifact that is most glaring, then the general criterion is a bit 'to realize that, especially in a crime scene so complex, with many exhibits, with many tracks that were evident, because

There was a lot of blood, then try to make a filter, a selection of the things we say can lead to interesting results in terms of investigative leaving, perhaps sacrificing something else that maybe could of course be useful but at the moment for some reason is deemed not useful.

Q. - I'm sorry to interrupt you, so-called selective criteria that you have identified ...

ANSWER - Yes, the selection criteria in both samples, both in the choice of the exhibit, of course ... like having a crystal ball back in would be much simpler words, a priori evaluations are then after that maybe should be corrected, as was in this case, enhancing the acquisition of relics perhaps with other findings, because I do not know, we understand that the victim suffered injuries ... I do not know with a knife or a pair of scissors rather than a baseball bat, I do not know, so depending on the results, then you have in the course of investigations, both by autopsy findings, it is ... I do not know from their own statements from investigative suggestions, you can then orient say a subsequent visit by taking ad-hoc, then precisely this or that, in a first stage is a bit 'common-sense reasoning of what appears, especially what appears on the scene of the crime and to assess, in a little' experience, according to the reasoning, what is best repertoire and what can be considered secondary.

Q. - So you have made a first analysis of the findings of such substances where there were particular points in your blood?

RESPONSE - for example, that the wall was very interesting. Q. - Passing of course the person who interests me, namely to Raffaele Sollecito, have made such findings of the corridor in front of the room of Meredith Kercher?

ANSWER - We have made measurements with luminol and then later when we did the first survey, we also performed the blood samples of the tracks that were very obvious ... let's say resembled a form of shoe.

Q. - The luminol, as explained to us abundantly, is placed at a later date.

ANSWER - Next, right.

Q. - Why did the first course should be finding the biological traces ...

ANSWER - Yes, and then were done both.

Q. - So at the beginning of the exhibit were made on the corridor of the room of Meredith?

ANSWER - Yes.

Q. - There have been? ANSWER - Yes.

Q. - Why did not I think that there are indications, however, the specific findings in relation to specific biological corridor on the front of the room of Meredith. ANSWER - You look at me show you ... maybe it was not emphasized ... Well, let's say there's an image that gives the vision of what was the crime scene as it was set up precisely in the initial phase of relief, then how do you see the number 9 indicates the toilet room, this, the number 3, number 2 and also other samples then were put later, because this is a picture made on the

initial, say at the outset of the tracks are, this is the the victim's room, where we see the wire that comes out ... Q. - Exactly.

ANSWER - a_so an area that you may not see from this photo, but we say there ...

Q. - At this point now I point the laser, just below, near the so-called wire, we are looking for the minutes of the slide 60.

ANSWER - Yes.

Q. - I indicate with a laser pointer from 3 shown on the floor and the doorway of the room of Meredith, the victim, the samples were carried out there?

ANSWER - It was made only of luminol test there.

Q. - So there were no samples of the front door, that is, in other words ...

ANSWER - No, in front of the door is the 3, I'm sorry, the 3 ... Q. - By the door, the laser pointer indicates to me ... here is my, this door here.

ANSWER - Yes, but the door Excuse me finish here, I unfortunately I do not have the pointer tip, behold, the door starts here and ends here, so 3 is pretty much at the center.

Q. - Very well, have been made ...

ANSWER - Yes, and even just a little more inside the door. REQUEST - Samples of luminol?

ANSWER - No, both samples of both luminol and sampling that this is the 3, but also something that is more inside, maybe we can also see ...

Q. - Where exactly was this type of biological sampling carried out before the luminol?

ANSWER - We have to see the report that describes in more detail or perhaps the video of the first inspection because otherwise ...

Q. - Why me does not appear that you have made of the biological samples just below the ... let's say the closing of the door to the room of Meredith.

ANSWER - You look a little maybe it was' more behind the door, a little 'later, just on closing I can not say, but certainly there were several prints, I remember why I personally sampled as the first activity, because c' was the feedback that we say were going to deteriorate with the passage of the operators, so as a preliminary, first

Also the removal of the corpse were treated areas in front of the body and also in front of objects, and then shortly after her bra and ... maybe there is another image that I can show the room say the victim's vision a little 'inner, General , let's see if I can ... I think he's here, here, not really, okay. You see this number here? Yeah, this, this is virtually the opposite party, immediately opposite the entrance to the room where he began the famous trail of blood that resembled a tennis shoe, then with concentric circles, this area is extended, that was more or less Linear to this area, so in front of these objects, in front of the bra, she left the room, went into the hallway at those points which are marked first, and must say fading towards the exit. These samples were also collected in a table that I showed at the end

of the first results ... the depth, were shown in this table is a summary of the sampling carried out on the floor, she sees all these are chamber victim, the 118 A and B and 17 are just three samples made in the immediacy of the entrance, then we can also see if he wants to visit.

Q. - We will see from the transcripts.

RESPONSE - 119, 20 and 22 equal, are the three samples, because they have serial numbers, that's why I remember it, are

samples that have been made instead in the first part of the hallway, blood stains, ie, blood-soaked shoes. Q. - So it's been done sampling of biological material because it was obvious?

ANSWER - It was evident with blood.

Q. - So it obvious samples, agree. ANSWER - Yes.

Q. - Now on to the second point. Answering the question of the prosecutor indicated that she was the action you performed with the famous exhibit 165, that is the hook as the hook, even the two hooks were placed in a solution, then together and then after was from her extracted DNA, we want to summarize the dynamics of this type of operation from the moment you are physically in the possession of the find until the time of extraction of DNA? REPLY - And the finding was photographed, and there is also a picture that shows him, he was photographed in our laboratories in the bag of repertoire, so to speak so we can recover very quickly, the bag of repertoire is precisely where it is been preserv_d from the moment the hook ... this is it, when I collected from the crime scene, during the inspection of December 18 until such time as it was in fact brought in our laboratories. This was the situation. Do not say it was pulled out of the bag to preserve any possibility of contamination, of accidental handling of the object we say

and then was left in the bag, the bag was placed over the letters to indicate the sampling points, then this phase of photographic documentation is passed to the analysis phase itself, so the finding then once went under the hood in the laboratory was opened the bag, was pulled out and the operator has made the finding, of course, using gloves, tweezers, disposable sterile tweezers and single-use vials in fact, has begun to sample, cut a small piece of tissue for sampling A took the two hooks and put them in a test tube to perform the extraction of sample B.

Q. - I'm sorry if I interrupt just to go in sequence, were then cut these two metal hooks and were placed on one side and the other side was put the stuff?

ANSWER - The piece of cloth, yes, they were separated.

Q. - So it's not wrong to say that the two hooks were put together in a test tube and then from there was made of DNA sampling?

ANSWER - The extraction of DNA.

Q. - I'm sorry, I have spoken evil, DNA extraction, and then you can not say if DNA is in one, or two, or both?

ANSWER - No.

Q. - Do you remember the date on which the DNA was extracted?

ANSWER - It was late December, it seems to me December 29, but I'm not ... we can still look look, I've got a slide that shows it to me now that makes us think. These slides were made for other reasons, to say the temporal distance that is exchanged between the tracks that led to the genetic profile of Raffaele Sollecito, and who were treated prior to the hook, so I know I can just make some mention of these worksheets that are coming out, called SAL, just work progress, which are out of the software for cataloging and tracking that we have in our labs, in short, tracking of all analytical steps, then this software that I have spoken yesterday, is called LIMS, as well as giving the sequence numbers, in fact generated by the software, also allows the operator to give information on how to continue the analysis, so as we can see here, for example, as regards the swab saliva, we know to be the finding 30 that is indicated in this box, maybe I can zoom in, we see a moment, no, I can zoom in, all right, however this is the finding 30, although perhaps it looks very bad, this is the identification of the exhibit traces 30, which is 47,233, the drawdate is placed here: 6/11/2007. Obviously there is a description track and here there are more data. This is the track that involves a genetic profile that was found in a sample made of 14, we read it here: 14 tracks

analyzed below Nike seized Raffaele Sollecito, one of these tracks, particularly those levied on the left shoe and that I have flagged with the letter I, but I do not know if you see it here in tiny, gave as a genetic profile Profile of Raffaele Sollecito, the others were pretty bad if I remember correctly. This extraction, this analysis is complete, then the extraction, on the first extraction, but is also the last, December 17. This here is the piece of cloth with a hook, is another fact sheet, which is what interests us.

Q. - So it was the first shoe?

ANSWER - First it was the shoe, the finding 32. Q. - And now we speak of the hook.

ANSWER - This is the exhibit 165, then track 1, track 2, track 1 is B, the hooks, the track is 2 A, trace blood substance. These tracks as you can see were extracted simultaneously, and in the same session, December 29, so well remembered, and so this is a bit '... to the cognizance of the temporal distance between what was first given as referable to Raffaele Sollecito, two tracks, and then just the hook that has been analyzed, and even the tracks that were then analyzed in the meantime, and then to various times, then from 6 / 11 to 17/12 and 17 / 12 to 29/12, so there are a case in 40 days time, there is another case, between 17/12 and 29/12 12 days and in that time have been

analyzed in the first 1408 tracks, and this is obtained by consecutive numbers, of course traces of many other files which are included in the second case 255 tracks.

Q. - Now on to another topic because he responded very short, but I'd like to ask you something specific, you know what the contamination over the counter?

ANSWER - Yes.

Q. - If you can tell us so in a way ...

ANSWER - Yes, basically it is a contamination that can inadvertently occur when analyzing a given track, a given biological specimen, then a foreign DNA to trace or relic is inadvertently placed in contact with the track or the finding, but not has nothing to do with the origin of the track.

Q. - This assumption is rare, may occur? ANSWER - This assumption is very rare.

APPLICATION - Application superfluous, as regards the hook believes there may have been contaminated by a bank? ANSWER - No, because of what I showed before, for the times and the traces that exist between the various analysis. Q. - Do not tell us more because we explained it very well, we know well from his point of view. When you have analyzed the hook in the laboratory, the bench, there was only this finding or were other findings?

ANSWER - So in the same session, and then subsequently both photographic and analytical, have been

analyzed more artifacts that were part of the inspection of 18 December.

Q. - But at the same time or ...

Answer - I am explaining, in the one work session several artifacts have been cataloged and there is cognizance of what has been done in the minutes of the beginning steps, then, of course, each specimen was analyzed individually, taking each time we tell the sachet that was inherent in finding and analyzed by the operator under the hood with the card-counter, filters, tweezers, disposable everything.

Q. - All the elements to prevent contamination, as you explained.

ANSWER - That's right.

Q. - On this question you already answered but I really want to introduce a topic which is the last to make him again, because genetic analysis has incontestable value must be repeated a second time, especially if it's important?

ANSWER - I think not, if the result is clear and the procedures have been ... showed no problems during the analytical process I feel confident of the result.

Q. - So I'm like that of course this question was suggested because they are not technical knowledge, you know what are the preferential amplification of stochastic phenomena and drop out?

ANSWER - Yes.

Q. - We can explain them very briefly?

ANSWER - We say that is a little 'what I tried to explain the first example of colored balls, pretty much what can happen? What if a track is just too small, so there am referring all thinking, just remember the example of the ball, what happens? What if I can do 10 extractions from a basket that has 60 balls 40 balls of one color and the other color to have a certain probability of extracting white ball instead of the black ball, a number that is measurable because I the test and measure it, but if this number, this relationship becomes more balanced, at some point that I have 80 of them white and Of 20 black, 90 white and 10 of the black, every time I do the test randomly pull a ball from the basket I increase the probability of not drawing the black ball, that is a minority, of course. This phenomenon is indeed a phenomenon called stochastic, ie random in the PCR amplification can not be quantitatively because one allele is too small just the presence of the starting DNA, for which, indeed, if the PCR for moving in this sea reagent can not peck at precisely the DNA of interest, for which the allele is in the initial part of the DNA, ie in the initial track, but there we do not manage to highlight, and this effect is sull'elettroferogramma called

In fact, drop out, or lack of one allele, and this is much more frequent when more than the amount of DNA is low. This is it. Q. - J_st in relation to what you very well, as always, among others, said since the light of this evidence, so to speak of these possibilities of altering the analysis to just the facts as you explained, and taking into account importance in relation to the finding of the analysis because it is not a repetition of the analysis was done for the hook? ANSWER - Because in this case almost the height of the peaks of the smaller fraction of the DNA present nell'elettroferogramma gave me no reason to think that there might be somewhere effect drop out, because I've probably had this effect, even almost certainly in the amplification of the track 36 B of the finding, demonstrates precisely the fact that I when I run the second electrophoresis in the case of peaches or peach alleles, so in the second electropherogram peaks disappear or I get a bit 'lower others become a bit 'higher, so this I've got floating effect when the DNA is really very low, in this case the average height, however, the smaller fraction of DNA is so low, that is, the lower peak I remember when I was in this electropherogram the allele 12, which is 65, this peak is here, even if you do not see, if I remember correctly this is the lowest allele, then height

absolutely for example above the 50 known we mentioned yesterday.

Q. - So let's assessment is not necessary to think again ...

ANSWER - Yes, my assessment on the basis of the average height of the lower profile, which was around 100, here, floating around the 100 if I remember correctly, we have 127 here, a 70 here.

Q. - OK, it's assessment, then our consultants will tell us whether what he has given is right or not. One final consideration. The test of what Adler knows?

ANSWER - Let's say I have the latest versions of this test, I think it's just about what you tetramethylbenzidine, the survey ...

Q. - To detect the blood.

ANSWER - The blood, that's right, it is not specific for blood analysis.

Q. - was made on the hook?

ANSWER - On hook no, it was done on the piece of cloth, then on track A.

Q. - Why was there a show blood, a red highlight? ANSWER - Yes.

Q. - And how come it has not been carried out on the little hook on the metal part?

ANSWER - Because almost ... except that there was no evidence say visual, other than that, so you are also

when there is no visual evidence, however, because I suspect the presence of a small amount of blood traces invisible to the naked eye, in that case, however, was simply a choice dictated by the opportunity, these hooks have a surface, repeat very very small, if I still have to necessarily shoving to get some 'material part of this hook, one of the two, and then perform the test on this sample of tetramethylbenzidine me this portion of biological material for the sacrifice' genetic analysis, I can not do, so it was my assessment of this analysis excluded from the determination of the biological nature of the track may be taken by the hooks for the benefit of being able to have as much material as possible, had been present, the hooks themselves, then this was the reason, just opportunities.

DEFENSE - Attorney Maori - Thanks.

This process is suspended. This process is resumed.

DEFENCE - Mr. Dalla Vedova

Q. - Only a few short questions, the first woman doctor, is on repeat analysis identified the biological specimen on 36 and B, I just wanted to clarify that she did, I make an example of such

the process of a photograph, that is when I have a camera person and an object, I focus, I establish the exposure, the light and I take a picture, then a negative mold from the negative and do a series of copies of all types, large, small and also the copies I can do with a greater or lesser intensity, for example, then change the brightness, you can say that in its review of this track that has repeated biological ... we know that repeated the electrophoresis, that did not repeat the amplification of the extract, but just making the comparison with the process of photography you can tell that she has repeated to print a photograp_ but a photograph?

ANSWER - Yes, in first approximation, I think it is fair to say, as far as I know about photography I think it is fair to say it.

Q. - Look, a series of circumstances which are obviously of clarification, for example, colleagues who have considered the marks are you aware if they have assessed the photographs or have examined the subject, I refer to the footprints on the pillow, are you aware if the examination was done directly on the pillowcase, or photographs?

ANSWER - No, I can not say if it was seen or not, not. Q. - then Listen

in relation to the knife, exhibit 36, which was indeed found in the silverware drawer at home where he himself had also urge a clean home has been defined, you have made for analysis of chemical

assess whether there were like dish soap detergents or other substances?

ANSWER - No, not that we can perform analysis in our laboratory, our analysis is only once the identification and characterization of DNA, this is purely chemical analysis that we can not play.

Q. - But was carried out by some other office? ANSWER - No, I do not know.

Q. - Look another subject, the biological substance found on the handle, always in relation to the Y chromosome, she is now able to tell us if you can do this test on the substance that I assume is kept from you, that you can now preserved on the substance at your offices, as explained to us, perform an examination of this kind?

ANSWER - If the track is still sampled say ... has not been sampled completely, as I think, but I have absolutely no vision of this ... I have no memory of this vision of the exhibit, what was taken from the spot, because they have been used, being the disk again ... let's say the remainder of the track is still available if the substance of blood can still review it.

Q. - But you keep them with the remains ... there is a period? RESPONSE - As long as there is demand in return the Office of the Crime Corps, so for now we still in our availability.

Q. - So the other elements of biological traces?

ANSWER - Yes, all the finds.

QUESTION - are all preserved with you? ANSWER - Yes.

Q. - Look in relation to this, perhaps she has already responded in part, but there is a record of the laboratory, we have seen over the cataloging that showed every single activity, but there is a daily log of activities and findings?

ANSWER - No, not a daily log, there are several points we note that we, here with the catalog, with the laboratory test, the SAL fact that I showed before, so there are various ways that the various sources from which we say ... it is possible to extrapolate the information of the working day, however, a catalog does not exist.

Q. - It is planned for example the certificate of quality that the laboratory must keep a log of activity? ANSWER - No, because ... as a way of saying the organization's inner workings and how it preserves the memory of the internal work, so I know that is not specifically provided for a provision to that effect, then transcribed and to have a catalog with all activities, no.

Q. - So, Doctor, if I asked you first analysis of the track 36 B of finding the car that was used for the purpose of discussing the possible contamination with all the limits and the observations already made, you can tell me the same day or the week before

that machine has been used many times and with other elements such as organic has been in contact, I say it very simply, you could say this to me?

ANSWER - Yes, you can. Yes, because every car has a specific worksheet, in this sense, a collection of data ranging from spreadsheets when in fact the machine was put into production ...

Q. - So there is a record of the laboratory but there is a register of machines?

ANSWER - Yes, let's say each activity inherent in a given area, then the field amplification, the field extraction, the photographic industry.

Q. - Look very fast two clarifications on the luminol, we heard at previous hearings for the use of luminol to highlight, and we also heard from her, the question is this: it is true that the luminol has an amplification effect of a stamp, a footprint, which makes sense in larger sizes, since it is a chemical effect?

ANSWER - Yes, it is that makes the biggest impression, however, or any ...

Q. - Amplify?

ANSWER - No, no ... amplifies amplifies, highlights, through a chemical reaction reveals something that is already point to point, ie at any point if I have something that makes me spring the fluorescence, for example, so I have an iron atom that results from hemoglobin or from anything else, I in

Then I have a signal, however, is not that the point makes me give a signal that is not perpendicular to it, that is not the signal is in the form ... not perpendicular to the observer as saying, is, of course, point to point to amplify something that already exists, then at that point to highlight something, but amplification is not the correct term to describe the fluorescence.

Q. - Also in terms of fluorescence is true that the fluorescence depends on the amount of matter, that I mean a drop of blood may have some fluorescence, but do not know, half a liter of juice can have a lot more fluorescence is this possible?

Answer - or much less fluorescence. Yes, it is possible that the intensity ...

Q. - It depends on the matter? ANSWER - I'm sorry?

Q. - I wanted to say is also in relation to the amount of matter, ie a drop of blood and a patch of a pint of fruit juice have the same fluorescence?

ANSWER - Look at this I can not say because I've never seen compared, I know for a fact that there may be ...

DEFENCE - Mr. Dalla Vedova - Thanks. This was the last question and thank you.

DEFENSE - Attorney Ghirga

Q. - just one final in relation to what is found, the extraction of DNA on the knife she said she did not seem to remember how much DNA was extracted from the blade, from scratch.

ANSWER - No.

Q. - You can check the register extractions? ANSWER - Yes, you can control.

Q. - It is a given that you can acquire? ANSWER - Yes.

Q. - The extraction can be drawn from the register of abstractions as you say.

ANSWER - Yes.

Q. - But you do not remember, is not it, how much DNA extracted ...

ANSWER - the extraction can be derived from that in reality the date SAL, so what.

Q. - But you do not remember now? ANSWER - No, not here.

Q. - You can acquire this information? ANSWER - Yes, the date of the draw, yes.

Q. - While confirms what was then ... what was the elution of DNA and the proceeds to make ...

ANSWER - Yes, it was concentrated in the first place, then was quantified and then after it has been refocused to 10 microliters.

Q. - After acquiring the data being of interest on the amount of DNA extracted from the scratch we can acquire, say, in due form, right?

ANSWER - Yes.

DEFENSE - Attorney Ghirga - Thanks.

CHAIRMAN

Q. - Just a few questions that had been ... he wanted to ask about the knife: the use in the kitchen washing the knife may have erased, altered the tracks that could have been there in spite of ... (inaudible because outside microphone), a few heads told us that it was clean.

ANSWER - Yes.

Q. - Clean and I think she said it was washed, although it has been washed, even though it had been used in the kitchen it is possible that the traces have remained unchanged?

ANSWER - Yes, because obviously if you can not be washed out carefully, perhaps as evidenced by the facts, you can get results, yes.

Q. - The traces were found on the handle that is on the blade, the size of these traces do not know if he specified, was a measure ...

(unintelligible because the microphone off).

ANSWER - You look ... maybe we can have both tracks A and B of the knife, then those who have tested positive have both been tested for the presence of human blood and were negative in this test, then we can speculate on what might be but we do not have data at present, certain of the nature.

Q. - In your experience what these assumptions might lead?

ANSWER - The neck definitely make me think of the epithelial cells being the point where you rub, you norma_ly use a knife, the blade I can not say what it can be.

Q. - Regarding the hook the hook was in the first inspection under the pillow.

ANSWER - Yes.

Q. - (inaudible off mic it).

ANSWER - No, I remember ... that was lifted the cushion and then was lowered, and since I personally have not touched, but others have moved even pillows or whatever ...

Q. - The pillow was ... ANSWER - Yes, he was virtually ...

Q. - (inaudible off mic it).

ANSWER - Yes, I guess so because then we say ... not having been acquired after that my vision I had no vision but ...

Q. - In this circumstance and the fact the first ... (inaudible because outside microphone) for which you find yourself in this mat on 18/12 may have distorted the outcome of the investigations on this hook, contaminated? ANSWER - I do not see how, in theory it would be possible if we knew the way he did and then you could assume something, but there is an objective fact that can be demonstrated.

Q. - I wanted to also ask, that the outcome of the investigation were made of the questions that presupposed also doubts about the interpretation given to the ... (unintelligible because the microphone off) instead of admitting that its finding is correct and then actually made on a track that comes from organic Raffaele Sollecito, the contamination for which this track would be raised, but not the original scope of the hook from another source, where else could have been brought this track and the hook so defiled in this way?

ANSWER - Watch as the house has not been found any trace in the victim's home, then the whole house of Sollecito Raffaele any single track, there's only one on the butt but it is mingled with Knox's DNA at home ... I mean I do not see how that could happen that this DNA might say at another point, that we do not, however, may have gone to accidentally contaminate the hook,

so there is no objective data to affirm this. In the laboratory, also when it was analyzed using the normal precautions were being used, which have been used for any analysis of these findings, as the other findings of other files, so let's say I do not have any fear that it can be objectively such an event happened.

Q. - You made the statement yesterday in particular, has also spoken of cells that are lost by exfoliation of course for the parts subject to which the skin naturally, and he said he would urge that the skin of ... (inaudible off mic because) it is possible to hypothesize cells that have lost the ... (unintelligible because the microphone off) and these cells remained natural in the apartment, in some area of your home may have been brought in some contact with some object which then has contaminated the hook, or is this hypothesis not ...

ANSWER - Yes.

Q. - Since the disintegration of course, could be missed ...

ANSWER - No, because those cells as I have explained many times cells are absolutely useless in terms of DNA analysis because they are dead cells, keratinized cells that have lost the nucleus, which is precisely the organelle which houses the DNA is basically how to analyze the hair shaft, we can not analyze

this DNA, we can analyze another type, of which we have spoken, but the nuclear DNA we say as we see it is not contained nell'elettroferogramma more say in the process of keratinization of the cells, so it is possible that ...

Q. - So they remain alive for nature, for the fact that of course are removed, not for time spent?

ANSWER - No, of course ...

Q. - For the hook had gone 45 days from that report was December 18 and on other days because it has been examined, however, these cells maintain the vitality of exfoliation?

ANSWER - Yes, yes. Rather it is that the cells maintain viability, it is the DNA that is contained within. Q. - Then he also told us ... so the feature was already present in the DNA of the various suspects and in particular, since we are dealing with the hook, the DNA was available for Raffaele Sollecito, when she played the track on the biological Raffaele Sollecito's DNA hook that she had it there, but we had this as a historical fact, as an available ... or had it also as an element in front of her and ... (unintelligible because the microphone off).

ANSWER - No, I did have this as a historical fact, that in my file in this office was the genetic profile of

Raffaele Sollecito, of course, but I had before me when I interpreted the technical data.

Q. - So when she played this elettrofonogramma ...

ANSWER - Ferogramma.

Q. - You have got to see this biological profile ...

ANSWER - No, no, because it is incorrect.

Q. - (inaudible off mic because) the concerns that they could come.

ANSWER - No.

Q. - Then she also spoke of recommendations or rules, there have been points of the recommendations that she says have been violated?

ANSWER - No.

Q. - I'm sorry I wanted to also ask for toilet paper on the find, which has resulted in the assignment of biological trace Rudy Guede, have also examined the Y chromosome?

ANSWER - Yes.

APPLICATION - This Y chromosome than the Y chromosome diversity is found on the hook?

ANSWER - Yes, they are very different.

Q. - Necessarily they have to say that these are traces of two different males?

ANSWER - Yes.

Q. - On the chart you can see four files ... ANSWER - Yes.

Q. - If you can give an explanation.

ANSWER - I explained a moment. So virtually the whole electropherogram that this chart is that we see on the computer is actually from, we said, 16 points gene-for reasons of expediency and just put the kit are pictured with four different colors, because, without going into too much in technical detail, these colors are artificially included in the kit to make clear the peaks, because otherwise the DNA being absolutely colorless it would be possible to display it, so let's say it is a method that is used only to highlight the fragments. Moreover, the choice of having a row but not all of four different files, and then with four different colors, a choice made solely on the basis of specific length of these fragments that come out from amplification of PCR, many of these fragments if were seen on the same channel, ie on the same line as it would have overlapped because they have the same size, given that I never told you why it is very technical, the fragments that we ... we see the peaks are also put into practice relation to the size, just as long, as if it were an inch, a meter, the size of the fragment, the fragments that are on this side of the fragments are much smaller in length, which are on this side, this

account we have, we say this measure on the horizontal axis, if you see here on there are numbers, even if you do not see what the numbers are numbers that indicate how large, say how long is each one of these fragments that make up the peak, then the peak is composed of a characteristic that is the height, so the signal strength, another feature attached to each peak is the same length as the piece that represents the peak. So to do just a very practical example, this allele, which is 11, we see in this position is high, more or less 400 RFU, as the scale is marked here, maybe I do a little 'more magnified otherwise you do not follow the speech, so as I said this peak, the top 11 is 400 RFU, as depicted here, and the DNA contained in it is approximately 135 base pairs long, ie 135 units, we do not specify base pair because otherwise ... well what is a very technical as, say, in light of the general understanding is not important to know. This fragment, for example 29, then we can say that this peak is high and 233 RFU is large, ie it contains the fragment of DNA is large approximately 207 to 208 of these units, and so on, that is going to the right that the fragments we have become ever larger as the length. The same thing is happening here, exactly the same thing. If these two separate channels were not I would have to beat that this locus should be on this one as the length, ie these fragments and alleles that can be

In this case we say ... here, take this locus so you understand better, the D7 He's got this si_e range, is 250, roughly, to 295, the same fragment length range we also have the D16, the D18's got a little '... we do not think this below, we look at only these two are practically identical to the length, if they were not separated by different color loci, and therefore its peak could be confused and not well-separated loci , that is all.

Q. - Only two other things, that I wanted to ask about the mixtures of DNA that you have found these ... (inaudible because outside microphone), the bidet was a mixture of DNA, due to biological trace ...
ANSWER - Victim ...

Q. - At the biological profile of Meredith and Amanda Knox, you can say that these are the same track or several tracks, blood, water, sweat ... (unintelligible because the microphone off).

ANSWER - So we say about the nature of the track itself has been my ... is definitely a track that contains blood.

Q. - It is definitely a track?

ANSWER - Contains blood, because it was made a specific test, of course, the fact that I said that initially appeared very pale in color, a very pale pink suggests that there may be water, but beyond that, it still is not can satisfy themselves with a chemical test that I

reveals only the water, because the blood actually has water, have plenty of water, the problem is the concentration, is the relative amount, there will be less water in the blood, surely, than say, a track that is so small from the point of view of color, so perhaps it is more abundant than water and less rich in blood, but from the point of view of other substances, so sweat or other things, this analysis was not done.

Q. - But how formation of this track that led to the finding of the same is to be considered the same person who was the bearer of two tracks ... riconducenti traces related to the two biological profiles at the same time to ... (unintelligible because the microphone off) or we can make hypothesis also different?

ANSWER - It is not dated as I have said ...

Q. - It is not dated, but the fact that it is imprinted on the same point ...

REPLY - Oh, well ...

Q. - I mean she has found the same spot? ANSWER - Yes, yes, both are part of the DNA ...

Q. - It is not dated, but the fact that both these features on the same point with this hypothesis suggests the formation of the track?

ANSWER - That is definitely a mixture of biological substances that we can not be blood, more blood, saliva, blood cells, most of crumbling, this is not

we can determine, we can only say that certainly there is blood, and therefore the training can be as contextual, so the blood of both what

we say otherwise affixed profile, here, although at different times on the same points, so this might be ...

Q. - From the point of view of his knowledge, however, can not give an answer ...

ANSWER - No.

Q. - The last thing I wanted to ask. She said that in reading dell'elettroferogramma taken precisely from the machine gave a reading and interpretation, the interpretation that she gave it ... he used the same interpretation criteria that you used to attribute the biological trace Meredith Kercher, in Rudy Guede, etc., that has always used the same criteria, or has modulated its activity according to interpretation ... I do not know, the conditions that presented themselves?

ANSWER - No, the criteria are unique and worth the time. Q. - You have always used the same criteria? ANSWER - Yes.

PROSECUTOR - Dr. Comfy - I'm sorry ...

PRESIDENT - I pray, in the same order if there are any questions on these questions ...

PROSECUTOR - Dr. Handy

Q. - On the knife, on the request you made on the knife and the nature of blood or less of the substance from which she extracted DNA of Meredith, she rightly and properly said, "I can not say what it is, however, is the blood test ...".

ANSWER - It was negative.

Q. - It was negative, but she had also spoken in the first instance of so-called false negatives when ...

ANSWER - Yes, but I also said ...

Q. - If I want to reiterate that the President has not confirmed.

RESPONSE - Not_now.

Q. - Precisely, ribadiamolo then.

ANSWER - The prosecutor pointed out to me that if you remember until yesterday when we talked about more widely, was also said other information in reality, beyond the fact that it was not possible to determine the nature of the blood sample done say you can not overlook the possibility that this negative test for human blood is a product of small quantities of biological material placed on this point of the blade. Let me explain. When I said that I find at these streaks, these striations were of course of just like to say? Signs affixed to the blade, but of course there was nothing visible to the naked eye or under

lighting, of course, nothing in terms of biological material, so I was expecting a result in advance, although this had been achieved, practically very small because they do not see anything I could hope at best to assume that there was something, but nothing I was thinking

about this, so when I have taken the test before then perform sampling for DNA extraction prior I did the test to see if it was blood or not any biological trace that was there, of course I have not removed I have not passed the stick that is part of the diagnostic kit of all the streak because the real possibility that I was doing this I could remove to make this test all that ... and that there was little that could be used for 'DNA analysis, so I just sacrificed a small area in this test, all the rest I used to go of course the pad.

Q. - Why, in fact, say the track, however, the biological material that is used for testing ...

ANSWER - It is no longer used to make DNA testing. PROSECUTOR - Dr. Convenient - No question. PRESIDENT - Sorry just read a scientific fact, on page 50.

ANSWER - Yes, I can?

PRESIDENT - Yes, of course. If these ... (inaudible because outside microphone) in blue are common to all human beings, or are specific ...

DEFENSE - Attorney Hello - These are the loci. ANSWER - It is prepared.

DEFENSE - Attorney Hello - I am the loci are not ...

ANSWER - So these acronyms are virtually in tabular form the transcription of these gray bars, of what is contained ...

PRESIDENT - But is specific to the individual?

ANSWER - No, they're specific ... so all the loci are specific to genetic analysis, so each table of each profile contains all of those specifications, it is precisely the name of the points that we are going to analyze what changes are the numbers that are associated.

PRESIDENT - I'm sorry, Attorney. Please, go on then.

DEFENCE - Mr. Good Morning

Q. - Are your interpretations of those who take the loci

ANSWER - Yes, they are the loci, which are the gene that are to be analyzed.

Q. - But what I wanted to know for now, always connected to a request by the President, what can change when we interpret an electropherogram is not equal to the second track that I have degraded or have a track

contaminated, degraded because we said that corrodes and then I have less ...

ANSWER - Delete.

Q. - In the abstract, in the abstract for contaminated, according to the scientific concept of contamination, but it means that something sticks to the endogenous trace, and then I will have a different profile, this is correct, right?

ANSWER - Yes, something exogenous to the track. Q. - The exogenous.

ANSWER - Yes.

Q. - While the degradation of me does not allow me to interpret because it corrodes the contamination I'm interpreting it incorrectly because there are exogenous profiles?

ANSWER - Yes, this is the definition ... REQUEST - This is the difference?

ANSWER - Yes, the difference.

Q. - Then, though she can not say in a positive way for all that you said at this time otherwise we should start that there is contamination, this is what I ask, she says, "I obviously have not sampled the whole apartment, then there may be tracks, Raffaele cells that were sampled there, "she says in the abstract" In theory, may be entered but since I found these cells cheratizzate rule it out, because I do not

it seems that there may have been having a contamination found this cheratizzazione".

ANSWER - No, no, no.

THE CIVIL - Mr. Maresca - did not answer it.

ANSWER - It is not that I'm sorry, maybe I expressed myself badly. If she goes back to the answer I gave ...

Q. - At cheratizzazione.

ANSWER - So no, I wanted to express the concept that was another. Although we hypothesize that there were in the apartment on the floor of the keratinized cells, and cells naturally lost from the skin, the skin, and had fallen to the ground and they come in contact with the hook or any other exhibit, I from that analysis of those cells would not have produced anything because those cells are dead, that is, cells are absolutely useless, they are hardly even phone to say really ...

Q. - But what is the exam that you make to get to say that they are dead cells?

ANSWER - No, no investigation, because we do not see the cell, was a hypothesis, if we want in the abstract ...

Q. - As already responding to me I had said before is a deduction, I wanted to know if he confirmed that his was a deduction because there is a test positive?

ANSWER - No, no.

DEFENSE - Attorney Hello - I wanted to know this, thanks.

PROSECUTOR - Dr. Comfy - I did not understand the answer, just the question but no answer.

PRESIDENT - Yes, we can clarify.

ANSWER - I mean in the sense that I did not go there looking ...

Prosecutor - Dr. Comfy - ... that these cells are dead ...

ANSWER - No, there is an exam, but have not even been looking for.

PRESIDENT - There were not even looking for?

ANSWER - There were not even looking keratinized cells because for me to find them or not does not mean and does not find anything.

DEFENCE - Mr. Dalla Vedova

Q. - President, a clarification that analyzed her appearance on the track mixed bidet, she concluded that the trace precisely mixed on the bidet is a biological substance containing human blood belonging to Knox and Kercher to a lesser extent to a greater extent. You can interpret that this mix of tracks is partly blood and vaginal secretions, or other such biological element?

ANSWER - Yes, we can not exclude this.

Q. - And then another explanation, when she says "It has been found in the same place", we saw that in fact the track from the edge of the bidet, then drops, there is a track about half-pink, or perhaps closer the drainage, then there

another track near the bidet pink, so we really only have a point or three in your opinion?

ANSWER - No, I said, is a continuum, we have already said, that to me is the whole track, then from the edge reaches the bottom, out the exhaust, so it's a continuum.

Q. - But how many points? ANSWER - There is a point ...

Q. - You talked about the first point, said ... ANSWER - No, there are points ...

Q. - You said quote "The track was found on points", so I wanted to understand.

ANSWER - Well, there are the most obvious and less obvious points along the edge and casting and this close to the cap there are points where the traces of blood, then red, rosé were more intense, and there are points which was really only an assessment that could be given at the time that they were visually very very soft and connecting these points together.

DEFENCE - Mr. Dalla Vedova - Thanks, I'm done.

PRESIDENT - In conclusion, to better ... (unintelligible because the microphone out of) the answer given to the first defense of urge, even to understand, then it says it is also possible that contamination may have occurred not because of a trace of Raffaele Sollecito left on some garment or other object in the house but also

a track is not due, I think he said exogenous, not traceable to Raffaele Sollecito, was not this the way? DEFENSE - Attorney Hello - Exogenous was always a cell of Raffaele Sollecito, who came into the room from outside. PRESIDENT - I thought it was a track from another party other than maybe combining with other biological traces had given this result ... (unintelligible because the microphone off). There are other questions, the witness is dismissed.

We collect the report, but always missing the minutes of the preliminary hearing.

DEFENSE - We make copies.

PROSECUTOR - Dr. Comfy - fact that we have it all written, underlined, etc. ..

DEFENSE - Attorney Maori - then we would also produce a complete assessment of the minutes for January 10, 2008 ... CIVIL PARTY - Mr. Maresca - President, excuse me, there are also attached to the report of Dr. Stefanoni. PRESIDENT - produces them.

DEFENSE - Attorney Hello - President, I advance that it will be with the next hearing on time, we saw that today in these slides is material which we believe has not been filed, so I will do for the next hearing a list of material because I do not think, however, through consultants or text, if it is made investigations

by an investigator can be introduced in this way, then I reserve for the next hearing.

PROSECUTOR - Dr. Comfy - What are the elements of novelty, however? We should say at the same time exception.

DEFENSE - Attorney Hello - point number 1, as you know, nothings I can point out when I want, for example, there are cards that defined SAL, work in progress, before I say something I have to be 100% sure , it says that there are these SAL, I check if there are I'll say.

PROSECUTOR - Dr. Comfortable - As for the micro-photo file that I wanted to produce, so they are essentially two photographs, because the third is that of finding that is contained ... we talk about the hook, then there is a first photos I found in the file photo of the first survey and then the photograph was, and is definitely usable, and the third photograph is of the hook inside the bag and is contained in the report of Dr. Stefanoni and therefore is safe to use because it already had already aware of the defenses. I did not find, then I last very fast, I did not find the second photo of the hook, so the photo of the hook where it was found during the inspection of 18, and then only for that picture at this point I intend to do notice I reserve deposit and then the production. I also ask for production of slides, CD's, but I reserve the right to

produce that too, because I do not have now, the doctor has to go away and not really the case, do so now.

PRESIDENT - In his presentation she has used the results of the report? DR Stefanoni - Yes I mean I used some papers that say they are ... but that laboratory records are not naturally included ...

PRESIDENT - The documentation was then transfused into this ...

DR STEFAFONI - No, the sheets of SAL, no, I did not think that should be shown to be ... otherwise I would have brought with me, that I did not think.

PRESIDENT - The sheets SAL ...

DR Stefanoni - where are the sheets I transcribed the day we say that analysis is done on that ... ACTION - It is a record.

Stefanoni DR - Yes, it's a record, here is a log of a Prosecutor ... -

Dr. Comfy - They were shown at the request of the defense, however, because at the request of the prosecutor was not necessary to show them.

Stefanoni DR - Yes, I showed the attorney Maori.

DEFENSE - Attorney Ghirga - But the whole CD contains a general section.
PRESIDENT - I'm sorry. The witness is dismissed. There is another witness.

DEFENSE - Maori lawyer - I would like to deposit these two reports do not remember whether they have the records of the product, they are two minutes of unique technical assessment made by Dr. Stefanoni on 10 January 2008 in relation to the finding of the hook and shoes reminder.

PROSECUTOR - Dr. Comfy - is already on record the original.

THE CIVIL - Mr. Maresca - We can see them?

PRESIDENT - Let's show the defense of civil action. While they do show the witness to come Camana.

EXAMINATION OF WITNESS

Camana FRANCIS

THE WITNESS, AMMONIUM IN ACCORDANCE WITH ART. 497 OF THE CODE OF CRIMINAL PROCEDURE, THE LAW OF RITUAL FORMULA.

GENERAL: Camana Francis, born February 29, 1976 in Belluno. I am a technical director the main body of the State Police, working at the Interregional Scientific Police Laboratory in Padua, although I am currently following a PhD at the University of Padua, in fact. At the material time was the official head of the ballistics at the Scientific Police Service of Rome.

PRESIDENT - Please.

PROSECUTOR - Dr. Handy

Q. - Dr. Camana, considering that when I see relations with the mathematical formulas I almost feel bad because I do not understand anything, do an initial application and then she starts with a description of the work he has done, and that is when he took the job as were the elements that you have acquired to do this work, in what was to this work, that is what the analysis of traces of blood called BPA, if he wants to explain to us mere mortals the meaning of this symbol , and after explaining what is the scientific reliability, which is not precisely the way she has done ... the methodology with which he has his work will also tell, of course, the conclusions reached and in what order, which is then the analysis of traces of blood, so the

likely position of the victim at the time when it was hit, it is fair, right?

ANSWER - Yes Well, I was called from my office to conduct an analysis of the traces of blood, is an activity that routinely takes place not at the crime scene, because it is a technique that is used only in the last 20 or 30 years in a strong way. The analysis of traces of blood still comes as a technique to the 800 when the observations of medical examiners about the distribution and production of the tracks on the scene you

realized that there could be indications of the origin of the droplets themselves by analyzing the morphology of the tracks, the technique is called BPA, with the English name for Bloodstain Pattern Analysis, which is precisely why it was developed very strongly over the past 20 or 30 years in Anglo-Saxon world and was introduced for some years in our system so much that after the filing of my report was released in July of 2008 a ruling by the Supreme Court has recognized that the scientific method beyond a reasonable doubt because it relies on studies and to the laws of mathematical, physical, and universal. Let's say that there are various levels of BPA, BPA can make a simple, observational, descriptive of the track, of what is found on the scene, or you can do a more thorough analysis of some specific tracks and these tracks in particular are projected tracks, tracks that are produced for the screening of blood from an object covered with blood from a wound, or that emits a significant amount of blood, this technique relies on the fact that the drop of blood that leaves the point say production is transported in the air depending on the precise physical and mathematical laws, and when it strikes the surface impact of this phenomenon on the production of the track surface is well described by the laws of mathematics and geometry that are not in question, for example, is well known that if we drop a drop of liquid or even

water vertically, the track is produced on the floor is circular, roughly, as if the same drop recorded with a certain impact angle 90° different from the form on the surface of the drop and then the track is formed is gradually Ellett more depending on the angle of impact, and this observation is the basis of the BPA say classic, which is carried out, in fact, so strong in the last 20 to 30 years and is based on a formula of what I presented in the report that I accept as universally known because it is present in all of Bloodstain Pattern Analysis of the texts, if you possibly can then discuss. In this case, it is thought, estimated that some tracks at the crime scene, particularly those adjacent to the right wall of the room, or on the doors of the room the victim had traces of a common origin and having a projection on which so this method could be applied to understand what was the trajectory of individual drops and get to determine the origin point of the trajectory, ie the point at which these drops that gave the production of the tracks have originated, so in essence the height wound of the victim at the time of injury. The activity that is typically carried out in this case is an initial examination of the traces, ie the evaluation of those tracks that as a result of their greater uniformity are most useful for the reconstruction of the

trajectory, because the BPA is not an exact science , has a margin of error that I have ever served in the

report, some tracks are so dirty we say, so damaged that are not useful for the reconstruction of the trajectory. So in the survey, I have made with my staff on December 18 of 2007, I highlighted 25 tracks on the doors of the cabinet that could be useful for determining the angle of impact and then then the reconstruction the point of origin. It will be clear from what we may say later, however the doors were not fixed in the closet when I performed the inspection, but have been relocated with a certain margin of error based on the photos of the original survey, this may have created an error of 1 to 2, even 3 cm wanting to exaggerate, but this error, as we shall see, it propagates in the accounts and not give any effect at the end, if a discrepancy of 1 - 2 cm when the final result then we will see that result ...

Q. - That is, the error is spread to the point of losing consistency, does this mean?

ANSWER - Yes, we say yes, then in essence is that the error analysis of individual tracks is far greater than the error that you could do in the macroscopic position of the doors, because then the end result is, if I remember correctly , a 7 cm error at the origin point of the trajectory and then a variation of a few inches would not change anything. So these 25 tracks were observed, photographed, analyzed one by one according to the method and the

BPA dictates of the classic. There are two phases, a phase which is the simplest stage of determining the area of convergence of the tracks, is a geometrical phase, which is based on trigonometry that is also in high school, so do not expect anything extraordinary, then implies Evaluation of the angle of impact for each drop and the construction of the cone of error for each of these tracks. Maybe it's better if I show this picture so ... REQUEST - More than anything before ... if you remember that, if he could tell us what are the 25 tracks that she has taken into account.

ANSWER - Yes, this is the scene being photographed at the time of first inspection, we see that here on the leaf, I do not know if you can see the light, but here there are the enclosure of the leaf traces in considerable number, of 'order of a few hundred, which are distributed in a pattern, a pattern of parabolic type, this is already a medical examiner also gives a lot of information regarding the origin, in reality this BPA that I have done so accurately coming to recognize the error could be done in a simpler way, but in that case would not have had any information about the margin of error of what he was doing, however, this is the closet door in question, this is say the opposite, these are the tracks on the floor and this is the activity that we did the analysis of individual tracks, as you can see these are highlighted for which

the signs were placed, ranging from 1 to

25, and the plumb line is used to make photographs of such that the angle of impact on the wall you can see precisely because the operator carrying out the photograph can have a margin of error in the orientation of camera. So those tracks are here, now describe them one by one ... there are on the cards that are attached to my technical report, and each of those tracks is identified by two coordinates, the distance from the wall and the ground clearance, so all these tracks are measured in a three-dimensional environment, among others were also measured using a tool too powerful, because we used a total station, we say that it is a tool that is used mostly for very specific inspections, including ballistics, so very precise in fact as I said before if the precision we had not had it not important because the error that BPA then we end up with very large accounts, then go to see the coordinates of each drop with an error mm below it is actually something of an exaggeration, but, nevertheless, we chose this method because it was faster then bring everything back into a three-dimensional environment, because then I did as you will see a 3D model of the scene.

Q. - I mean, then splashes of blood were concentrated in areas that you have just said?

ANSWER - Yes, I see ... well, maybe this picture is pretty clear.

Q. - It is always the door?

ANSWER - Yes, always the cupboard doors, for example, is one of the tracks here on this door and some of the tracks are even on the basis of the cabinet, among other things, these various tracks have helped to position the doors so that that the error is very low. Here, each of these tracks were photographed, one by one, with a macro so you can measure what were the best estimates for the size of the ellipse of each track, and this is useful for constructing the angle of impact. Then, I said, the first phase of the analysis is to reconstruct the angle of impact, then to measure the traces, as is also illustrated in the annex to the report, and to build for each of them the angle at which the droplet has gone to impact on the surface. The result is the one depicted here, where are these 25 red cones, one for each track, representing the impact angle with its error, its error is measured in a statistical sense as a sigma, we know that all data statistics for the central limit theorem are distributed according to a Gaussian, this Gaussian has a width which is defined by the sigma, the variance ...

Q. - I do not know what the Gaussian, honestly.

REPLY - But we can say this: when we have a data set of these data we can do to see what the average is the midpoint of this range of data and then we can calculate a thing called the variance or standard deviation, depending, which tells us how they are distributed around the average for this data because it is one thing to have all the data close to the value 10, for example 9, 10, 11, and another to have them scattered from 1 to 100 that do, however, are still average 10 much more scattered.

Q. - I understood.

ANSWER - How the data are scattered, we are given by the variance, it is therefore a measure of the uncertainty of physical measurement. In this case ...

Q. - But when you say that these cones are ... let's face as he said? The trajectory ...

ANSWER - The angle of impact of each drop with its error.

Q. - And also the margin of error where I read it there?

ANSWER - The margin of error we are given the breadth of the cone, the cone is the more extensive the greater the uncertainty, because it means that the trajectory followed by the drop of blood can be in any of the volumes contained within the single cone, the cone is large so if the trajectory is very uncertain, if the cone is tight ...

Q. - Yes, yes, I understand perfectly now.

ANSWER - These are cones cones upright, in the sense that they are straight cones, cones are not folded, in fact, the trajectories of the drops of blood are not straight lines but by the force of gravity do know that a parabolic trajectory, short approximated as a parabola, are drawn in a straight line in this case to define and to understand what is the area of convergence, because if we look at a trajectory of a drop or any body from above we see that the body does not makes the curves, the drop is always moving in a straight line, so even if this is the force of gravity affects only the vertical plane, the horizontal plane, the trajectory is always a straight line, so that's watching us from these cones realizes that all converge on the floor, their projection, in this yellow is pictured here on the floor, so this is nothing but yellow on the floor on the ground that the projection of the intersection of all cones, ie easier to say, going to infinity, however, because then it can expand even more, however, the point of convergence of these trajectories as close as 25 is in that area there, which is 33 cm of the closet, to 30 cm from the wall of the room, with an error, which is defined by the size of this yellow disk that I drew on the ground, which is more or less than 7 cm, then the uncertainty is an uncertainty negligible compared to the size of the room, is an uncertainty significant in general for a measure for

geometry, but this follows from the fact that the drops are always inaccurate, have sagging, the ellipses are not perfect and this is then reflected back, to define a gradually bigger and bigger. So this yellow on the floor we can also say, then, that is the projection of the ground where the victim was hit, then the point where the victim suffered the wound that resulted in the projection of the tracks. This saying is the easy part of the analytical point of view, simply because it comes to building these cones with the little formula universal, to draw them and see where they are going to focus.

PRESIDENT - I'm sorry, you can see that point compared to the room?

ANSWER - I do not know if I did ... PRESIDENT - To see ...

ANSWER - I have different perspectives, however, say, the reconstruction of the room I did it only relative to this corner, this corner here.

PROSECUTOR - Dr. Comfy - Why then, the President, the next phase of reconstruction of the crime scene according to the indications given by

Dr. Camana was made by Colispoti, Sbardella Politi and that will be next time. CHAIRMAN - So now we stop to this as the image data available to you.

ANSWER - Yes, then, we have identified on the ground ...

Q. - So projection on the ground ... the point of convergence of the projection on the ground point of convergence does not mean that the victim was hit while he was lying on the ground.

ANSWER - On the ground, no, I mean in a cylinder that has its basis in the record.

Q. - Perfect.

PRESIDENT - That yellow disk? ANSWER - That's right.

PRESIDENT - That yellow disk is positioned relative to the wall ... (unintelligible because the microphone off).

ANSWER - Yes, as I said at 30 cm from the wall of the closet and 33, with an error of 7 cm, and this is always a sigma that we identify a statistical margin of error reduced to 35%, if we wanted a better measure we should double or increase the size of the yellow disk, for example with a radius of 14 cm instead of 10 and we would have a 95% chance, but it is too high a chance to say why ...

Q. - I'm sorry to meet the demand of the President's got a photograph of the room to indicate, even if at this point, roughly, the point where the yellow circle? ANSWER - Here, we can roughly say that it is here, say here in this corner where there's this area here, where we say there is this gray area of tracks, here where there's this angle, approximated as point here.

PRESIDENT - The second tile ...

ANSWER - Yes, yes, roughly on the second tile, the upper of the second tile.

Q. - That is the projection on the ground of the origin of the drops of blood?

ANSWER - Yes, which means that the victim was hit on the ground, now going forward with the analysis you can also try to understand what proportion of the floor is more likely that this ...

Q. - Both happened, in fact.

ANSWER - Yes, this happened. To do this, the calculations become more difficult now, I give up because they are still in the report, I only say this once it was determined the impact angle, ie the angle at which the drop has come to strike the surface different trajectories are possible in principle, because a very fast drop follows an almost straight line, we think of a projectile follows almost the tangent direction, while a drop very slowly, as can be for example one of those drops that splashed on us the bathroom mirror when we took a shower with a parable moves very narrow and therefore the impact angle is always the same but the path becomes very dish immediately, so in principle if we had a single drop would be impossible to determine the point of origin of the sketches, in this case, however, as we have all 25 drops of presumed common origin, and all with a speed

Initial roughly similar, because they originated from the same phenomenon, and one can understand both the distribution on the leaf, which is the size of these droplets, which are more or less all the same size, then you can look for that point in space which makes it similar speeds for all the drops, so if the problem is not solved every single drop to 25 drops, the problem can be reduced to a minimum problem, ie minimize the variation of all of them so that to understand what is the point where there is most likely to produce, is a thing you do in the simplest way, by studying the equations of motion, here we need a minimum level of physics for a moment ... at least the first year universities, and even here the error is propagated in the Auditor's always the methods that are defined by statistics and formulas that I have presented here, then formulas are universally found in any text of error analysis. The result is what? Initial joint testing speeds of all the 25 drops at various altitudes from the floor, the part that is most likely therefore that minimizes the difference between all these is the speed of 40 inches, a height of over 60 cm are not eligible because their own inclinations impact of the cones are such that for some of these cones could not solve the equations, because the cones are very low while the trajectory would be higher, and therefore do not understand how the trajectory could then have this impact angle starting from above,

then the trajectory must always start under the cone, because it has to bribe to get the point of impact, and this therefore excludes all points in a strong source at 60 cm above the ground, while points to 0 cm from the ground , then the victim suffered wounds to the ground or 20 cm gives a very broad distribution of speeds, so here too unlikely. So the maximum probability is around 40 cm, with a margin of error is roughly the same as that for the convergence area, so always roughly 7 centimeters, or slightly more. So we can say that this second type of analysis allowed us to understand what was most likely part to the floor, then more and more likely seen as less than 65% probability, and is 40 cm from the floor. I have images that represent this area, here it is, this yellow ball that is called in technical terms BPA origin volume, which is the source volume of the tracks, is represented here with the cones are much smaller because it shows the true trajectories and not fictitious ones, such as the convergence zone, and the ball is 40 inches tall from the floor of the closet at 33 and 30 from the wall of the room, this is the point in his book, which has radius said of 7 cm, contains 65% chance that the victim was struck, if we wanted to double the diameter of the ball will get to a diameter of 28 cm, 95% will, in fact, little would change because the point would always be short .

Q. - Look we can say that the yellow ball is the point where we say ... the party was drawn from the wound in the neck?

ANSWER - Yes, this is what I was.

Q. - Then those cones that are above how can they be compatible with that height and the position?

ANSWER - Why, precisely, the trajectories of the drops of blood at the time they leave the wound are also dishes up, that is, if the wound is at the top, there is still some mobility of the head, here come much more complex phenomena, however there may be an even distribution at various heights, the important thing is that then you can always solve the equation of motion, so we have a trajectory that was a speed compatible with all the others. Q. - The equation of motion.

ANSWER - Yes, the equation of motion is practically the law that governs how the drop moves through space.

PRESIDENT - I'm sorry, but how high is the yellow sphere? ANSWER - A 40 cm from the floor.

PRESIDENT - 40 cm, this is the ... ANSWER - This is the point ...

PROSECUTOR - Dr. Comfy - This is the point of injury, which has since then produced the wound.

PRESIDENT - The point of the wound, 40 cm. ANSWER - I also made assumptions ...

Q. - So, to understand that ball is above your head, there's the ball and then his head.

ANSWER - Here, if we want to guess, this is only a hypothesis and the dummy representing him, there simply is just the height of the victim placed a mannequin at the point where the calculations tell us that sparked drops in this position, for example, the victim is facing upwards, but it is only a hypothesis, is only a hypothesis, we can see the other, a moment I see them better. Here, see for example the same perspective of the same hypothesis, that the victim face up with elbows resting on the ground in this case, since 40 cm is not a quota or too high nor too low, that the victim was lying on the ground and was kneeling or even standing, but in such a position ... could be this, or other hypothesis, perhaps more likely, but this is a consideration we say that is not scientific but I did like those previously is this one where the victim faced the closet instead of giving the shoulders, knees and torso to the ground, this, here is another perspective of the same scene, always 40 centimeters at the wound site, and this Another hypothesis is still with the victim who was always at 40 cm, always facing the cabinet, however, was on the floor with your knees and your torso upright. Assumptions are all compatible, maybe there would be other short, these are the ones that seemed

plausible, here. But as I have represented in the report these designs are only hypotheses that can be changed is the location of the victim's body that his hands, etc.. What matters is the likely source of 65% concentrated in the yellow ball, which is the 'origin by volume.

PROSECUTOR - Dr. Mignini

Q. - Look, sorry, I might become, it is clear looking at the picture but here it must be understood by reading the minutes, that is the position of the victim, that is the point where the victim was hit when we look in front of the cabinet, the width of the cabinet is within this wide cabinet, right? ANSWER - Yes, yes.

Q. - I would like to make it clear this point.

ANSWER - Yes, yes. Perhaps, here, you can see from this picture ... Q.
- That is the mirror in the cabinet? ANSWER - Yes, you can clearly see
from this image. Q. - I would say that because ...
RESPONSE - From this picture we see that it is the convergence area, so
consequently also the source volume is right in front of the cabinet
and the leaf could not be otherwise, given also that a medical examiner
... he can ... REQUEST - It is within the width of the cabinet, that is
the mirror of the cabinet?
ANSWER - Certainly, yes, even right in front of the leaf.

PROSECUTOR - Dr. Mignini - No further questions. PROSECUTOR - Dr. Handy
- President, no question.
PRESIDENT - Part of the Civil Defense.

THE CIVIL - Mr. Maresca - None for now, President.

DEFENCE - Mr. Dalla Vedova

Q. - I think these paintings are the result of computer software, we
can explain exactly how it is rebuilt is precisely these cones and
cones and also the size of the handle, there is a system to put
together all these data and to arrive at these representations? Only
this clarification.

ANSWER - There are various stages, the first phase is the
rehabilitation of the environment or part of a scene that interests us,
in this case was to reconstruct the cabinet and the location of the
tracks, and this was done with that tool I said earlier that the total
station that provides 3D data that are easily imported into a graphics
program, and then the design of the cabinet and the position of the
tracks has been done this way. As for the cones, the cones were
positioned with their apex at the point where exactly were the drops
that have been identified in this way and their width was calculated
using the standard formula of the calculation error, which is stated in
my technical report, and with which I say

have done many tests when they have a software called Andragos, which
is a software for analysis of the trajectories of the drops of blood
which I myself have written, based on this formula and calculate at a
glance the margin of error and I simply presents the trajectory. So
much for the cones. Then for the determination of the convergence area
and the volume has its own view of the intersection on the one hand, as
I said before, the cones on the ground, as you can have quite clearly
from this picture, all the cones converge on the ground in quest '
yellow area, you can also see other perspectives, I do not know if I
represent here, however, is on page 19 of my technical report where you
see just the area of convergence of all the cones. As for the source
volume but as I said before it has been calculated and size of the
dummy ... dummy took a standard and it is scaled up to have the height
compatible with that of the victim.

Q. - But all this she did with this software

Andragos?

ANSWER - No, the software used for calculations, the representation was made with Maya software that is available to the Scientific Police Service, is a 3D graphics software with which you can normally do and we do all the reconstructions.

Q. - You said that the software is a Andragos its software, that is, she is the author of this software?

ANSWER - Yes, yes, yes.

Q. - But it is a commercial software?

ANSWER - No, it's a software that comes with operators

Scientific Police, is a substantially ... Q. - So it's not on the market?

ANSWER - It is a calculator, apply this formula ... I Q. - But I can buy this software?

ANSWER - No. No, no, it is simply the construction of the formula that is present in the book so that those who can not deal, perhaps because the operators of Scientific Police in the area that is not necessarily need to know trigonometry, can using this software ...

DEFENCE - Mr. Dalla Vedova - Thanks, I have no question.

CHAIRMAN - Are there other questions?

THE CIVIL - Mr. Maresca - A, President, thank you. PRESIDENT - The plaintiff who has shown the witness.

THE CIVIL - Mr. Maresca

Q. - Doctor clarification with respect to its reconstruction, we said that, however, be ruled out that the projection of drops, as I understand it, comes from more than 60 cm high.

ANSWER - Yes, you want to exclude more than 60, the highest probability is around 40, yes.

Q. - So surely below 60.

ANSWER - Yes.

Q. - You also said that one of the three hypotheses that seem more perspectives and the third with the victim kneeling, is that correct?

ANSWER - Yes, some considerations' heuristics, almost medical -

lawyers who lead me to say this.

Q. - Supported or not, second-third hypothesis, on the elbows.

ANSWER - Yes QUESTION - Right? ANSWER - Yes.

Q. - In both of these hypotheses, but I think in the first, correct me if I'm wrong, in every way we say more space than the volume of the room is still far left of the victim?

ANSWER - Respect ... yes, everything on the left of the victim, because right there on the wall.

Q. - Well, right there on the wall, she said it is about

37 cm.

ANSWER - 30 more or less 7, yes.

Q. - So, correct me if I'm wrong, then obviously you have seen the photos, the body, etc.. And then we find that the greater volume than the victim is injured on the side of the main, is right on the neck?

ANSWER - Yes.

THE CIVIL - Mr. Maresca - I finished, Mr. President, thank you.

PRESIDENT - In his case the victim is or is overthrown ... (unintelligible because the microphone off).

ANSWER - Let's say I wanted to represent this idea to make a little 'clearer ... or could look at the ceiling or the floor, I say that in my opinion, because in my experience having worked at UACV I have seen many cases of Bloodstain Pattern in the past years, it is more likely a position facing the floor, as in this case, rather than pointing to the ceiling, perhaps because the tracks are on the ground do not show a big shadow ... you can see here, in this picture, you see well to those found in the closet there is also an abundant number of tracks on the ground that are amenable to the same event, and then produced the same injury at the same time, as there is a gray area, if not this, which presumably was covered with a book or a sheet of paper, I must say that the position with the victim face up probably would produce a cone of shadow, then a gap of more abundant traces, but here, probably, a medical examiner could not be clearer to me, I ...

PRESIDENT - But ... (inaudible because outside microphone) or facing up towards the ceiling was hit compared to those who hits it, or right or left.

ANSWER - Yes, right.

PRESIDENT - And so the blood stains on the leaf can be detected ...

ANSWER - You are right, yes, maybe I explained evil. PRESIDENT - (Unintelligible it off microphone).

ANSWER - Yes, exactly ... I would subconsciously give more value to this hypothesis with the victim facing the closet, then to the ground, so I unconsciously said that increased volume ... but if it were turned away from, which I I think it is most unlikely but always consistent with the distribution, then it would be otherwise.

CHAIRMAN - There are no other questions, dismisses the heads. It captures the relationship?

PROSECUTOR - Dr. Comfy - Yes

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