

ORDINARY COURT OF PERUGIA

SEC. COURT OF CRIMINAL ASSISE hearing

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PAGES MINUTES: No 156

PRESIDENT Dr. Massei

CRIMINAL PROCEDURE No. 8 / 08 RG

AGAINST: AMANDA MARIE KNOX + 1

SITTING ON 06/07/2009 Assize Hall

Result: REFERENCE TO THE 10/07/2009

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EXAMINATION OF THE CONSULTANT

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EXAMINATION OF THE CONSULTANT

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ORDINARY COURT OF PERUGIA
SEC. Court of Assizes hearing

President: Dr. Massei Judge: Dr. Christian Attorney: Dr. Mignini
Prosecutor: Dr. Handy Chancellor: Ms. Bertini Technical Assistants: Mr.
del Fresno

Audience Hall of Assizes 06/07/2009

No criminal proceedings 8 / 08

AGAINST AMANDA MARIE KNOX + 1

DEPOSITION OF CONSULTANT - TOWER PRESIDENT CHARLES - And 'the
consultant of Defense Amanda Knox, a consultant will present the
feedback that his experience and professionalism will allow it, with
regard to any investigations, findings of fact that may have occurred
this is limited to invited to provide a declaration of commitment and
make ... then give an indication of its generality.

THE CONSULTANT, AMMONIUM IN ACCORDANCE WITH ARTICLE 497 OF THE CODE OF
CRIMINAL PROCEDURE, THE LAW OF RITUAL FORMULA
GENERAL ': Charles Torre, who was born in Turin on 13 September 1946.

PRESIDENT - Well, here maybe I do not know in advance whether they will
be shown pictures ...

ATTORNEY Ghirga - I wanted to say thanks, I told her

if ... I think that Professor Tower will offer a job that
also contains slides for example, Meredith, in that case, the attention
will be restored according to the ordinance, I think here is ...

PRESIDENT - Yes, yes it is.

ATTORNEY Ghirga - That there will be some photos that need such
protection already adopted by the Court.

CHAIRMAN - Thank you, maybe here is the first we had to see these images so that if the professor does this, first of projecting so as to determine after hearing the parties on how to continue the hearing in accordance with those same requirements already highlighted in particular by the Civil Defense of the Party the family of Meredith Kercher. Please, go on then.

ATTORNEY Ghirga - I just do a presentation at the time, Professor Tower what is your current occupation say, what does it do in Turin?

CONSULTANT - I teach legal medicine at the University of Turin and are responsible for the forensics science lab at the same university.

ATTORNEY Ghirga - You are dealing with other criminal cases say the type in Italy?

CONSULTANT - say Yes mostly work on behalf of the Courts of Assize or Judge, then do part of the advice in cases which I consider

particularly interesting. ATTORNEY Ghirga - He wants to simplify one, two, three cases dealt with, which is on cases ... homicidal episodes?

CONSULTANT - Currently I have a couple of murders in Caltanissetta

Trapani appointed by the Court, I have a case, the Court of Assizes of Verona re-appointed by the Court, then to start from so many years I do this job from '72, '73 I worked on the historic first Red Brigades, I'm busy then also the second, the last of the shooting on the train near Arezzo was captured when the Lioce, I

dealt with the death of Calipari and wounding of Sgrena, the death of Ilaria Alpi, the death of the Countess Augusta, the exhumation of Enrico Mattei made many years after the death aimed to determine whether the plane on which we traveled the manager of ENI was or was not a bomb, to name a few.

ATTORNEY Ghirga - Yes Professor in charge of the event in Perugia

Spaccini and appropriate for Narducci (inc.) a title?

CONSULTANT - Perugia I am in a position to operate in the Defence, I have dealt with the case and the case Spaccini Narducci.

ATTORNEY Ghirga - Thanks. Look, what kind of work does

submit to the Court today in which we received the assignment?

CONSULTANT - So I've been asked to handle this case with other colleagues shortly after the fact, not long after the fact, I was able to attend the autopsy, however, I must say also assisted in all phases of the accident so I have proof examined the pieces, I examined the histological specimens. I must say that this is a case in which the autopsy records of quality is so excellent that I noticed in many other works that I have read Dr. Lalli it is almost like having directly assisted autopsy, moreover, in addition to the static digital photographic images of the autopsy, there is also a movie that lets you see what happened almost like being there so this is possible in this case than to refer to the description given in the autopsy report also to express its independent opinion almost as if a repeat had been present.

ATTORNEY Ghirga - So now what kind of work she and his other ...

CONSULTANT - The type of work is a bit 'a collection of the we have done in the nearly two years regarding the causes of death mainly, then I would say the most interesting elements, the compatibility of the knives with the injury, I will also mention some of the problem location and relative position between victim and aggressor to able to achieve some end ...

ATTORNEY Ghirga - So if we had prepared a CD ... CONSULTANT - I have prepared a DVD.

ATTORNEY Ghirga - DVD.

CONSULTANT - Where are the arguments in the lineup I'd like to be able to handle. I have not been to a script that I intend to present, however, I present the slides are numbered one after the other and if there was a need to refer believe that on the basis of the transcript of what is said here today can be considered each slide, the DVD is available to the Court. ATTORNEY Ghirga - may wish to acquire the outcome of our day, it's fine for what Professor to present and the method does not have any more questions, if you want to start in its autonomy, in its setting.

CONSULTANT - Here, then, I must say immediately that appear

some pictures so you probably need to be applied because ...

PRESIDENT - Well, then highlight the parts in relation to what the requirements already revealed in previous hearings, therefore, that you have to continue the hearing takes place behind closed doors according to the procedures previously established and the needs previously highlighted, you acknowledges that in the classroom as well as defenses to the other parties are also present on CT Patum consultant Dr. ...

ATTORNEY Ghirga - Morning Dr. that works ... maybe we will also need ... there will be but if there was but I saw that the Court allows a technological help.

PRESIDENT - And Dr. Stefanoni and Dr. Bacci. ATTORNEY Ghirga - Dr. Saragino too.

PRESIDENT - Dr. Saragino And, well. Please, go on then.

CONSULTANT - So we start from what is the argument which is always the first one that arises in every case of violent death or even a non-violent person who is the cause of death. Now this is an image that everyone will have seen repeatedly, we have focused to cause injury to the neck region, we have some type of blunt trauma injuries that we have the bruises and wounds as a means to peacefully special action that is detectable in a knife. These wounds have in our relationship when we had probative indicated as the most important wound A wound that is, B and C are wound penetrating knife wounds and to say I say that penetrate beyond the skin that is beyond the epidermis and dermis and arrive in depth or only in the tissue under the skin or even deeper as we shall see, so there is a double kind of blunt trauma to cause injury that is, objects that will be discussed what can be and by other special weapon. It is clear that injuries like these gushes of blood and the body in question in fact was little sanguificato, in this case in addition to bleeding wounds outward and inward, there are these tracks that suggest a constriction in the neck. Still watching the inspection is observed in the images from the wound more good that comes out of white foam around his neck, this white foam which is called ... in who makes our job mushroom_foam is a foam that is formed in the lungs, bronchial tubes when there is a suffocation suffocation especially when it is produced from a liquid to penetrate but also in other asphyxia in a choke, a constriction in there, we say that typically there is so much of this fungus for example mucosa nell'annegamento. Still other signs of asphyxia petechiae under the conjunctiva, there is little known but the fact that the hypostatic stains that are scarce and therefore clearly indicate that it was lost a significant amount of blood ... are red in some places

quite lively and rather have a darker blue where there are skin folds because you can ... This phenomenon occurs because the blood stain that forms the hypostatic especially if the corpse is kept moist in the refrigerator has a way of oxygenate, that is dark when the blood has little oxygen and died asphyxiated in which death occurs with little oxygen in the blood hypostatic stains are dark but if I expose the dead to an environment rich in oxygen and wet the surface of the stain is hypostatic re-oxygenates and becomes bright red, of course, can not oxygenate where there is a fold of skin that prevents the surface of the skin come into contact with oxygen, here we can see the buttocks in the other picture you can see better. This is only to say that there is little blood to blood loss, however, there is also a dark color and petechiae dell'ipostasi I say ... all these things tell me that to compete, to cause the death occurred is a haemorrhagic mechanism is a mechanism asphyxia, asphyxial mechanism still has to be considered of order two, there was certainly plenty of aspiration of blood into the airways and then a kind drowning the aspiration of blood is no different from drowning in the water that occurs because there is an invasion of fluid that penetrates into the airways and constriction of the neck. I had only made this picture ... My image is a footage just to see that this is always a man died of suffocation, you see the red stains hypostatic where we were able to oxygenate and instead are dark purple on the floor where the corpse of position for contact with the dissecting table could not be re-oxygenation of the hypostatic spots, petechiae ... here

we talked about in this case survival, some have spoken of minutes, 10 minutes, 5 minutes, I say that we can say little, I can say is that the fact that there is in this body the presence of petechiae tells us that it survived at least 2 minutes at the beginning of the asphyxiated.

2mins Why? Nell'asfissia because there are different phases, there is a first step I do not want (inc.), but teaching in a first phase which is called the inspiratory wheezing that is when I close the airway of blood, I try to breathe ... I apologize water, air. I closed the airways and can not obviously. Usually by the end of this first minute is easily lost consciousness, loss of consciousness because it is too little oxygenated blood and the brain fails to function well because too little oxygen reaches it. At this point the increase of carbon dioxide in the blood also causes involuntary bulbar brain stem centers responsible for breathing control intervene, that's what happens physiologically in all, if I'm so long without breathing and then increase in mine. .. my breath carbon dioxide in the blood inevitably, it is impossible to kill, then running out of breath occurs because an automatic, that's exactly what the operator is called the second phase of the expiratory wheezing, after this I try to expel this air, I try to eject this air and it is precisely at this stage that there are large changes in the physiology of circulation and there is an increase in blood pressure and is formed at this stage that these petechiae, say this to say at least two minutes has survived because otherwise there would be time to form of petechiae. Consider now the wound ... then as the cause of death, I would say that we are all more or less agree in the fact of assigning someone a bit 'more to one side and someone a bit' more than the other combined _ction

asphyxial mechanism and external bleeding. Here are the knife wounds is clear that it was discussed so much, it was discussed so much because as we all know a knife that was seized is said that the knife could be responsible for the injury, this is a knife my footage of a another case, it is only because it is important to understand the words

because then they say: "the knife is wide, is long and so on," I would say here is that the knife has a handle and a blade that's just educationally, the blade has a bit then have a back or rib, which is thick and a cutting edge. Here the distance between the back and ribs is the height of the knife, called high regard whereas the back is usually speaks in thickness, then there are other ways to name, I think this is the best one because when it comes to width of the spine is the width of the blade height in mind, I may have confused the ideas of what I wanted to clarify, however, I would say this is the correct way to indicate what it looks like a blade. So if I consider a skin wound is a wound that I have an injury without loss of substance, there is no destruction of material in the wound of knife, I will have a net section and a gap in margins if those margins would not be a line apart, the elasticity of the skin causes the margins divarichino and a slot shape is often said. This is a concept that is relevant, the length of this wound can match and often corresponds to the height of the blade and the blade is the height at the level where it is penetrated. Now that the saw blades are usually triangular it is clear that if I penetrate into a fabric the length of the skin incision will be comparable to the maximum height of the blade at that point, this is not always true. I'm sorry I pull out a knife, then first input of the wound cut of the knife can be longer than the height of the blade, in this case

example, if I penetrate and extract orthogonally orthogonally wound of the knife that I will be as long as the blade is high, it is clear that if I extract or to insert your saw a lot of work instead of just cutting penetration I can have a wound much wider than it is the height of the blade of the knife. Even through the long, usually ... then I had the foam, I'm sorry there is no evidence in the accident I had a piece of foam but it is simple to explain. It is clear that if I have a soft texture and normally penetrate with this knife I will have a length which is equal by looking on the corpse to the length of the blade that has penetrated. This is not always true, it can happen and it happens mainly in the abdomen that is apparent by the length of the longest blade that has penetrated, I mean, if I have a blade of this length that is to say a few centimeters in length and wound a person's abdomen may happen that when the blade penetrates the entire wall of the abdomen bumps into the handle of the knife, the blade stops, my abdominal wall and compresses it can happen that even a knife goes to scratch the 5 cm column spine because the abdomen is compressed, when I do an autopsy of the dead I see my dead with a belly that is returned back to its original location and see a link from the skin that begins and ends on the spine and tell you through a 24 cm long, is a mistake that can be done, warning this happens when the blade penetrates the skin and when the whole tablet is something that obviously can not penetrate because the blade is over. So one thing that is important at this point is to report ... We told wounds and cutting tool tip, are three in number more than A, B and C, it is important to note that through all these injuries are substantially homogeneous as the direction that go all over the body from left to the right, from bottom to top and back, this is consistent with a weft direction of changes of course, degrees may not be reflected in a situation like this. Now I have brought here also an anatomical model of a head here if you need a photographer and then took it in hand because it can be useful anatomical model of head-size, this is the region hit by more than one stab wound, Here we have the superior thyroid artery, here above the hyoid bone and a fact that goes through

from left to right and from top to bottom ... from the bottom up I apologize, here we are on the left, here we go lower than the wound in the upper back and frankly, I am convinced that the tip of the knife wound that produced the wound has bumped into the corner of mandible and this has drawn a link of only 4 cm to 8 cm and not what is in my opinion the length of the blade of the knife that caused those injuries. We take into account the morphological characteristics of these injuries, then we should review the 1, 2 and 3 or A, B and C and consider carefully at this wound, it is clear all the consultants I have spoken already clear that there is a place where had found the back of the knife, which is less dangerous to take this, then up above the back of the knife was, here was the cutting edge, it is clear, we can see here has the cutting edge, this is a particular and here's the back, I now have in the report, the very first relationship I allowed myself to underline that impression at the back of the back there were these scratches that I personally had seen very rarely if ever, maybe not I was never going to try not mean I do not want but ... I have seemed strange for their regular lesions (inc.), here you can still see very well, there are these two small notches and then they are like thin

bruises that radiate from the edge of the wound, I found just a job, I tried, I tried, I found only an old publication of Chispuer Crimonologie (or similar) 89, here is the Pollak describes the findings of the wounds by Uber ledensmetter (or similar) that would be the survival knives, for example from Rambo. Now ... and he describes its specifically says "this wound with a rounding of the upper extremities, which is flanked by small nicks by the action of the serrated spine, this sentence ... there is work available, however, I've translated from German because they are ... I speak German than English. I'm not saying that they are identical the photo is what it is but it is an old job, we decided to show it in the best possible way but I must say that is the only data of the literature in which I described a wound that has some similarities with that in question, here is the cutting edge. Please note this wound more than the footprint of the very sharp cutting edge that is clear is that this impression is deepened gradually here, this is because the knife went sideways so clearly in the thread entry point of the first blade has recorded very superficially and then little has deepened leaving this sort of tang. What is important in this wound that we know to be a wound 8 cm long and is followed by an 8 cm long are these small lesions, in addition to the above we have two notches blatant accessory that we see here and below, here and in fact these two This can only mean that the blade of the knife is not penetrated and output, the blade penetrated, exit, ripenetrata, successful, two or three times, three times in my opinion I think the most reasonable thing, it bends a little, fall and is the first accessory notch, and is the second part, then the number is clear that it is impossible to evaluate, I mean that this wound was determined from insisting a blade within that forum, and that clearly and unequivocally as well as being shown by the presence of notches accessory is confirmed by examining the internal injury in the muscles of the viscera of the neck region where there is a real broken, it is possible that a single cut of the knife determine this set of injuries, is right to call into question the backlog of muscles here is someone with that knife went back and forth the wound to 8 cm. What does the B wound, the wound that B is also easy to interpret, we know that this injury has a very short that follows through, this has long tang on the left, left here for us to look, this hole has a little

'cincischiato right. Now I would say that an injury like this occurs I do not know if I can because it is a_bit 'little one, this is just a small piece of dough, it produces if I have an action of friction and impuntatura, that I have an action for I swipe of a ... tip of the knife blade and then a small impuntatura, this can be for example a movement of the victim's neck, it is clear that it is produced in this way, you can also see here a certain ...

ITEMS - (in background).

PRESIDENT - Professor Please pray we can continue. CONSULTANT - I hope it is understood that ... to be able to explain what I meant, I can also do this with very big here and then there will be a line, un'impuntatura and is identical to that injury, so at this point would take maybe this head ... this is a life-size anatomical model, I do not know if it will help but I wanted him here with me because it shows well how this is made clear neck and is so ... Now regardless of the relative position we had a wound in this location that is between ... We can also remove the breastbone pleido mastoid, including the inferior thyroid artery hyoid bone that penetrates about 8 cm that we rightly describes as a wound that Dr Lalli is going to lose share in the lateral pharyngeal (off microphone).

PRESIDENT - On the mic ever.

CONSULTANT - So then, now then I'll see about the compatibility of the knife, then action in this way, a little impuntatura, another wound, this wound a wound here is again interesting and long, an inch and a half is described so, we pay attention to the part of this penetrating wound is only an inch long, returning to our clay if I penetrate so it is clear that if I have to shrink to a widening of margins I have here a very superficial wound due to the fact that this knife has penetrated obliquely penetrating whereas this is the part which is about an inch long, then it is an inch and two, an inch and a change that is not what is important is that this wound is directed backward, up and right then the direction of homogeneity of all three puncture wounds and cutting. Beware if we see the direction of this wound, the wound with the blue arrow C we see that the direction of its short length goes through after bumping into a bone jaw is robust, we return to our heads a moment, a moment back at our head, we have ... Now we are on the opposite side that enters a wound here, it goes on for a short distance and immediately strikes against the lower jaw against the angle of the jaw bone that attention is a great strength of the angle of the jaw, in fact if I'm being the only honest thing a little 'recriminate in this case is not to have requested that full skeletonization of the head, is something that we usually do, but usually we do it will Bacci or on the corpses exhumed corpses charred corpses of that you no longer have to expose the joint, effectively demolish a young girl's head and boil it, completely skeletonized was something that was perhaps not easy to propose. I believe that if it was done might have been possible to see a knife on un'impuntatura corner of the jaw. So now here we see how foolish the reconstruction made by the Scientific Police experts say dell'UACV because in their reconstruction, these are images that I took from their DVDs through the pose of the directions of everything heads, it makes no sense to imagine this knife that goes to ... because it goes right through ... go to the left because it goes right through, this is already a little bit right but my goodness is headed right from front to back, this is only to say that the agent must believe that by

making three-dimensional reconstructions to show up better things as they did, it shows what he was wearing and what he had in mind here was greatly mistaken. We come to our knife, this famous knife I have an identical T-shirt is now being enriched with when the process, this is precisely the one there. Then we have the one knife ... we know that the blade is not long now about 17.5 fossilizziamoci if it is 17.6, 17.2 and so on, we are of that length there, we have a back that is often about 1, 1.5 mm height, and we that in the climax ... that's why I presente_ the first general to say that knife as they call the different sizes of the knife is 3 inches. Now if we look at our wound, we know that C C is wound about an inch long codettina apart and we know that this blade an inch from where it is high then the distance between this point of height, an inch is the tip the knife is 1.55 that wound through C has a long 4

cm, I do not say that it is difficult is not impossible that a knife as it administers a skin wound in the order of about an inch or an inch and a 2 by 4 centimeters, there is no place in that structure that can explain why the wound should be as short and instead a boxcutter like this because it is a knife like this that was used, which penetrates about 4 cm is high ... Excuse the top where you can easily make a one centimeter by 4 centimeters, I wonder why has not penetrated all? Has not penetrated all because he fought against the jaw and the knife instead of continuing to repeat the other side where the wound is more went with a movement of coming and going to mangle those tissues and made a deep wound that could that has a wound 8 cm. If it had been used a knife like this come up again ... we return again to our knife, the knife if we stuck with the obliquity with which it was produced here would not have made that wound a wound an inch or even an inch and a half but 2 cm and a half in order to determine a means of 4 cm, I would say this I am a friend of mathematics and measures, however, I would say unequivocally that it is a given, again I say this is a head-size, but if I hit this head with this knife is there is strong is one thing that wound insistent, cutting knives, there is nothing there except a durable hyoid bone is stuff that just recently, and then through this knife because if I should stop here, why? There is no reason especially insistent action would surely have crossed from one side to the neck. One more thing here is not a malignancy is because I'm sorry when you suggested to people who are not of the news of the trade that can be misleading, Dr. Stefanoni when Nick was asked what was important ... says: "I found the DNA in that ... I did pick nick in the "now if a photographer sees a scratch, she says," was small "we told ourselves:" needed a microscope to see it "and she said" But how ... the microscope should color it, do ..."... now I want to be clear to those who must consider that there are two types of microscopes, microscopes with transmitted light in which I put a slide, slides are those that are used in histology to make the diagnosis if one has cancer or pneumonia or on a corpse in the lungs to see if there are red blood cells from blood aspirated or not, and then yes I have to make a very thin slice of tissue, I put it between two slides, after having appropriately colored because otherwise I do not see anything, because those? Because the nuclei are stained with a dye called hematoxylin, the cytoplasm is called an eosin, elastic fibers with another called orseina and then I have a complete picture. Now say that one must somehow manipulate an object under a microscope to look at is something that leaves a stone because the incident light microscope, but he and this is the stereo microscope, the other day I took a knife, whatever, as I put down there, I took a photograph can be seen more than

scratches, the tool is just that without any manipulation, very repeatable process allows me to make a high-magnification photography of any scratch and possibly detect if within that Nick is something organic, on the other hand is the basis of identification of projectiles, the microlayer you make it that way using the stereo microscope, this is not to debate but only to clarify that the Doctor was very well able to look Stefanoni the micro or macro nick nick that was documented and it is not true that he had to manipulate to see the knife. Other lesions, we said that there were other injuries as well as pointed and sharp as a tool that we have seen all the same direction and be in my opinion with a boxcutter compatibilissime, with a blade about 8 inches to the height of an inch, an inch and a half, absolutely contrary to what I have referred to as C with a large knife wound in the Marietti seizure and contrary to the mode of action also named as wounded A. What else is here, in me ... there is this deep bruise, then there is some superficial stab wound that seems of little importance for the interpretation of the case, there is this deep wound me here ... deep bruise, I suggested I can not say whether or not it is true that it could be fairly robust nail, the nail may cause abrasions of the deep crescent-shaped like this and then I can well imagine a man who grab the front of the neck and leaving fingerprints and if he had a nail with ... a thumb with a nail rather long may have caused the injury, I say this not as a hypothesis as proposed hypotheses of certainty because even scrape a blade that could be done ... an injury like that but I must say that this curvilinear here gives the idea of the right free edge of a fingernail that determines un'escoriazione. Still there are injuries and bruises are true to the nose and mouth, I would have bruises from compression, that is, here's a hand and fingers that have been put on a mouth, we talked about suffocating silence, I would say that the mechanisms are comparable those of suffocation and silence, these lesions are not particularly relevant, it could be simply placed a hand on his mouth in order to silence, so we have a grip around his neck, we put a hand over her mouth, then the hours will resume discussion

later, is that your hands are still the one where he puts it, I can put a hand on a person's mouth to make her shut up and slide down the neck, now attention has been argued that these lesions are close to the edge of the jaw, if I take my skin and I go down to choke so it is clear that I can, I can not speak of facts, determining a constraint when the skin returns to its original position I have some bruises along the angle of the jaw because the skin for elasticity is back up there for a constraint that forces the airways to me. There has been talk of bruising elsewhere, there has been talk of grasping, has even heard that there is such a variety of injuries on this corpse that could not have been produced by a person, it requires action by more people. Now we need to join Dr. ... Professor Introna us because all we did wrong and correct the wrong we had all indicated as playing a bruising in his right elbow and left elbow was on the other hand, here on the left elbow on the back there's nothing, it seems to me that this is accepted, are injuries ... hypostatic stains are reasonable, these are true, these two are very close to each other bruises bruises bruises and would seem to be aspects of the recent attention that we are here at the headquarters of the epicondyle of the ledge that we are in a very prominent, any impact they will have all had experience of the elbow bump or can go on the outside or the inside of the elbow, bruising is that they have no marking, I would say that normally when I find the bruising at the salience of a bone are likely to impact

against something hard, I find bruises from grasping the wrists, I find the biceps at the elbow ... I can not exclude that one is grabbed by the elbow even though it would be very curious and an elbow that is easy

is a shock, we also have a person who was on the ground, which was on the ground and could well hurt the elbow back, and could well hurt the elbow against the ground. What else is there? The forearm and arm, so now I want to say about this corpse on which I do not know how can we discussed large grasping, shares with multiple tools that show the involvement of many people, there is a bruise forearm, there bruise on the elbow, there is a grasping at the neck. Then there are those lesions that are difficult, even here I looked around the movie, you just feel these two bruises on the hips and more precisely at the level of the anterior and superior iliac spines, it is also true that in the movie says Introna those bruises seem a color a little differently, may be not so recent, say something from personal experience, I remember that my daughter was then 12, 13 years was a good gymnast and I often saw bruises on these iliac spines, I have now been asked has played 35 years and in fact she says: "I do care if I do gymnastics and the bow back and did not sufficiently often under a mattress I get bruises on the iliac spines because the point that touches ... Now I do not know if the victim did gymnastics or not, I just want to say that two symmetrical bruising so I'm allowed to talk with my wife who does the doctor and she told me: "Many of my patients that I do gymnastics are ambulatory and have two bruises here do not know, what I can say is, however, that the bruises I can not have anything to do with a grasping, I'm back from the bruising that are compressing a salient point in the bone against a surface, this surface can also be a knee to an aggressor, I do not mean, however, the symmetry if it is true then why are esumatissime suggests an impact against a flat surface, a collision with a

Flatbed say if I were down in an arc back because otherwise the chest is protruding from the iliac spines and difficult in that case you go to form. Then reconstructing a whole and that we must never forget, we have this injury ... Sorry there was still this little bruising of the middle third of the right leg and evaluation of a thing than to say that certainly is not a grasping, that is a collision with some object, we can not say I believe in fact. Here, since we have these here on this elbow that may well be explained by a collision with the ground, may also have been crushed, we have these two things and you see very little bruise on my leg, say it is a corpse has very few injury almost insignificant addition to the neck. Here I put a schemino with the figure 43 with the image that's in my first report I read correctly after moving the site of injury Introna. Hand there is the problem, now you mentioned that there are lesions on the hands conjectural related to defense, I interpreted it in his time as a defense against injury from an instrument like a knife. Now these injuries are fairly modest, there is a kind of linear left index finger injury, this injury to right thumb and the palm of his right hand, this is their location. Now if we go to see clearly that these lesions in the left index if we see this injury is hard to see here is made from a blade with ... I have ... by a hand that has grabbed a knife, it would be longer, you know ... or rather un'impuntura shock, is even better the next, or the taking of the impact of a blade of a knife like this in my hand here, just for example against one of these notches, now the figure below was not saying that is so simply to show that this injury does not look like an injury

knife if I do a smear with a knife wound with a long tang that taper at the ends, in this case I have a lesion that is like un'indentatura, now the image size is reported now that I have not with pinpoint accuracy but the image of that of a jagged knife with this injury I would say that there seems enough. Still I think it was said that those injuries are a little 'for a few knife murder, was also discussed that perhaps the girl had been detained and who therefore had not been injured, it is now difficult to imagine that a restrained and hurts a little if you're not hurt, but kept above I have taken up all my old cases ... I have made many autopsies of dead and weapon effects are often very important to grasping the wound edge, however, are usually longer blades. Intuitively, if I am faced with a blade of this size, this was a case of a blade of roughly this size easily grab and I do that kind of damage there, as in this case if I have big injury, knife was a deal like this and so is this where the knife was just 17 cm long with a peak, with a sharp single by 17 cm. That is to say I have no data in the literature to be presented, however, in my experience I noticed that the big defensive wounds were mostly in large knife wound_. It is unclear whether I have a small knife that gets inside me I have little to grab a knife, even images that presented the Scientific Police to demonstrate the importance of these wounds Defense knives I do not know what they were looking at in this case But the size of the wounds all this makes me think that it was of great knives. Now I do not mean by this that surely the big defensive wounds are there for large blades, I have not found any scientific work on this deal deserves, I must say that even though

logically, you realize that if I have something long to grab hold of the more easily if I have something I can not see it short, I can grab a wrist and groped to defend myself whereas a blade of this size is more easily grasped and then it is clear that with so small wounds are well compatible with un'impuntatura a small knife or the back of a serrated blade of a small knife. Where was this victim at the time of injury? Here again, I took pictures of the experts of the Scientific Police, this is the room ... Now I do not want to argue, however, roughly the size of the room was this, the GAP ... I'm not particularly personal friend of the excessive application of mathematical formulas to the examination of crime scenes, however, I would say that these investigations confirm more or less what one can see by eye, namely that the victim must have been affected more or less when had a head height of a foot and a half from the ground and was next door to the closet. In my opinion the location was face-up that was lying, because we will see, there seems to me a little 'too-shifted dumb but this is not the issue that concerns us in particular, it is certain that this victim hit in these parts Sorry was then dragged in this direction, that is, she was the first broadly here, was dragged here, this second arrow was pulled roughly, now this is where it becomes important in this closet door is I believe that this is clearly a slap of a hand covered with blood. How can one be produced? It can be produced ... this hand is stained with blood of the victim and then dragged away while she may have raised his left hand, having voluntarily, involuntarily for automatic activity reached the door of the cupboard and then be dragged from there until This is its final position, I would say that

this does a lot to think about a handful. That's just about the final position I know that my colleague Introna prefers a stabbing took place from behind, everything can be, I am not convinced, I am more convinced of a stabbing from front for a variety of reasons, a survey of surveys

In short we have in this subject of the leakage of blood are all that is gravitationally by gravity as a subject in the supine position and remained at that position has not moved, we have a contamination of the mesh, we have in hand which looks out toward the mouth and from this beautiful mushroom of foam sprays from breathing, cough, how they want to call them, that when she died she had this relationship more or less between the left hand and his mouth that has not changed as has not changed its supine position, we made this part of the body that is free of spots, those spots are so small as breathing, there was already an invasion of the airways of the blood gushed from the wound in the neck, there was as always a good cough reflex, breathing with some sort of spray droplets of blood and these droplets of blood on his chest went all I would say unequivocally that I was not wearing a bra so much so that even minute droplets of blood found on her nipples , in the middle of the chest, are not deformed droplets among other things, now if I were hit from behind by someone kneeling on his chest standing up I would of sagging, sagging chest here there are none, there are these droplets and are droplets that were not deformed in any way, nothing is spent on those droplets that dry first because if I had a hand, a cloth anything on those droplets that are so sharp I would spread on the surface if they were still wet. Then I said, it seems logical to me that the actio_ has been from before and then the I repeat once again we have the cutting edge of this part that is not to the web space between thumb and index fingers but to, we have an iteration of shots here with a blade that can not have exceeded the 8 cm an otherwise successful given the obvious violence of the blows that led to a Broken or inside a victim who is held in this way and obviously this has not bowed heads, or that you can fold it back on the neck that has small impuntatura always the exact same direction, the head turns a little bit, then finally the last shot that is not the least ... I say in my last number, which is going to collide with the jaw and then stops after only 4 cm path e. .. but the knife is made so that knife can not have done this, because from behind I say no, no, I find it hard from behind because if I have this head and I take the words from behind ... and moreover it seems to me that it was proposed as the blade down to the fingers so that it projects in this certain way because otherwise it would not fit, then (inc.) back but I do ... I need to take a position that I remember very little congenial and furthermore ... now all you can not know in what position they were, right in extension or flexion of the head in this attitude, however, I have to do more up so you should be very clear at the top, I think so, and then we can be I do not know I say that you can be the one mode than the other, I think a number of things tell me that we have from before, to me the direction of the tram seems more congenial to me, tells me the 'mentrale dirt on the corpse of the missing except in the form of small drops that came later when the corpse was already ... As his back was to me has always been agonizing in a terminal phase of a spray of blood that comes from air, I do not know another. If then it is easy to forget something that I am ready to answer any more questions, here ripetiamoci no further, here it sags in front of them, as I've explained before, here are the pictures of this little man to comment on a crowd of people very narrow space that does not quite know what to do and here again this egregious misrepresentation. Two words only footsteps of luminol and now we know that has been given importance to some tracks, such as the relief chamber 1 in which Knox was not performed the investigation of blood, then we will talk about the links after Gino expert DNA and 7 relief,

are those that concern us most directly from where it was not made a specific examination of blood and from which no genetic profile has been extracted. Now the footprints are these then in consulting Rinaldi and Bohemia it is said: "footprints imprinted deposition of blood substance" but how do you say that the fingerprints were impressed by deposition of substance blood, we can say that those footprints are luminescent at luminol, we all know that the fingerprints that we ... are extremely varied other materials that become luminescent luminol, Sarah spoke to me of a funny case, perhaps she wanted to talk about but there was one case in our part of the luminescent luminol footprints that have given problems in the course of an investigation (inc .) blood and not blood, it is also clear that it was ... because they were small because otherwise you could not possibly understand that they were the footprints of the child who had gone swimming in the pool and that it was taking out the dirty feet of chlorine had left all this walk, now I guess if those footsteps were not a child how many experts would have made measurements of the Scientific Police and were likely written for the deposition of blood substance. Goodness does not add that ... 1 in the survey was pulled out of the DNA, in the survey no 7, now with this

luminescence is hard to imagine that it would not be pulled out of the DNA, is a strong luminescence, the first would be appropriate to perhaps make a specific diagnosis of blood but then speak of these things connect. Then we have the impression taken at the plantar Amanda Knox and relief 1 luminol, Bohemia and th_ experts speak Rinaldi I think in this case likely identity, now first of all be aware that literature is not always advisable to make an impression, but only different position, I do not know if in this case has been made because the impression can change depending on the attitude of the foot, an external pressure, internal, and so on but I am not an expert on fingerprints, and can tell you, even measurements I know we discussed the fact that the measures also had been wrong consistently, I would point out that there are no trade these metrics luminescent strips that are made specifically to be put right next to the findings of interest to be photographed with luminol as a reference metric precision and then work on photographs, is longer, is shorter and has a photo taken sideways so it is difficult to reach then a matter of some interest but above all this I ask myself, these gentlemen have made a sea of calculations , I have now read a bit 'of literature on these things but here I did not ... not a matter of reading the literature, it is clear that Amanda has this foot let's call the second index finger of the foot to make themselves more understandable than longus, the impression the second finger is shorter frankly, the impression with luminol, be Amanda's foot that its mark has inked a long second toe, with that luminol was there with shorter second toes, on this I would say that it rains there. Now I'm not a particular fingerprint expert but if there is one thing that catches your eye when we know that most people have the second longest finger of the big however, there has a good share shorter I do not think it would be silly to take the fingerprints of other young men who frequented the house and that potentially had walked with bare feet coming out of the shower that perhaps maybe it was washed with chlorine for cleaning and may have left fingerprints luminol positive everywhere. I do not want to say but unfortunately I have no precise image, the only other foot as I can see is that the victim, here there is no image that you see well but if I have to say the foot of the victim who seems to invite the pictures of feet of victim available to learn it, it would seem to have shorter second

fingers, you can not say because this is slightly flexed, this is to say that the victim may very well one day before, two days before having a shower and made he pounded the floor and leaving a positive imprint with luminol. Attention will discuss the links but the fact that there is the DNA of Amanda down there has absolutely no meaning in the sense of being allowed to relate the luminescence of luminol with the presence of DNA in the house where a person lives is normal there is, I do not say, but almost everywhere. Probable identity, also apply here the same things, even for the second stamp is clearly seen that here there is no trace of the long second toe. Here, about the likely identity of this fact they are talking about these people exist, you just described ... ENS has agreed, among other things is described in a recent Italian text of 2009 which was attended also intimately that it seems to me that the manager of the Scientific Police, I know little of environments Police do not know the grades, does not I know they are called, however identification, this is for shoes, but be careful ... and there is no similar criteria in respect of footprints, however the concept is of a general nature, I say that there is an identity when the terms of comparison

have the same general features and details. Probable identification, this is what our Scientific Police say but be careful to talk about probable identification is a clear match of design and form in the absence of significant differences as a coincidence of the general features or some marks of wear also must be fulfilled at least one of the following criteria are observable marks, what is a tag? In forensic medicine we study the characteristics and markings, the features are the blue eyes, brown hair, are part of the kit are the anatomical characteristics of each man and therefore may have some value to identify a person, I can say that with the hair blond and blue eyes, and the marks are something abnormal, have a tattoo, have an amputation of a finger, are a wound, are a particular surgery, these prints here is to arrive at a probable ... to have an identity must be equal, to have a likely identity must still have the marks or traceable to the batch and then speaks of shoe marks or causal for example, I once walked on the nails and me are full of holes or there is a clear agreement in the specific wear marks then can not be defined, and so on, however, is all. Be careful even with regard to ... I'm almost done, with regard to the luminol literature insists that the luminol spreads easily and can alter the design of fingerprints. Last thing I want to talk, we talked about this second shoe print on the pillow, now let's see where this pillow, this pillow was under the buttocks of the victim, here we see when the victim is turned over and here is repositioned to its original position more or less. Please note the print that interests us here is that he was under the right buttock of the victim, this is

this. Now I mean this is so we ... already been seen in this picture that this is not the edge of a footprint, this is a fold of the bloody pillow, the pillow is a fold that has collected blood, this is the image presented by Rinaldi and Bohemia, say is a heel, that say this thing here is a heel and draw, but this is a mere invention to see something back there, now if we see this thing carefully and then this thing would be a heel here, so as someone who drops by pillow, here we would then measure the heel close female type, this mark of attention to this part here is this spot that you see this, here's the dirt that is this, here is this bending of the cushion which is what plication for a sort of meant that net there is a break here, the facts do not understand why it has always been supplied in black and white picture

of this and a line that corresponds to a fold of the bloody pillow, here it is seen even better, this is a fold, can not be given any assessment of the width of this mark that is attached to a heel. Here instead I wonder ... I repeat do not do this job but because this thing here would be the imprint of the heel of a shoe can not be small, for example, the print portion of this part of the Nike shoes, house break 2 which I believe were those of Mr. Guede, if we compare this image with this view and I repeat here that this curve does not correspond to an edge of the shoe but corresponds to a fold of the cushion we see a series of parallel tracks with each other and with curved cavities facing right, and here it seems a hint of increase that reduction of the radius of curvature and it looks like a footprint in this part of the shoe, so to say that this is a short heel is completely arbitrary we say also, logically, I say if one stepped on a pillow and have to pull a person is strange that at some point lies on this side-heeled, is far easier at that point goes to place the ball of your foot while pulling someone, but this is a logical order of reasoning that perhaps ... Finally a word blood on the tap, it has been argued in blood on the tap, it is clear that blood belongs to Amanda Knox, is his genetic profile. I show this picture because if one has not studied the photographs may well think that here there is a lot of blood because there is a large reddish reflection on the part of something that is nearby, if you look at the photographs of the inspection you can see the spot is small, I know that Amanda Knox said she had had trouble piercing, piercings had been removed from the ears in those days, except that I am bleeding as a complication of piercing is described in the literature of just taking Internet, write piercing, blood or blood-piercing and you see all these young men who say: "I bleed, I bleed so much" one puts a picture with the blood in the sink, this is to say that the blood of Amanda Knox of the basin has look very innocent, moreover there is no reason why we put Amanda Knox by contradiction that was present on the scene loses blood, that's all. I would say that I concluded.

PRESIDENT - We want to pause a few minutes before moving on

questions for the examination and cross examination drain, then pause 10 minutes. (Suspension). It takes, I do not know if the Professor had finished their exposure or are there any questions for ...

ATTORNEY Ghirga - I leave other questions to Mr Dalla Vedova,

Lawyer Ghirga always, I would ask Professor Tower two points, one is talking about fairly simple shoe print you talked about the concept of marking, similar reasoning or reasoning can be the same for a bare foot?

CONSULTANT - Sure, I repeat it is clear that if I have a finger amputee, the lack of a forefoot, loss of substance of a heel I have a flag that I can sometimes even be used for a certain identification, if not more to be able to give a general Dimensional assessment of compatibility, then you are experiencing now trying to find items, but I would say there is nothing encoded, there are guidelines in these terms.

ATTORNEY Ghirga - I'll give you a second in relation to work

dell'UACV of the two knives that we see in the picture, we see the reconstruction dell'UACV two knives planted in his neck of the poor Meredith, the question is this: it is understood by all because it excludes the simultaneous presence of two knives so I do it to him .

CONSULTANT - Exclude yes, I would exclude it, first

All I can say I'm glad that has been accepted that the wound on the right can not be made by the knife was great and I would say that essentially the consistency of the direction the tram all directed in a certain way, imagine two knives that follow the same direction through very difficult and moreover it seems to me repeat that the wound is entirely more reasonable with a knife as he has done one on the right hand while incongruous with a big knife. REPRESENTED BY WIDOW - Hello Professor Tower, just some clarification on what she has already said many of the issues the new forces. First of all I wanted to better understand the issue of the potential of the knife right in relation to the area where the injury occurred at, if we can show exactly this ... we have all understood that it is a particular area where it's quite spring so I guess that the speech of the mangled due to too many outside and inside of the knife in an area so it is easier so I wanted to ask this.

CONSULTANT - No, I can say is that this is an area consisting of soft parts, except I would say that the hyoid bone quell'ossicino insignificant relative to the ability to stop the blade of a knife, I can say it is incomprehensible how a knife is not so long has made a way through deep, in part because the interaction of shocks suggests an intensity of violence, even suggests Introna and could not be wrong quell'escoriazione's underneath the wound more, sorry, this is seen in our figure

14 B in the picture there is all this excoriation between the two injuries could be stopping the blade and possibly the finger that holds the blade that has left quell'escoriazione and then it went through. REPRESENTED BY WIDOW - Here, in relation to this

argument has had the opportunity to evaluate the hyoid bone, he just mentioned there is a little cut on the hyoid bone, he notes ...

CONSULTANT - The hyoid bone was ...

REPRESENTED BY WIDOW - (Inc.) knife?

CONSULTANT - The hyoid bone was efratturato, I must say that I had some major concerns at the beginning if I had also written that bone hyoid bone was fractured by a knife or by operation of throttle, then I must say that hearing also comment Dr. Lalli during the movie by describing and depicting the voice is heard saying: "The interest by the hyoid bone that is cut" so I think at this point that easily ... cut, fractured, now just cut cleanly through a bone is not easy.

REPRESENTED BY WIDOW - And always in relation to

representation made by her hand was near the victim so that the wound is particularly soiled. CONSULTANT - At least in the fin_1 phase was close to the wounds, near say ... so near to the wound in the sense that

was close to the source of those blood-spatter spray their agonizing phase of the breathing of those who have filled the airways with blood.

REPRESENTED BY WIDOW - But if the hand of the victim had been close even when there was a knife before the stabbing wound, perhaps there would be some attempt to defend against a knife, especially of that size?

CONSULTANT - With a knife of that size I would say that

would not find very singular deep stab wounds in the palm of your hand because if a blade of that size and also grabbed a good steel Marietti has sharp cut would probably until the tendons. REPRESENTED BY WIDOW - But then you can assume that the victim had put his hand near the wound or near the same after the cut if it is soiled and then he left the imprint of fingers in the closet?

CONSULTANT - But I would say it is quite reasonable I get an

knife, put a hand, drag me, and I repeat as I said either voluntarily or automatically in an attitude I hold onto that wall and I get dragged away, then stay in that last position has been that hand because of the widespread soiling, I I put on the wound or at least I get the blood that flows directly from the wound, then when they are in the final position which are in phase with expression of agonizing minute droplets of blood on the back of me daub is no longer leaking from the wound as directed by the airways with cough and so on that express this spray of droplets.

REPRESENTED BY WIDOW - Professor always on the upper limbs

we saw these bruises at the elbows. CONSULTANT - left elbow.

REPRESENTED BY WIDOW - But Professor Introna has

analyzed the point but if one wants to block a person blocks holding the wrists this is a little 'experience ... CONSULTANT - Easily the block holding the wrist, in so many words if you raise it's arms from behind and just quell'ecchimosi arms are very typical, I have here ... all right 'and what we call the ambulance because they are bruises from those that are ill when one is gripped by the arms and then there are indeed a beautiful place in the fingerprints of bruising to her ankles, to my knowledge but I would bruise involving only the extensor surface of the bend being assigned to a grasping it seems to me very difficult and usually bruise from bumping against a flat surface because there is a salience in the bone and we all know that bruises easily formed when ... the bruise forms because blood vessels are broken, blood vessels break or pull and pull and then the skin is more elastic vessels and the vessels then break and emit blood or compression, the compression form easily if there is a floor below so that I can crush bone. In the previous report, sorry maybe in my presentation I gave little weight to the neck quell'ecchimosi among others.

REPRESENTED BY WIDOW - In fact it is the other question.

CONSULTANT - quell'ecchimosi There is also that the neck is important because the neck is quell'ecchimosi bruise from bumping against a flat surface but not a fall from standing because if I fall to his feet and beat his head easily bruised and torn I make a wound, but if I have already or sit back at the end or a little bump to the ground and I do own this beautiful region of bruising to the neck and this is the other element that maybe I forgot to mention I pointed to an action from the front.

REPRESENTED BY WIDOW - Behold, I wanted to do a specific question, the bruises that occur on the elbows and bruises, the only part of the neck on both I think

minor figure in his opinion are caused by impact, then you can ...

CONSULTANT - That to secure neck, the other short, I see them usually caused by impact injuries than there not a certain sort of grasping that it would not pinch grasping a bruise because I have two very close

and moreover we take into account that the flexor surface Everybody knows the elbow, the skin is very thin, it is easy to determine for traction ... also cause bruising is very elastic, are even more striking because th_ skin is much thinner. REPRESENTED BY WIDOW - So back to the subject position, supine and frontal attack, however, also partly confirmed by Professor Bacci consultant prosecutor who speaks to an assessment objectively grasping the front, the prospect that you can give us the limits of the elements in its possession of what has happened, you see growing in the action began with a specific project and then ended with the murder or ... I do not know if this is an evaluation ...

CONSULTANT - And 'the beginning of this process that feels

I talk about growing up I did not understand what this means growing up, it was said even before there are injuries from blunt trauma, then the knife so it's growing, it is clear that if I have the air of a stab to the neck and then stabbed is not a matter of growing, it is an action, is a single action to possibly choke hold, mute, strangling of a man who already has a knife, a knife in his pocket, so that opens a boxcutter and eventually stabbed . I do not see a rising action.

REPRESENTED BY WIDOW - One of the indictment is

sexual violence that is alleged to Knox and in relation to this is just one of the assessments that the murderer was actually going to take advantage of the victim

and then for a variety of circumstances related to a feast, but perhaps there are actually elements of an opposition or to tell the victim that it intends to take advantage of the victim is physically transformed into a homicidal action, she can do on this topic tell us? CONSULTANT - I'm not a criminologist, so I did not really like to psychological issues I like most things technical, I'd say it looks like a crime of a sexual nature, has the appearance of a crime of sexual normal, I do not I know how many times in the decision to eliminate sexual crimes the victim to intervene at a later time, I do not know I would say that is a topic that does not know enough, is murder.

REPRESENTED BY WIDOW - Listen to the possibility of the victim professor had made her a shout ... first of all if you can and if possible when placing it before or after the immobilization, before or after the stabbing?

CONSULTANT - this is too complicated, a scream is the first clear

If I see a person in my house I may well cry out, put a hand on the mouth can stop screaming and just as surely as that a wound to the neck so mechanically but also in relation to the sudden and rapid invasion of the airway will allow me bubbling of coughing, but I can see a scream after the bad injury to the neck, I do not know the first is clear that one can shout, I'd say the hand on the mouth that can silence a victim, especially if whoever puts his hand over his mouth is strong enough.

REPRESENTED BY WIDOW - Look instead in relation to fingerprints

we saw the concept of identity and how likely is defined and appears to be no justification in the documents in relation ... Rinaldi Bohemia in relation to the definition of probable identity, it lacks the motivation that you do not understand ... CONSULTANT - because it is missing with regard to the bare foot prints I am not aware that there is a classification

standardized likely to talk about identity as well as it is spoken with regard to the shoes.

REPRESENTED BY WIDOW - And then the other argument that seems relevant is the fact that comparisons have been made, however, comparisons were made only in respect of Knox, Sollecito and Guede's and not the other occupants of the house that would make ... into account the fact that the house was inhabited by more people would necessarily have resulted in comparisons ... even against these people.

CONSULTANT - Wishing to do, I reiterate that comparing the footprints with images obtained by inking luminescent derivatives (inc.) of luminol and compare two different sizes, order two sizes is not comparable, it can at best achieve a rating of general compatibility I repeat that maybe ... because one thing is more uncertain than the evaluation must be rough, it seems perhaps a statement that is not good but if I start to measure the millimeter something that amplifies the error is uncertain, but if I find a mark that has a finger along it and another that's got a lot shorter then I say "probably are different" but it's all going to measure something that also do not have even seen the glowing strip metric and say: "This seems to and it seems that "I repeat, is something that is a manifestation of the will of the things that are not matematicizzare matematicizzabili and then at least for my experience in criminal trials lead to errors because the heavy matematicizzazione interlocutor suggests an impression of aseptic evaluation scientific, is not it, if it is wrong at the beginning and then amplifies the error amplifies all the more because it suggests to people again if he has measured up to 17.2 mm will be something very precise, it is not true is nonsense.

REPRESENTED BY WIDOW - On this very topic Professor

I wanted to ask that the footprint on the rug ... the footprint on the rug ...

CONSULTANT - That blood on the mat.

REPRESENTED BY WIDOW - That blood on the mat. CONSULTANT - I have been involved in little of this, so tell me. REPRESENTED BY WIDOW - I wanted to know that there's so difficult to define an origin from mathematical point of view in order to measure precisely because the millimeter mark on a surface as a spring pad also formed as seen in photos from different textures a lower, higher in fact, how do you make a comparison if the source appears to be uncertain?

CONSULTANT - I hope I have understood everything, basically I repeat I have not covered much of that impression there, but anyone can understand that a mark left on a soft surface and made all of filaccioni can not be compared, I personally I'd have to conduct a ' investigation of this kind I tried to take several feet, and I would do a footprint inked footprint identical to those of the mats and see what was up with Galileo's empirical method to see what we say was out of there I do not know the state , I did not, however, I would say that is fairly different, it is clear that a mark is also a publication that speaks of a bare foot inked leave a drawing, an imprint of bare feet on the soft snow will leave a pattern of completely different.

REPRESENTED BY WIDOW - So in order to make a comparison

I wanted to know precisely the methodology, have ...

CONSULTANT - It 'something else, for example ... Oh no, no, there is missing the entire heel, how do you take into account and say that two things are similar if everything fails a heel, the few tracks that deal

in this sense that it must be complete, it is clear that if Instead I have the impression that only I know of a metatarsal pad of a foot above and there is no one who was leaving a scar did write "me" and is wrote "I am" it is clear that at that point I can give an opinion of identification.
REPRESENTED BY WIDOW - Sure, but then the fact of having

fingerprint of Knox, Sollecito and Guede's done in prison with a very precise technique on a card that actually took over not only the size of the foot but also the striations of the feet, so I would say perfect impression, from the methodological point of view is properly compare it with a rather something that is not to be defined from the outset, that is to say, I have some potatoes and comparison with the tomatoes, how do you make a comparison ...
CONSULTANT - roughly the case.

REPRESENTED BY WIDOW - roughly so, potatoes and tomatoes are not, however, certainly we leave aside the imprint on the mat, but those with the luminol luminescence depends, depends on the exposure time, which depends on the contrast to print the picture, the brightness , the edges are blurred, but he sees that kind of stuff I repeat those measurements as I know very little math, but it says 17.2 it is seen that ends at a point which is arbitrary because there is a gradient then a luminescence That way there I can bring everything I want.
REPRESENTED BY WIDOW - Thanks professor, I have no further questions for now.
PRESIDENT - The prosecutor for the examination.

PROSECUTOR DR. Mignini - Two_questions and then I leave to my colleague. Professor you assisted in the reconstruction of the crime made by Professor Introna?
CONSULTANT - No.

PROSECUTOR DR. Mignini - Here, however, is aware of the conclusions of Professor Introna?
CONSULTANT - Yes I have not read all I have ...

PROSECUTOR DR. Mignini - The shares or not and if you do not share it?
CONSULTANT - Then on the reconstruction of the crime I do not remember ... I think I only looked at it seems to me that says from behind was injured.
PROSECUTOR DR. Mignini - Yes, among other things short.
CONSULTANT - No I have not badata the rest ... because I came very recently ...
PROSECUTOR DR. Mignini - At this point, knowing

it's been ... that the victim was struck from the rear ...
CONSULTANT - I do not know, I think I explained it seems to me logical front.

PROSECUTOR DR. Mignini - (overlapping voices). CONSULTANT - It seems more logical front.
PROSECUTOR DR. Mignini - Why not ... I would like to explain to me why not share that had been hit ...
CONSULTANT - I'm sorry but I advised by Introna

the thing is I worked to correct the factual errors that I had done that I had mistaken the left elbow with the right, the reconstruction of Introna I apologize but I do not know.

PROSECUTOR DR. Mignini - however does not share the

He draws the conclusion that it was struck from the rear.

CONSULTANT - I already said that ... you may

But all the elements that I have available the bruises on her neck, the presence of blood, and so on before I make my preference but also because it is my ...

PROSECUTOR DR. Mignini - Sure. Another thing, and then

I leave to my colleague, she has taken for the reconstruction of the author assumed the uniqueness of the fact?

CONSULTANT - No I'm not the date assumed, I just considered the case and in any case there is nothing that I might suggest that there was more than one person, nothing, from all points of view, it assaults .

PROSECUTOR DR. Mignini - That is the point of view you think you have to coroner ruled?

CONSULTANT - But if there was someone there that looked even a person who could be looked at and that will not let me sign medico-legal, so from a technical point of view coroner ...

PROSECUTOR DR. Mignini - can not be excluded. CONSULTANT - I do not have any evidence that I even remotely suggest the involvement of more than one person.

PROSECUTOR DR. Mignini - But he said ... at this time told us that another person may have been present.

CONSULTANT - Yes, as if to say he could also have ...

PROSECUTOR DR. Mignini - Exactly, no, demand that I do is from the point of view coroner, if you can exclude the presence of other people.

CONSULTANT - I told you I do not see traces of other people.

PROSECUTOR DR. Mignini - I understand, I have no further questions. I leave ...

Prosecutor DR COMFORTABLE - So you talked about

incompatibility of the knife under seizure. Incompatibility also with regard to the wound increased, it is right?

CONSULTANT - Yes, but if the wound is minor

absolute incompatibility of the material for the wound more I can not exclude that this has caused the knife as though you should never say Carrara

saying: "I can not exclude or rule out" in the courtroom, I can not exclude it, I say that all the elements I do not think that.

Prosecutor DR COMFORTABLE - but it's ...

CONSULTANT - It 'clear that I physically can not put this knife in the wound is 2 then this categorical exclusion has made a knife wound to the right.

Prosecutor COMFORTABLE DR - Yes, but this fact also

Our consultants have already ... and Professor Bacci has ruled.

CONSULTANT - No I began the speech.

Prosecutor DR COMFORTABLE - Yes

CONSULTANT - With regard to this injury I can not exclude that it may have been made by the knife, however, as myriad other knives, even a small knife for example, may have made that wound there that history is a question of not excluding compartment Why? Because what it means "I can not exclude."

Prosecutor DR COMFORTABLE - I do not know You tell me. CONS_LTANT - How?

Prosecutor DR COMFORTABLE - No I do not know, you tell me what it means "I can not be excluded" from the point of view I do not know that I would literally considers, however, hypothetically compatible.

CONSULTANT - The Carrara is one of ... the best book of forensic medicine and says, "and the second will be well ... where there are no positive data management enough of them to an opinion even if only an opinion state clearly the better chance to judge their inability to pronounce it and it will be good according to our experience that on his part to pressure the judge avoids the expert looking more closely even in good order to win the legitimate concerns and gain some more decisive opinion, for example, avoids wondered whether at least can not be excluded that the expert and of course, avoid using this formula that is vain and supremely dangerous ..."...

Prosecutor DR COMFORTABLE - So this is a warning for those who do not but for those who answer the questions then I'm like a question more directly, seized the knife in her second is compatible with the larger wound?

CONSULTANT - With the morphology of the wound, with the length

through the no.

Prosecutor DR COMFORTABLE - Here, the length of the tram for two ... This is the interpretation of his blocks so I say if I'm wrong because he ... She starts from the first two assumptions that there is only one agent wielding two knives hardly different, depending on whether the blade was totally stuck, right? Here are but what are the elements ... let alone for the first time because it is the subject of discussion in my opinion the final say and not as matter of forensic medicine. For this second condition that he stuck the knife in the neck completely say it is clear from the violence of the action that he said so, right? CONSULTANT - Yes it is so broadly. Then ...

Prosecutor DR COMFORTABLE - What are ...

CONSULTANT - I answer and say that you can physically ...

Prosecutor COMFORTABLE DR - Yes, but I have not asked the question.

CONSULTANT - What did the knife that cut, I tell you, however, that a knife with that wire and that length is impossible to have gone down so much because all the soft parts are very thin ones he met, then she tells me if there is property and there is a person who does so on the neck, goes up and down three times accurately simply does not go beyond saying that it is possible, situations that in reality is hard to imagine.

Prosecutor COMFORTABLE DR - Yes, but I asked one thing, the obvious violence of which he spoke of what the first deduced the obvious violence?

CONSULTANT - a short comings and goings of a knife in the soft parts

so soft it is not easy to control himself go ... not to go all the way and to me seems strange that someone who insists that tenacity in the insertion of a knife that not once in those three shots to have gone farther, but all these intermediaries end up to 8 inches, then cos 'you took the blade 8 cm and used a knife taking to 8 inches from the tip. Prosecutor DR COMFORTABLE - But instead of the obvious assumption that there will also be determined enough to murder, right? CONSULTANT - but usually one that slaughters another wants to kill him. Prosecutor DR COMFORTABLE - Yes, in fact we are here for this but instead I said the obvious violence and come quell'andare the knife that never sticks to the bottom can not even depend on the movements of the victim and the agent? CONSULTANT - I would say no.

Prosecutor COMFORTABLE DR - Why?

CONSULTANT - But why the violence of a blow that the victim has turned away three times in the same way so that the knife penetrated more I do not know, well then, but at this point all we can say yes yes.

Prosecutor DR COMFORTABLE - But you said that the agent is only a so

...

CONSULTANT - I say that everything I say is one.

Prosecutor DR COMFORTABLE - (overlapping voices)

facilitated the movement is not it?

CONSULTANT - How?

Prosecutor DR COMFORTABLE - According to its reconstruction if the agent is only one that causes bruising_ holds it, the stage of the mouth, affecting more than once in the neck, causing bruising, then we will see the other bruising say the victim has enough freedom of movement or not?

CONSULTANT - The victim? Sorry I did not understand.

Prosecutor DR COMFORTABLE - He has enough freedom of movement?

CONSULTANT - Yes, if I is not above a person who has so much

and if this person keeps me steady her face with his left hand, but in short, I move up to a certain point then it is within an hour has passed a short time but also let me ...

Prosecutor DR COMFORTABLE - I pray.

CONSULTANT - She speaks of two knives, now would be the first time in history you see a bench made with two knives and two people.

Prosecutor DR COMFORTABLE - No slaughtered it was

caused by a single knife, the other knife has caused the other small wound is not mortal, right?

CONSULTANT - small but up to a certain point it went down to 4

centimeters and has fought against the jaw.

Prosecutor DR COMFORTABLE - This is, by the way of this fight against the jaw there are objective facts on the basis of which she claims that the blade of this ...

CONSULTANT - As I said do not have the skeletonized skull that maybe he would have told us though anatomically it seems logical that have fought against the jaw.

Prosecutor DR COMFORTABLE - However, it is a hypothesis. CONSULTANT - Yes it is a hypothesis.

Prosecutor DR COMFORTABLE - Then comes the bruising to the elbow, which is not right but I left that little change, she argues that those two bruises, two bruises were caused by an inelastic collision with a rigid, right?

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - So how do you explain the bruises, however, that not just one but two, discontinuous? CONSULTANT - But it is hard to explain it, one can beat even twice, moreover nell'asfissia asphyxia and here came the second phase of asphyxia, dyspnea respiratory phase is also called the seizure and the seizure stage means that there have chronic tonic contractions of the muscles almost ... not a seizure, however, there are contractions that if I'm here I may well give ... repeated a number of shocks to the ground, I'd say no ...

Prosecutor DR COMFORTABLE - That is so the victim does so in essence against the floor? It is this.

CONSULTANT - I do not think something like this ... has never seen ...

Prosecutor DR COMFORTABLE - Ah, but no because ...

CONSULTANT - Excuse me, Doctor, have you ever seen one with a crisis epileptic?

Prosecutor DR COMFORTABLE - The bruising ... CONSULTANT - From decerebration?

Prosecutor COMFORTABLE DR - Yes, but the bruising is here.

CONSULTANT - No I'm not there here.

Prosecutor DR COMFORTABLE - should be 'we can review the?

CONSULTANT - Here, let's see here.

Prosecutor DR COMFORTABLE - Rivediamole. However logical way for me to charity are not a forensic ...

CONSULTANT - No, no, no, let's see we are still lacking.

Prosecutor DR COMFORTABLE - But if I tap it repeatedly on the surface ... CONSULTANT - but twice ...

Prosecutor DR COMFORTABLE - I am a big bruise but not so two small hematomas discontinuous.

CONSULTANT - I apologize ...

Prosecutor DR COMFORTABLE - Okay 'in the meantime, however, can answer ...

CONSULTANT - No, no, I mean anyway now she mimics a

as a flapping motion, I did not say that. Prosecutor DR COMFORTABLE - No one flapping, one that is already on the ground in agony and so if the arm beats beats him repeatedly say I mean, she has said so repeatedly but the same area, I mean according to the experience of maybe not beating my fallen more than once on the same side as you tell me ...

CONSULTANT - two shares are very close, if I be a part ... Prosecutor

DR COMFORTABLE - Yes but they are clearly discontinuous.

CONSULTANT - are clearly discontinuous but if she touches the olecranon elbow on one side and then the epicondyle are two other salient features, want to try to touch your elbow?

Prosecutor COMFORTABLE DR - Yes, yes I know.

CONSULTANT - Then if she touches here and if you beat your elbow on a flat surface has two salient features that are just like those two bruising there.

Prosecutor DR COMFORTABLE - No this is not ... this from

lying ...

Ghirga ATTORNEY - (Out of microphone). PRESIDENT - Yes, yes, sorry. Please, go on then.

Prosecutor DR COMFORTABLE - Okay 'then I meanwhile continued. Also about the bruises or otherwise of the bruising she showed a picture of a gymnast who is the arch back.

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - Here, it appears that the

Meredith did gymnastics ... CONSULTANT - I do not know.

Prosecutor DR COMFORTABLE - Ah so it was here ... also

what is a hypothesis?

CONSULTANT - It 'an idea that came to me because I remembered that my young daughter who had those bruises when he made the bow back, so I said, "is one possible way" I did not not say it went well, I said: "I do not know if Meredith did gymnastics."

Prosecutor DR COMFORTABLE - Instead it would be possible

Meredith has caused that kind of injury lying down with someone who pressed it down?

CONSULTANT - It 'possible, I would expect something more, perhaps, of bruises too.

Prosecutor DR COMFORTABLE - Well you have said, however, that

the abdomen is a little 'cushions, is not it? Is that correct? That fact must really so ...

CONSULTANT - Yes, but ...

Prosecutor DR COMFORTABLE - What do you bow. CONSULTANT - If I have 100 pounds on a person does not soften the abdomen more.

Prosecutor DR COMFORTABLE - None of our

hypothetical protagonists weighed ... CONSULTANT - I did not understand.

Prosecutor DR COMFORTABLE - None of our ... REPRESENTED BY WIDOW - President is asking questions ... Prosecutor DR COMFORTABLE - We have two defendants. REPRESENTED BY WIDOW - not the feedback, this is not a question.

Prosecutor DR COMFORTABLE - It 'a question.

REPRESENTED BY WIDOW - It 'an assessment of the Public Ministry therefore I am opposed to these ... CHAIRMAN - Okay.

REPRESENTED BY WIDOW - Evaluations on the weight of people ...
Prosecutor DR COMFORTABLE - Okay, I ask the question ...
REPRESENTED BY WIDOW - Or do you direct the question ...

Prosecutor DR COMFORTABLE - Just do not interrupt me anymore.
PRESIDENT - Excuse me, excuse me please.

Prosecutor DR COMFORTABLE - Then it appears that Rudy

Guede weighs over 100 pounds? PRESIDENT - I'm sorry, sorry ...
WIDOW FROM ATTORNEY - I have not asked to do an opposition that can put
a pin to the Public Ministry.

Prosecutor DR COMFORTABLE - I get it, we understood the opposition.

REPRESENTED BY WIDOW - If I do end up the opposition ...

PRESIDENT - Yes, but as a result of the opposition might feel ...
Please lawyer.

REPRESENTED BY WIDOW - I note that in reference to the weight of

people made in this way is a personal assessment of the Public
Prosecutor and if it is accompanied by direct question can not be
accepted, I wanted to make this opposition and did not want to
completely stop the prosecution. PRESIDENT - No, no, okay here is yes,
maybe we can ask the question ...

Prosecutor DR COMFORTABLE - I do not, I did not understand

really the exception.

PRESIDENT - Because she could soften the abdomen is not the weight of a
person over the person above would have to weigh what?

CONSULTANT - No I can not say this, I said ..

PRESIDENT - More than 60, more than 70.

CONSULTANT - If I have a big weight on top. How? CHAIRMAN - You
mentioned the first 100 pounds. CONSULTANT - Maybe I did not say 100
pounds. PRESIDENT - 100 pounds or even ...

CONSULTANT - No, no, no, maybe a 40 I do not know enough.

CHAIRMAN - So any weight? CONSULTANT - Weight, a weight applied.

PRESIDENT - 40 pounds, too.

CONSULTANT - should try.

Prosecutor DR COMFORTABLE - That is enough to cause the injuries we're
talking about?

CONSULTANT - I do not know, I do not know.

Prosecutor DR COMFORTABLE - I do not know.

CONSULTANT - At his question when she says: "There is the abdomen," I
say, "if I need to see a weight on top even going to touch" such as
bruising may as well have been produced by an above the victim, maybe
give him a knee on a iliac spine, _ do not know, I thought of having to
come up with this question because I agree with what he writes seems
Introna about the color of the bruises that do not seem very recent,
fade a little on the brown.

Prosecutor DR COMFORTABLE - Okay, let's move forward,

we pass to another question, the wounds so-called defense agree that all have shown minimal, unimportant, then I understand that you did see those pictures, those pictures of other cases to support the defense of important figures. .. injuries to important defense is an important weapon, a weapon big, so I do not know if his conclusion is that those wounds are small as a weapon, or small wounds are not just defense.

CONSULTANT - No injuries have in my defense, that is wounds of the hand from contact with an object traumatic, I can say is that I seem to be injured because they are irregular and sharp so I know more than a simple injury or impuntatura a blade that had a contact or a back of a serrated blade. As for the other argument I do not say that the deep wounds to the hands of Defense are formed only for long blades, I say that in my experience I saw a defense deep wounds for long blades, I have not seen for short blades. Now ... I searched the literature if there is a comparison of defense wounds and length of the blade I found, I scoured all the literature.

Prosecutor DR COMFORTABLE - But a serrated knife with the back injury would be compatible with the other?

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - And where the inferred? CONSULTANT - I say that a knife, now this is bigger with serrated back, the back is usually serrated to the tip can easily do that wound to the right and where it penetrates more ...

Prosecutor DR COMFORTABLE - Way down.

CONSULTANT - Leave the imprint of the serrations.

Prosecutor DR COMFORTABLE - Ah, but where is the mark of serration in that great?

CONSULTANT - I did see that radiattura of ... I did see that one ... the blunt ends of the wound has a series of radial notches, I had originally suggested that it was a serrated edge blade, I found this old German work if the computer comes in handy I show again that describes picture very similar.

Prosecutor DR COMFORTABLE - That I remember

the image yes. So that's an image ... to repertoire that has brought you a picture ... is the image of a wound inflicted by a serrated blade on the back and part. CONSULTANT - What has ... ah yes the back.

Prosecutor DR COMFORTABLE - The serrations on the back. CONSULTANT - What image of the German labor?

Prosecutor DR COMFORTABLE - CONSULTANT Yes - Yes

Prosecutor DR COMFORTABLE - on the back. So what

what a dive knife?

CONSULTANT - This is a boxcutter ... Diving is my boxcutter.

Prosecutor DR COMFORTABLE - From sub.

CONSULTANT - But I took it because it has a jagged because I already spent capital to buy knives for this case and that I took home.

Prosecutor DR COMFORTABLE - It closes the knife

CONSULTANT - No not that.

Prosecutor DR COMFORTABLE - has custody, right? CONSULTANT - has custody.

Prosecutor DR COMFORTABLE - Look, but according to his

experience it has of course, defend those wounds that the lab has abundantly shown that the victim is injured ... by grasping the blade, which causes the victim before or after being drawn from the blade itself? CONSULTANT - depends are of two types of defensive wounds, puncture wounds, there can be I offer my hand. Prosecutor DR COMFORTABLE - No I'm talking about the important ones. CONSULTANT - whether point may be very important.

Prosecutor DR COMFORTABLE - No.

CONSULTANT - Those of grasping and in the course of the injury, it is clear that I grab the blade when the knife is beyond me, but maybe I can ...

Prosecutor DR COMFORTABLE - This is indeed both. CONSULTANT - Having already received two or three stab wounds and grab it later.

Prosecutor DR COMFORTABLE - Oh yeah, if the knife is fully extended, and if my hands are free?

CONSULTANT - Sure.

Prosecutor DR COMFORTABLE - These are the two conditions.

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - Right? There is no hope to wake the computer?

CONSULTANT - I think there is another if not take it, it's just very slow to load ... No charge now.

Prosecutor DR COMFORTABLE - Okay 'still ongoing

So, if anything like last time because we ... So Professor luminol, luminol what exalts?

CONSULTANT - Enhances I think some metals, works with

peroxide seems to me, are not particularly expert in luminol by a chemical point of view, I know it enhances the blood, enhances the metallic salts, enhances the vegetable juices, enhances the detergent when there is a chlorine for example.

Prosecutor DR COMFORTABLE - In your experience those footprints that have been enhanced at the crime scene are ... beyond the fact that there are specific and may be, are not precise like that ... such as fingerprints to suspects taken, no fingerprints with ink, the ink-say, in his experience of crime scenes are quite ... that is pretty clearly drawn, are sharp or not those that have been taken into account for comparison?

CONSULTANT - We understand that they are footprints.

Prosecutor DR COMFORTABLE - Yes they are footprints, which were very dirty substance that luminol can

enhance or not? According to her. According to her, in her experience.

CONSULTANT - I do not know should there be a sufficient quantity to cause a glow like that, I think enough, I do not know, surely you can see well.

Prosecutor DR COMFORTABLE - No I mean if the

floor, for example, there were drops or traces of juice because it appears that the juice is enhanced with luminol, is produced would be defined as those footprints? CONSULTANT - Drops of juice I would say no, I seem easier to a person coming out of a shower where the floor has been washed with the material, with the chlorine.

Prosecutor DR COMFORTABLE - With chlorine, how long before?

CONSULTANT - How long before what?

Prosecutor DR COMFORTABLE - The floor must be washed with chlorine.

CONSULTANT - No floor in the shower, I imagine someone who washes his feet in a shower a little 'like a child in the pool and then makes the short stroll barefoot left those footprints.

Prosecutor DR COMFORTABLE - I mean even if the foot is washed with the shower gel?

CONSULTANT - I do not know if the shower gel may be positive maybe this can more easily tell the Doctor ... Prosecutor DR COMFORTABLE - But the pot of dirt shower chlorine allowed me to wash the shower with chlorine, if I wash myself at least I personally am washing your feet and even the soles of the feet, so if your foot I the wash with a sponge and scented bubble bath then out of the shower the chlorine ... I had previously washed with the shower still prevails, or just my cleaning, I do not know what I mean? CONSULTANT - will prevail as cleaning, I do not know, however, the soap that she positive luminol was used or not.

Prosecutor DR COMFORTABLE - also have a positive luminol shower gel?

CONSULTANT - I do not know.

Prosecutor DR COMFORTABLE - Ah do not know. CONSULTANT - I do not know.

Prosecutor DR COMFORTABLE - Okay 'then anything can ... ah yes this ...

CONSULTANT - This was the image.

Prosecutor DR COMFORTABLE - No, but I did not want to see the wound I want to see the two bruising.

CONSULTANT - was this.

Prosecutor DR COMFORTABLE - That there.

CONSULTANT - This is the German work, these knives were up there that have a jagged, see this? This guy and he says: "Note that in these types of injuries there are scratches - he calls them - that lead from the back end."

Prosecutor DR COMFORTABLE - Excuse the magnification of the two injuries are identical? That is the same scale?

CONSULTANT - No I have not bothered to put in the same scale because there anyway at all scales from the wound there, there are so, so, so, however I think ...

Prosecutor DR COMFORTABLE - Well if that is indeed ...

CONSULTANT - Here's an inch I would say that we are not far apart.

Prosecutor DR COMFORTABLE - We want to go to the bruising?

CONSULTANT - How did he say? PRESIDENT - The bruising.

CONSULTANT - Ah. These bruises around his neck_ Prosecutor DR

COMFORTABLE - No. CONSULTANT - What?

PRESIDENT - Of the elbow.

CONSULTANT - Oh excuse me the elbow.

Prosecutor DR COMFORTABLE - Here they are. Then this

I think the picture is pretty ... there is one here and one here, no?
The two bony points that made me ...

CONSULTANT - I'm here.

PROSECUTOR - Touch have nothing to do with ... oh no Excuse my arm is
so, unless we have two ...

CONSULTANT - Maybe I'm ugly, I do not know.

Prosecutor DR COMFORTABLE - AND 'well, right? So one is here and one is
here.

ITEMS - (in background).

CONSULTANT - One is here and one is here.

PRESIDENT - But here the prosecutor asks questions, then the advisor
...

CONSULTANT - Yes, yes, no agreement. PRESIDENT - Responds its
assessments.

Prosecutor DR COMFORTABLE - I mean both

bruising fight on ... do you beat a boss of bone?

CONSULTANT - It 'may beat them both on a

bony, I think yes, because here is the ... what it's called the
epicondyle and the olecranon is here.

Prosecutor DR COMFORTABLE - What is it?

CONSULTANT - The olecranon this bone coming here since this part.

Prosecutor DR COMFORTABLE - But this is internal

respect ... CONSULTANT - How?

Prosecutor DR COMFORTABLE - This I mean if I am

it is internal, all right 'anyway ...

CONSULTANT - I do not know, there are two bones.

Prosecutor DR COMFORTABLE - So therefore considers that these bruises
were produced by repeated shocks.

ITEMS - (in background). PRESIDENT - Ah, sorry ...

CONSULTANT - I think the limit could also be an only now that I have
touched touched because I realize that it is precisely at the two
bones.

Prosecutor DR convenient - and the solution

explains how the continuity?

CONSULTANT - Because the bones are separated from each other ... then
the bruise forming sorry if I tap with two fingers I bruise bruise here
and here, are separated from each other even if it's only a bump, then
I do not know one or two ...

Prosecutor DR COMFORTABLE - May indicate where the mouse

do you think is the bone because it seems to me that the bone is in the middle of the two bruising, where in the middle ... where is the halo, the halo light.

CONSULTANT - (Inc.) there is a salience bone ... Prosecutor DR

COMFORTABLE - There is not it? CONSULTANT - Yes here.

Prosecutor DR COMFORTABLE - No a little 'more than half a second ...

CONSULTANT - One moment, I'm sorry Dr. ratio between the skin and bone changes according to the movements of pronation supination of the arm so now I would like to see a static correspondence between skin at a point where the way is extremely mobile on deep levels and bone, I do not know if you can do, I'd say you can not do.

Prosecutor DR COMFORTABLE - In fact you can not

Always think that the victim was still motionless. CONSULTANT - Oh, no.

ATTORNEY Ghirga - this is not a question. Prosecutor DR COMFORTABLE -

Oh, no. ATTORNEY Ghirga - It 'a question that? Prosecutor DR

COMFORTABLE - Yeah, right.

ATTORNEY Ghirga - No.

Prosecutor DR COMFORTABLE - So much has already responded. PRESIDENT - Yes, yes.

ATTORNEY Ghirga - Think if the victim is still o. .. Prosecutor DR

COMFORTABLE - So ...

PRESIDENT - Yes he did a question and the professor answered.

Prosecutor DR COMFORTABLE - has answered it.

PRESIDENT - Please.

Prosecutor DR COMFORTABLE - Then the shoe imprint on the pillow, she spoke of a fold which breaks the mark of the cushion, so I guess in your opinion to argue that the footprint is larger.

CONSULTANT - Yes, not to support, I say that the imprint

the cushion is largely incomplete, that one who wants to see us do not know how to heel and that the presence of the bends on the pillow he explains the morphology of the imprint.

Prosecutor DR COMFORTABLE - How to Forgive? I did not understand.

CONSULTANT - I say that those who want to see a heel imprint their own ...

Prosecutor DR COMFORTABLE - I mean let's face the rear of the sneaker say.

CONSULTANT - No, no that would be ... here would

I guess the heel.

Prosecutor DR COMFORTABLE - Exactly. CONSULTANT - This, this _ere is a fold line.

Prosecutor DR COMFORTABLE - AND 'and then a fold? REPRESENTED BY WIDOW - I oppose President, let's respond to the consultant ...

PRESIDENT - No, no.

REPRESENTED BY WIDOW - Without having these continuous comments and implicitly, felt the question gives the answer.

CONSULTANT - The fold of the pillow ... the pillow is one thing swollen ...

PRESIDENT - But the consultant is so rich in experience that well ...
Prosecutor DR COMFORTABLE - No but ... objectively in a very quiet ...
PRESIDENT - It is not that is fragmented in its exposition. REPRESENTED
BY WIDOW - But it's a matter of fairness because if you do the dynamics
of continuations in the details when he talks about trying to influence
the witness no doubt, therefore, that you let the answer ...
Prosecutor DR COMFORTABLE - Professor feels

influenced?

PRESIDENT - Excuse me here ... anyway ...

Prosecutor DR COMFORTABLE - Fortunately the

Professor is the first to smile.

PRESIDENT - I ask the question and then perhaps also to give uniqueness
to provide mainly a response and understanding. CONSULTANT - I mean
this, what is a fold of the cushion, the cushion is a thick padded
thing, if I do a pitch bend and here it is clear that my mark will just
not go this far below and I will leave a sharp line at this point and
will give me the famous mark that is as close as that of the impression
of a woman.

Prosecutor DR COMFORTABLE - Oh I had understood,

But I understand why you think a larger footprint could not continue
beyond the fold.

CONSULTANT - I do not know in what position was precisely this pillow.

Prosecutor DR COMFORTABLE - Exactly, so even

this is a supposition that is.

CONSULTANT - No, it is my guess, what I know is that this is not a
limit of a shoe, I know that that is a line determined by the turn of a
pillow that was placed in
so that the blood was deposited along the fold and it shows very well
what happened in I do not know, you were still in the piece below, this
pillow is all wrinkled.

Prosecutor DR COMFORTABLE - So what if it is

was laid out exactly as we are seeing, well I guess they are legitimate
questions, right?

PRESIDENT - Yes, yes, please.

Prosecutor DR COMFORTABLE - If it had been stretched as we are seeing
the heel, however the back of a shoe would produce larger his mark to
the left that is after the fold? He ... the mark could not continue
beyond the fold?

CONSULTANT - Of course I did not continue.

Prosecutor DR COMFORTABLE - Exactly. CONSULTANT - So I can only say
this. Prosecutor COMFORTABLE DR - Yes, but I want to ... CONSULTANT - I
say that is one thing ...

PRESIDENT - Excuse me Prosecutor, please.

CONSULTANT - I say that is something that has left a kind of validation
that is interrupted by a bend, I do not know if it is stopped because

the pressure was low and then did so only in the most projecting of the cushion because the shoe was blood on one side only, for example, do not know, I have not the foggiest idea, I say that here in this picture here to see a limit determined by the edge of a shoe is completely arbitrary as is seen here behind a heel invention.

Prosecutor DR COMFORTABLE - Okay 'There are signs,

I mean she has amplified to ... short, perhaps even beyond the wounds, if also amplifies this picture will see that there are signs that surround the heel as well as those from the lab we have clearly seen, but of course

everybody wants to amplify what amplify. Ghirga ATTORNEY - (Out of microphone). PRESIDENT - Excuse me, excuse me please. Ghirga ATTORNEY - (Out of microphone).

Prosecutor DR COMFORTABLE - But then I say .. I have

seen very clearly. PRESIDENT - I'm sorry ...

Prosecutor DR COMFORTABLE - That darker edge,

then that folds ...

REPRESENTED BY WIDOW - I always insist on a new opposition that the prosecution did not want me but the last question what is his assessment?

PRESIDENT - That is, the prosecutor asks ...

REPRESENTED BY WIDOW - He made a personal assessment of his interpretation, then referred to other circumstances.

Pros_cutor DR convenient - and 'the Professor makes personal assessments.

REPRESENTED BY WIDOW - Or does the question ... I am opposed to this way.

PRESIDENT - No, no, demanded ... It seemed to me that you understand

in this way that the prosecutor asked if it was possible to see that side of the pillow a few signs, enlarged a few lines of what was assumed to be the first impression and I think that the professor had shown when he made these lines comparison could not be part of the rear but the front.

CONSULTANT - That I have is this bigger picture of the pillow,

This is a bit 'smaller.

DR COMFORTABLE Prosecutor - Two more questions and then I'm done.

CONSULTANT - also see here for example where there is this turn here has nothing to do, there's a spot down there and over there is nothing what it means that there was something that ended up there? No. You Here ends the impression that simply because there is a direction, it is the same spot of this, here is this, if you tell me where the heel over there I'm happy.

Prosecutor DR COMFORTABLE - I have no mouse available otherwise I would show him.

PRESIDENT - I'm sorry, maybe that image white and thin stripes, what is it?

CONSULTANT - This is the image that was attached to the report

I think it is obviously on this cushion. Prosecutor DR COMFORTABLE - Sure.

CONSULTANT - But I do not understand why experts

fingerprints of the Scientific Police have put it in black and white because there is probably no more critical to highlight the contours probably.

Prosecutor DR COMFORTABLE - I think so.

CONSULTANT - however short, here ... this thing here that comes out from this part of what will be, then I do not know if the shoe ended up there because there is this that grows here and then I repeat up here do not see a heel.

Prosecutor DR COMFORTABLE - I'm sorry that line that you

fold as indicated, is not it? CONSULTANT - Yes

Prosecutor DR COMFORTABLE - It may be smeared

of blood over the other edge of the shoe because maybe his foot was not placed in a symmetrical manner?

CONSULTANT - I do not know maybe it's because the shoe on that side

there was more bloody, I do not know, and moreover in the folds of the fabric by capillary collects more blood.

Prosecutor DR COMFORTABLE - But could not bend

have been caused by their own shoe ... CONSULTANT - But I would say it is quite possible, of course.

Prosecutor DR COMFORTABLE - Thank you, no question

ATTORNEY PERNA - For Civil Part, only certain clarifications professor if possible. If I understand it and if not correct me, of course, first you said that you think this type of murder can be considered a sexual murder, if I understand it.

CONSULTANT - Let's say that the appearance of the corpse's discovery suggests that more and making sure that attitudes are not always a ... of reality, it seems short.

ATTORNEY PERNA - E 'its assessment. Returning then to

bruising on her iliac spines first said that in her opinion can not be considered as bruising or I misunderstood? CONSULTANT - have no bruising, I do not know what age they are. ATTORNEY PERNA - can still be considered to be grasping the bruising or totally exclude?

CONSULTANT - From grasping rule it out.

ATTORNEY PERNA - Totally. CONSULTANT - Totally.

ATTORNEY PERNA - And why?

CONSULTANT - Because I never saw the bruising is minimal by grasping an area that has a new salience, and bone bruising which usually has only when it is compressed, if she tells me to grab when this person was on the floor with your buttocks to soil, has been compressed with the knees for example iliac spines on these calls if you grasping what is good, if she calls me a grasping grasping hands that I can not even grasp the hands go right down on that plug iliac artery which is the

prominent bump that instead when I go for a walk and I'm going to beat

...

ATTORNEY PERNA - And with your fingers? With your fingers, with

hands of course in the same position that I represented hours

Her

CONSULTANT - The finger pressure.

ATTORNEY PERNA - With the buttocks resting on the ground with of course ... instead of the knees to be understood.

CONSULTANT - Yes, technically you can say that again

pressure even with such a relatively traumatic finger may occur as a bruise, I must say I find bruises on bilaterally symmetric locations that normally are offended by shock and one to keep a person's finger has its own set of two iliac spines those two words seems to me a little 'let's say strange.

ATTORNEY PERNA - However, from a scientific perspective may have caused or not? Ie from the medical or not? CONSULTANT - Yes I find it hard finger, say in an entirely theoretical so a handful would be better.

ATTORNEY PERNA - Then I do not know if she could ... that perhaps I

escaped me, I do not know if she showed the presence of a lesion on the left cheek of the girl.

CONSULTANT - A cut.

ATTORNEY PERNA - A small cut, yes, that kind of injury do you think about what can be attributed?

CONSULTANT - I became very concerned because it is a

very superficial wound edge, I would say that in the course of an injury to a person with the target's neck in a movement of the victim is not surprising that the blade may have had a superficial stab wound to the neck, a little 'how quell'impuntatura that c 'is in fact.

ATTORNEY PERNA - So you think can not be considered

from threat?

CONSULTANT - A threat?

ATTORNEY PERNA - Yes it can be due to an injury always held the weapon in his hand as a threat? According to her.

CONSULTANT - No I do not see, I see that has the characteristics of threat, I can not understand that meaning can have as a threat, I think a lot more sense to have accidental injury during a busy come into contact.

PRESIDENT - Professor Excuse me just to be clear, to me

seemed to understand that she first spoke of an injury and did not rule out the cause in a unghiatura.

CONSULTANT - Yes

PRESIDENT - It 'the same injury ...

CONSULTANT - No, no, it's another, I do not have ... CHAIRMAN - This is another thing.

CONSULTANT - There is a feritina cutting across the ... CHAIRMAN - So this is another wound.

CONSULTANT - Very superficial, yes, yes. PRESIDENT - Yes, yes it is another wound. CONSULTANT - Yes, yes, it is another. PRESIDENT - Please.

ATTORNEY PERNA - Then instead of going to injuries, to minor injuries or almost absent on the hands of the victim if I understand it from what she has represented are likely to be minimal because the resistance was still partial if I understand it, or dependent on the because of the presence of a small knife, right?

CONSULTANT - I say that injuries are special because they are not cutting injuries are injuries impuntatura knife, however, are in locations from injury defense, not cuts, they are like little tears that I think have been reasonably produced by the impact against some part of the blade, not much, I can say is that I can easily explain a lack of defense wounds, for example because of a short blade.

ATTORNEY PERNA - but if it is I always misheard her before said that in her opinion, however, does not indicate a strong resistance by the victim.

CONSULTANT - Those wounds? ATTORNEY PERNA - Yes

CONSULTANT - The great strength, if I have a blade across

I just planted in the neck to grab blades because the blade is all ...

ATTORNEY PERNA - If he had not yet planted in the neck

course. CONSULTANT - How?

ATTORNEY PERNA - If you still obviously had not a blade

planted in the neck.

CONSULTANT - not even told he grabbed the wrist of the ... and grabbed the blade, hold the blade's not mandatory? CONSULTANT - No, certainly, but she has said before if I'm not mistaken he also imagined that the victim substantially may not have received or have not even seen the knife because a knife is not great.

CONSULTANT - No, this is a general criterion of not speaking for the specific case, it is very frequent in the stabbings that the person did not even notice that she had been stabbed because he has not seen the knife, especially for small knives like this.

ATTORNEY PERNA - In this second case, she has _ot seen or

saw this knife? CONSULTANT - How? I did not understand. ATTORNEY PERNA - In this case here ...

CONSULTANT - How do I know I do not know. ATTORNEY PERNA - I ask an opinion.

CONSULTANT - If I was there with someone who had me by the neck and puts it into his pocket, opens a knife, pulls it out and plant me in the neck I can not see him ever.

ATTORNEY PERNA - And then when you would be procured at the hands of these micro-cracks?

CONSULTANT - How?

ATTORNEY PERNA - When these micro-cracks would be procured at the hands ...

CONSULTANT - I can put a ...

ATTORNEY PERNA - If she was attacked immediately.

CONSULTANT - Place one hand on the neck, may have produced at any time, do not say that has not seen him say that may not have seen him, I say that has come into contact with the blade, for example if I say probably because that man had a watch like mine maybe even an attempt to free himself with a grasping surface of that sort could still be compatible with a type of injury like that.

ATTORNEY PERNA - Listen, as regards the right forearm, if I have not seen evil was highlighted by her bruise.

CONSULTANT - Yes

ATTORNEY PERNA - I wanted to know if ...

CONSULTANT - There is a small bruise on his forearm.

ATTORNEY PERNA - But that ... also to be dropped or that may be to grasp is always hurt or falling? CONSULTANT - Can ... is non-specific can be a bruising of any kind of that kind can be a shock that I look to one edge, but even there we do not have the characteristics of a grasping where I see the bruising opposing grasping means to stand by and take a person stops a person means to surround a limb with an object compelling, violent, so how do I get round bruise on a surface of an ulnar forearm and say it is a grasping, I can not say that it can not be derived from a grasping but certainly does not have the characteristics of a lesion by grasping.

ATTORNEY PERNA - As for the injury to the neck, the injury that she has obviously shown by the letter A, the most important lesion, first you talked about accessory notches and if I understand it these notches incidental probably produced by the fact that this knife has been stuck inside at least two or three times according to what you said, but I say here ...

CONSULTANT - No need to be totally extracted every

I think it was once inside.

PERNA ATTORNEY - No, however there was a movement of the knife.

CONSULTANT - Yes

ATTORNEY PERNA - My question is this, the movement of the neck of the victim may have given the same accessory notches, may have ...

CONSULTANT - could, could.

ATTORNEY PERNA - So you would be shown the same type of injury, that it would be seen the same type of injury? CONSULTANT - I do not know we see this injury and I say that while an iteration of strokes of a knife in the wound that insists I really like that series of injuries with incidental victim of a movement I can also imagine that this is so, however, should contribute to the favorable circumstances to ensure that the movements of the victim are three times the exact same type thing that seems strange in someone who has a knife in the neck.

ATTORNEY PERNA - And a movement of the hand of the aggressor? Not only that ... that is, however, has retracted his hand?

CONSULTANT - To go back and forth behind the hand should not.

PERNA ATTORNEY - No, not to go back and forth because the

victim is moved by the perpetrator, however, has a

pulled back on the other hand, I ask you a rating. CONSULTANT - No, no, ask, ask.

ATTORNEY PERNA - can also say that it is impossible to act and I look.

CONSULTANT - How?

ATTORNEY PERNA - can also tell me that it is impossible and I take note.

CONSULTANT - But I can not say that it is impossible to a question

What does it allow me senseless ... Or I just do not get it.

ATTORNEY PERNA - If the victim has moved the neck and

the aggressor ...

CONSULTANT - And while the attacker moved his hand. PERNA ATTORNEY - No penetrates again into the knife that was the question but it has

virtually ... that he pulled hi_ hand back, here it is possible or not.

CONSULTANT - Yes, it's the same question as before, I think that is that

are movements of the victim and I have already said that it is possible but it seems strange that a victim is moving three times in the same way and with the same depth.

PERNA ATTORNEY - No further questions.

ATTORNEY PACELLI - Professor Tower hello, I'm the Lawyer

Pacelli patron of the Civil Part Patrik ...

ATTORNEY Ghirga - What questions can make the Civil Part Lumumba?

ATTORNEY PACELLI - Yes I am referring lawyer Luciano Ghirga scream which introduced his colleague from the Widow, I just wanted a clarification of medical science.

ATTORNEY Ghirga - We oppose this type of question. ATTORNEY PACELLI - If I can Mr. President.

Ghirga ATTORNEY - There is opposition, shouting refers, when he screamed.

ATTORNEY PACELLI - Yes I am referring specifically to the URL.

ATTORNEY Ghirga - we oppose.

PACELLI ATTORNEY - Mr. President I can do then we hear the question the objection?

PRESIDENT - Please, please Lawyer.

ATTORNEY PACELLI - The question Professor Tower was simply this: by a forensic point of view immediately before the howl of the wound to the neck is possible?

CONSULTANT - Of course it's possible, if not your mouth shut for sure.

ATTORNEY PACELLI - alternative hypotheses do not, I want to know if it is possible or not.

CONSULTANT - Yes

ATTORNEY PACELLI - In the shot as it is launched, it caused the wound is possible without additional hypotheses. CONSULTANT - I could not answer.

ATTORNEY PACELLI - can I exclude?

CONSULTANT - Did I mention that I do not answer a question that I ask if I can exclude.

ATTORNEY PACELLI - I got it, I go back to the question, is it possible? You can while it is being launched in the shot, the wound is caused ...

CONSULTANT - I've already answered ...

ATTORNEY PACELLI - That there is a scream?

CONSULTANT - I have already said that I do not know because it depends on a number of factors.

ATTORNEY PACELLI - Thanks professor. ATTORNEY MARESCA - Can President?

PRESIDENT - Please, please.

ATTORNEY MARESCA - I apologize for the delay, good morning

Professor.

CONSULTANT - Good morning.

REPRESENTED BY WIDOW - President of the exam was over

Kercher Civil Part.

ATTORNEY MARESCA - No, I concluded when facing the colleague.

PRESIDENT - Yes, however, always the Civil Part ... ATTORNEY MARESCA - I asked, I let the word ...

REPRESENTED BY WIDOW - I felt that my colleague had finished so it was passed ... had not told the lawyer that was to come Maresca, I oppose, I just a matter of procedure, it seems to me that the examination was over.

ATTORNEY MARESCA - The plaintiffs are two links to remember

that have divided the plaintiffs, the attorney is not acting

Perna.

REPRESENTED BY WIDOW - Until now, the presence of Advocate Maresca had to replace both and had questions for all plaintiffs Kercher so I had understood, then the plaintiff was asked Lumumba taking the exam now finished the examination of the Lumumba so ... ATTORNEY MARESCA - And I stepped in pointing out that the President then asked for the word after Pacelli.

PRESIDENT - But the lawyer had also Perna

replacement, in fact, had made even when the lawyer Maresca still had not returned, but if you have further questions and we can feel different.

MARESCA ATTORNEY - Well again I apologize for the delay. Professor possibly give up some questions immediately to the question whether it has already responded, she has shown in his other reports submitted to the GIP in the preliminary hearing ... the GUP in the preliminary hearing as the main cause of the throttle, the main cause of death.

CONSULTANT - In the very first.

ATTORNEY MARESCA - How?

CONSULTANT - In the very first.

ATTORNEY MARESCA - In the very first yes, he changed his mind or is it always the same idea?

CONSULTANT - In part, I've changed.

Ghirga ATTORNEY - No on merit, considering that my colleague has resigned from the question of whether it was placed, was placed in the early stages of the examination and said he has corrected even after its conclusion on the relationship Introna asphyxiation strangulation, if we have not understood bad ...

CONSULTANT - No, but ...

ATTORNEY Ghirga - The application had answered, I only say this.

ATTORNEY MARESCA - Perfect, then it is aligned with the reconstruction

...

PRESIDENT - In part.

CONSULTANT - No, but I'd like to give a little explanation. PRESIDENT - Please.

CONSULTANT - I just want to say that at first seemed to

the fracture of the hyoid bone was by strangulation, at a later time, especially seeing the movie and feeling that Lalli says, "is cut" at this point I would say that the throttle has lost relevance in the sense that the asphyxial component is .. . But there was throttling is mainly due to the invasion of blood in the airways.

ATTORNEY MARESCA - Good.

CONSULTANT - It 'clear that if I have a completely broken hyoid bone strangulation privilege to strangling.

MARESCA ADVOCATE - Another clarification here do not know if he has already spoken on this subject, the orientation of the knife wounds on his neck in two main and one smaller one on the left side.

PRESIDENT - Yes, yes, it has already given an answer. MARESCA ATTORNEY - I have already spoken, perfect. PRESIDENT - Yes, yes.

ATTORNEY - (Out of microphone) colleague asks questions like that, suddenly arrives and asks questions and then each time ...

ATTORNEY MARESCA - No, no, but then give up immediately

am just a few seconds. I have no other President, thanks. PRESIDENT - To deplete the exam.

REPRESENTED BY WIDOW - President Briefly some clarifications.

PRESIDENT - Please.

REPRESENTED BY WIDOW - Professor Torre returning to the bruising on her elbows that have already been analyzed extensively do you agree with the assertion by Professor Bacci adviser of the Public Prosecutor who himself about the origin of these bruises on his elbows at the hearing on 18 / 4 read Page 23 says that "the restraint of the victim is putting pressure on the arms, the elbow is very uncomfortable to hold on so they might be compatible with a fall."

CONSULTANT - With a fall or collision with the ground, yes, but not

gripping with the hands in short.

REPRESENTED BY WIDOW - Listen, always in relation to the position seems to me that there are two schools of thought front and rear, I ask a question, but there are bruises on my knees, on the front of the knees?

CONSULTANT - I do not think so.

REPRESENTED BY WIDOW - This is not an objective which goes against the hypothesis that second attack back? CONSULTANT - Yes it makes me think of one thing that I ask, in fact if you go down on one knee if you do not have easy bruising of the excoriation of that surface abrasion but especially one like that and attacked me here to recall what he had been able to Dr. Matteini writing that said: "There are injuries to the face, the face to the ground by impact", I would like to make it clear that even these there is no trace of injury by shock facing the ground so there is no Avanti no sign of impact.

REPRESENTED BY WIDOW - Professor Then I wanted a clarification about a definition that this defense from the beginning seemed very vague and that the likely identity, I want her richiarisse, has already said this morning, with images of the protocols that exist in reality about the definition of that cos' is a likely identity, remember that the Court is likely identity in reference to the plantar footprints, but she also said that there is a recent publication of the 2009 ... CONSULTANT - Yes

REPRESENTED BY WIDOW - What is drawn from the same office

Dr. Intini, who was here as a witness.

CONSULTANT - It 'the one from which this tract was written, it is the office ... precisely because of probable identification ... REPRESENTED BY WIDOW - So the question ...

CONSULTANT - That is likely identity of this talk

matching designs and font ... special marks of wear and things like that are missing here, one can not speak of probable identity anyway.

REPRESENTED BY WIDOW - Then there are protocols with _ different definition.

CONSULTANT - Here, there appears to me regarding the shoe prints not for the footprints of bare feet, I could be wrong because it is not really my topic but I guess I do not exist.

REPRESENTED BY WIDOW - Connected to this argument I want to ask the President is aware that she was made a recording evidence on the compatibility of the knife and a group of experts came to a conclusion that is very new for us lawyers, however vague or contradictory and I am referring to forensic April Cingolari Ronchi filed April 18, 2008 where it is said in conclusion about the compatibility of the knife 36, which exhibit only one opinion is to can not incompatible, now what does

this definition to say, I ... or knife is compatible or not compatible, this definition is within the protocols, for example, wrote that this was done ...

CONSULTANT - I would say no, I would say no, and it seems I do not know but I can say my opinion then I'm wrong, is that no one knows ... should say not compatible, however, feels just to say incompatible compatible and then says but I would say there more than a technical opinion is an opinion that science can be a partial claim on the use of Italian rather than ...

REPRESENTED BY WIDOW - Thank you for this clarification. I wanted to

also ask in relation to defense wounds on his experience, how many corpses he saw in his life Professor if I can I ask?

CONSULTANT - I worked it out once, a few thousand

however, for sure.

REPRESENTED BY WIDOW - Some thousands of murders, violent deaths?
CONSULTANT - A lot.

REPRESENTED BY WIDOW - Lots. There is a correlation between the wounds and blows to the defense in a murder, that is, I mean more hits, more and more battle there are wounds of defense, you can do this kind of reasoning, this consideration is correct?

CONSULTANT - I do not think there are scientific publications on so I'd say my opinions, much depends on ... if injury is a little faster I shall incapacitating ... REPRESENTED BY WIDOW - In this case ...

CONSULTANT - If I have many wounds that I can reach one to a

side, one by one thigh is clear that I groped for more time to prevent the wound of the blade, in our case we have a wound that is not immediately incapacitating that the neck is very fast but it is about a minute, a minutes is a long one can do many things but ...

REPRESENTED BY WIDOW - I get it, then only always a clarification on the knife, she has concluded that just 36 about the report would seem to be too big, so important with a detrimental capacity that is not found in the body and especially in relation to the means of 8 cm, These objective assessments take into account its somewhat of a scenario with more people? That is a murder done by more people, or disregard?

CONSULTANT - But I do not quite understand the question but I want to ... I say it's a ... I did not understand, I'm sorry I did not understand what it means.

REPRESENTED BY WIDOW - That its assessment on the knife does not take into account the assessment of the possible presence of more people? Murder more ...

CONSULTANT - No. No, it does not take into account.

REPRESENTED BY WIDOW - This is just an assessment of objective evidence of the knife and the wound?

CONSULTANT - Sure.

REPRESENTED BY WIDOW - Fine, thank you I have no further questions.

CHAIRMAN - There are other questions. Excuse me just a clarification.

CONSULTANT - Please.

PRESIDENT - The larger wound than ... she said she has three intermediaries if maybe he could better explain these three intermediaries which means that ...

CONSULTANT - So the ...

PRESIDENT - Three times the knife entered or stayed in the wound ...

CONSULTANT - No partial three intermediaries, I say that is very mangled inside the lesion, if I had a transit only within those systems would cut the muscle muscles here, having gone back and forth many times I say three

through why I say that one is the first shot, then I do an extraction and a ripenetracione and the notch, I say three because it is very mangled having three notches f_om sharp from edge of the blade I can

imagine that there are three intermediaries. PRESIDENT - These three notches from where you can see ... on the photo?

CONSULTANT - On the photo, I have three notches I have three ... three intermediaries that mean the number is a bit 'risky. So here it is clear we have not within a single stab wound injury, there are some muscle lacini 'everywhere, there is an injury, there seems to glimpse another examination of the surface but above the edge of the wound I have this ... I have the main notch and this one here, that when the knife penetrates the wire quell'incisura leaves me very clear, when I ripenetro or extract or enter determines these injuries incidental to the blade, means that the cutting edge and entered out several times because otherwise it would be impossible in that there were lesions that are very clear of the incisures incidental to the blade. PRESIDENT - Well, then I also wanted to ask as regards the wound than C, the second most serious. CONSULTANT - This.

PRESIDENT - Yes, we have one through this wound?

CONSULTANT - I would say that this wound is one means, it's very clear the notch determined by the cutting edge of the blade, there are elements that make me think ...

CHAIRMAN - So you can also say that there was by the

wounder a different dynamic?

CONSULTANT - It may have been a different dynamic, we also realize that if it's true what I think is that this is going to collide with the jaw and I repeat we have three wounds that are all from the same direction, from bottom to top, from top to bottom, there I hit, hurt I find them soft and the other side insist there. PRESIDENT - That during this activity the victim of aggression was somehow tied up?

CONSULTANT - Say ... PRESIDENT - And if so how?

CONSULTANT - That was my opinion here is a person who lies with me and keep me on the face, the neck has to hit home, I can maybe do some rotation of the head. PRESIDENT - This rotational movement of the head may have created the mangled ...

CONSULTANT - Broken But a well ...

PRESIDENT - Well I'm sorry mangled is bad, say those three intermediaries that perhaps brings us back to the category best used.

CONSULTANT - We should imagine a wounder that takes the knife still and again a head that moves in that direction several times, in short, it seems more reasonable to the action of a hand going to hurt.

PRESIDENT - Well, if there are no other questions, the consultant

is laid off, thank you. It must be suspended until two, two and a quarter. (Suspension).

DEPOSITION OF CONSULTANT - GINO SARAH

PRESIDENT - It can give an indication on the general, gannets findings of fact that may have carried over beyond the assessments which will be referred to his knowledge is invited to make a declaration of commitment, only limited to this aspect.

THE CONSULTANT, AMMONIUM IN ACCORDANCE WITH ARTICLE 497 OF THE CODE OF CRIMINAL PROCEDURE, THE LAW OF RITUAL FORMULA

GENERAL : Sarah Gino, is a researcher at the University of Turin and is the head of the genetics laboratory of forensic science criminalistics that is directed by Professor Carlo Torre, born in Turin on 23/12/1969.

PRESIDENT - Directed by Professor ... CONSULTANT - Charles Torre does.
PRESIDENT - Please.

ATTORNEY Ghirga - I'm always Ghirga Defense Lawyer Knox, I ask over his status has already been explained to the Court if it has ... it is busy, you're dealing with processes, does consulting on behalf of the Magistrates, PM, courts, what he has done recently, what ...

CONSULTANT - then my activity as a forensic geneticist is

started in 1992, '93, since then I have always worked with Professor Torre initially, supported by Professor Torre initially and later independently of cases where an investigation was necessary both for forensic genetics, for example, remind the courts. .. we are often called upon by the Court of Assizes of Reggio Calabria, I worked for the prosecution of numerous cases both in Turin and outside Turin and then I also have also deal with cases of the then disc_sion of forensic genetics to say so at the behest of Lawyers.

ATTORNEY Ghirga - What kind of work wants to present to the Court

and with what method?

CONSULTANT - I'd do a review of what has been done with regard to the investigation then the investigation of forensic genetic DNA in this case, dwelling mostly on what most interests the Defense Knox.

ATTORNEY Ghirga - then we believe it may begin with his

DVD.

CONSULTANT - Then I began to reconsider an issue that has already been addressed in part by Professor Tower, more than anything else if I can resolve some

that there are still uncertainties, or rather that there are some inaccuracies on the luminol test say from the standpoint of the forensic geneticist because I am sure footprints, so I do not want to know if that impression is due or not, but I'm interested try to explain what makes the luminol and the results of the investigations were then carried out on specimens of the positive luminol. First begin by reflecting on these two jobs, two jobs are produced by scientists, Australian authors at the beginning of this century and then the 2000, you are busy these people to see if there were any other substances, however, as was already known that they were able to give a positive luminescence in the absence of blood and still have about 250 substances tested, 250 of these substances more than a dozen were positive and luminol many of these were found to have a glow to the naked eye can not be distinguished from the luminescence defined by blood. In particular, as has been mentioned several times there are plants that are able to give a glow similar to that of the blood such as radishes, turnips, even the potatoes, fruit juices other than for substances that they contain perhaps not directly related to the fruit that is used, but substances that are used for the production and then

there are a number of other substances, ranging from household cleaning products or substances used in industry such as oils that can give this interference even these authors have also done a study on cars, parts of cars we have seen that many of the parts of cars or better than the interior of the car can give false positives when sprinkled luminol. Even objects that we can find returning to home if we can define them so commonly in homes sometimes even the same terra cotta tiles, ceramic, painting of the walls and then paint and glaze can give this interference and what these authors point out that this interference is not discernible to the naked eye and then with the means that we usually available from the luminescence is given by the blood, this was just to make a 'introduction to the topics we take up now. I have taken many of the slides that Dr. Stefanoni presented at the hearing of 22 and 23 May, perhaps just because it seemed more clear ... ATTORNEY Ghirga - Sorry I can pray a little more slowly. CONSULTANT - so to speak more slowly. Then I started ...

many of my slides are nothing more than a resume of Dr. Stefanoni slides because I thought that to avoid further confusion on these subjects would be more useful to use the same method of presentation. First I present this image that summarizes the findings, the samples that were positive luminol inside the house where the victim lived, and in particular we will remember that in the room of Romanelli were made of samples, only two of these samples gave rise to a genetic profile attributable to the room of the Knox three samples were carried out successfully, then a profit for genetic investigation in the corridor and we have four samples, but only one gave rise to a genetic profile be used for comparison. No sampling, so no ... we say nothing, no area in the living room floor kitchenette and large bathroom are tested positive. In particular, here we are entering the room of Romanelli for the first two ... then we spend the first two findings in the Knox room so we can see which are the results of the investigation genetics, to summarize it, then get into the details, regarding the corridor, the corridor _as been identified in the four areas, four areas, only a positive luminol has also given rise to a genetic profile, but we have never faced the problem of What has happened in other areas that were still to be sprayed luminol, always taking the pictures you see here is a double ... 7 indicates that the double numbering is my slide number that corresponds to the slide 7 68 exposure of Dr. Stefanoni we see that at home as well as the car Raffaele Sollecito Raffaele Sollecito and Guede's house were made of test check the possible presence of latent blood luminol, here is immediately apparent, then we have here three blood samples of suspected substance, we are told by the experts, two of which were negative and one gave a partial success in the sense that the profile is not complete mixed Sollecito Knox. Now on to other rooms of the house more and I urge that we see for example in the bathroom were made one, two, three, four, five, six samples were positive only two subsequent laboratory tests and still more at the home of Raffaele Sollecito Input in the kitchen were made only five samples gave rise to a genetic profile of an unknown man or a person referred to n we have the genetic profile. Why? What does this mean? Why do you say well I presented all this overview of investigations that were carried out because in fact there are many areas that were positive finding luminol but few of these have since then following a genetic result also what I wanted to point out is that if all these areas were actually alleged

substance should we admit that blood in Perugia is almost a hobby to go around bleeding while in reality if we do not assume luminol, which is equal to a positive blood understand that perhaps there is some difference and that perhaps there may be stressed, however, as has already been presented in the first slide of the substances that may interact and thus can give us some false positives. I also especially with the number 6 on this man because it makes us understand how people from outside also, however, so they are not even in the home had been quell'abitazione or maybe just Raffaele Sollecito or who frequented his house was passed on a Pass me his spit on the street rather than the expression of the biological material coated on this subject under the shoe was then deposited on the pad and then we detect the presence of this man number 6 that does not mean that this man is number 6 entered the house of Raffaele Sollecito, so here I took part in that ... in one of the reports that were filed in September of 2008 it seems to me by Professor Tower had already been written and repeated.

First of all what we say? We say that is true luminol is a substance that is used to detect latent or traces that may be latent traces of blood but we can be sure that blood is drawn only if we carry out specific tests. What are these specific tests for this type of biological fluid? There are several types of tests most commonly used is a chromatographic immunoassay which not only tell us that what is blood also tells us that human blood is because for example if I have blood on a floor of a chicken, I wash, but we do not wash well, then sprinkles of luminol, but maybe this is positive does not mean that the blood comes from the person who lives in that house, is the blood that comes from the chicken, then the luminol test is a presumptive or if it really does not tell me or tell me what is blood if that is so human blood to make sure that

what is blood and human blood and I have to do specific tests, I mentioned the fact that immuno chromatography allows us to say precisely what it is blood, human blood because it uses an antigen specific antibody to human hemoglobin in fact, different Another example would be a specific type of test is the thin stroke chromatography which indicates to us only as the presence of hemoglobin but does not tell us if it belongs to a man rather than a fish, rather than a chicken, a dog, a monkey, so all those tracks that have been finding as a positive luminol some of which are striking for ... to have the form of a footprint left by bare feet, we can only say that it is positive for traces luminol but we can not say that those tracks come from placing as has been said many times the blood precisely because we do not have confirmation with specific tests. Furthermore, as we all know most of these tracks we are discussing, we leave traces in the house I needed that I urge you to realize that in many places, however, these traces have been found positive luminol but we are focused on one or more has focused on only one present in the victim's home. What can we say? We can say that they were finding on a floor, on a floor like you did the first example of the mat in the kitchen of the house, for example, urge us to find material that we can not only bring in people who live inside the house in this If the four girls who were present but ... any and all their guests very well because one can not enter the house ... may not take off your shoes, however, may sneeze, can possibly lose the saliva while talking, because maybe you can possibly bleeding wounds, are all tracks that can get on a floor, I think if everyone did this type of

test at his home and went to see if there is biological material such as the floor would find it extremely positive. But also this biological material that we found on the floor could come from outside that could come from a place that I went first because I shall be affixed under the shoe, or maybe I put my bag and I did not realize that there was a track, is a biological trace because we often do not see them, that we do not see the sense in which we see a stain, but we do not know what is being filed and then later on another ... in another environment. Also, these tracks that we have analyzed, which were analyzed at the house of the victim often gave rise to the genetic profiles that have been allocated but yes in some cases beyond the attribution of the peaks was made by Dr. Stefanoni there are attendance extra peaks peaks that were not considered in the sorting of alleles and then let's say a definition of genetic profiles and then these extra peaks could be ... could arise from what? For further contamination of that track by other people or it could indicate that there is an initial degradation of the biological material was collected. Just an example, this is what has been identified as the 177 specimen samples on the slide so it is written by Dr Stefanoni of alleged substance blood, forget the speech that we've done on this alleged substance detected by blood tests of luminol, in addition to the peaks that were analyzed, now I do not know if you see carefully, however, certainly here in the middle is the most easily ... sorry, here in the middle is where you can see more easily the appearance of two peaks that can not be considered because they are not immediately statter so to speak prior to this peak, so all the statter conversation about who had already been done several times'd forget, these are two peaks whose height could be on the scale that we have available around 100 maybe a little less than 100 RFU but were not considered and so for other loci present in this profile. Here, what I want to emphasize is that maybe if we had had available and this was not done and I think that this can be considered a limitation of the survey was ever carried out biological material taken from other people who lived in that Romanelli and then home from the other roommate, maybe if we had made the drawing we could see that these peaks could be attributed to these subjects, this to tell you what? On this floor that maybe there was contamination of biological material that was present, the mixture of biological material derived from multiple subjects and this has absolutely no surprise because as we said at the floor as we clean it is always still a dirty environment, let me pass this expression precisely because it contains material that we usually lose hair, dandruff, when we talk about any saliva that comes out of his mouth when sneezing mucus coming out of the nose, so that every_hing can not be sure that it was blood, there are many false positives that give us exactly the same intensity of luminescence compared to the blood, what can we say? We can say that these tracks in our understanding of occurrence for events of interest are virtually nil. I do not want to dwell on the fact that they are absolutely fingerprints or footprints, or if they are not shaped like the footprint or not, this is an area that I do not care, I'm a geneticist forensic point of view of how to piece and the way in which investigations have been carried out and results obtained according

As I would say that the interest lies in understanding the occurrence of events is zero, do not say that this analysis is not correct, have been carried out correctly, the context is what I expected the award to a blood substance which we do not know if it really is blood or not because the tests were made and in any case there would also seem

strange that most of the tracks that have been ... luminol positive and have been attributed, were not allocated into the merits or not, if properly Amanda Knox and if this was this blood would mean that Knox would walk on his own blood, then would shed blood for the entire house as well as at home I urge all of this luminescence is not explained precisely then derived from the blood if you really think that we all bleed in Perugia, and this is one of the first argument, I hope I was clear but the questions that will surely be able to further clarify the concepts that I expressed The first point I wanted to be treated. The second point of my statement about the exhibit number 36, the knife, not in terms of medical examiner and then say whether it was strictly ... or rather, not so much related to the fact that it can be used to commit or not the fact, in committing the murder, but rather I would just of technical dissertations on ... the results that were obtained from any biological material that was found on this object. Then we saw all of this picture, here is the slide number 105 of the presentation of Dr. Dr. Stefanoni where we had the knife seen in every face and say that withdrawals have been performed. Essentially what we are interested? We are interested in picking A and B sample, one therefore relative to the handle of the knife and the one on the blade. As for the finding to Dr. Stefanoni

carried out testing, has obtained a genetic profile that meets all the rules of good laboratory practice and good interpretation of the genetic profile obtained, because the peaks do not know if you can appreciate, however, are all above 100 RFU, 100, 150 are RFU limits that are placed normally considered a good genetic profile and then click the profile that was found on the knife I have absolutely no objection. Instead what I wish to stress is that which has been obtained from the track or from the B track that has been identified or better than the biological trace which was finding, she was taken from the knife blade. This track was first located where? Was located here where you inserted the letter B, then do not tip, but not near the tip where there were scratches, so there describes Dr. Stefanoni because none of us had the opportunity to see even then its investigations or still produced in the iconography that has been attached to his report what these scratches, scratches that these could be ... that could be difficult to see with the naked eye but certainly using the stereo microscope, as was also emphasized several times during the previous hearings could be a great help to understand where this track was the biological gave this genetic profile, also make assumptions about the nature of this biological trace why? Because the stereo microscope, zooming in to see me, makes me appreciate the color of the track, so if I have a track red brown, and I assume I can not be sure, but I can assume that if you can deal with blood, blood is only if a Once I checked where I photographed what I'm going to alter it, then get them to discuss this type of material removal even a small part in a test s_ecific to the blood. It is obvious that the scratch could be the blood of a chicken, a cow, a fish because the knife by its nature is normally used in the kitchen for slicing meat derived from animals, this test ... doing a test chromatographic immuno I could know if it was human blood or not, here is not done none of this has been done, or rather a presumptive test with benzidine, which was negative. What is the benzidine test.

INTERVENTION - At?

CONSULTANT - the benzidine or tetrametilbenzidina depends on what the stripes ... what are the reagents that are used, is a witness that I

can indicate the presumptive presence of blood, this test was negative so we can not know, we can not say that there's blood over there. We can not even speculate on what other types of biological material may be because we do not have photographs or rather not even have the description of this material by Dr. Stefanoni, I happened several times in the stereo microscope in cases of murder you bullets and knives you want, you also do not know of towels and identify the substance yellowish, yellowish substance that is nothing but fragments of skin epithelium, we here do not know anything, do not even know if there are scratches where it was actually the biological material. Returning to the laboratory tests that are done as Dr. Stefanoni said last time, as he had said even before the judge for preliminary investigations ... sorry in front of the GUP said that because the DNA extracted from this sample that had been made at the scratches was not quantified so once it was observed that low copy number DNA or the DNA in low quantity, low level of DNA usually means that the DNA present in amounts less than

100 picograms we normally work with a nanogram, one ten nanograms, a nanogram is one thousand picograms, then imagine the amount of material in low copy number is significantly below the normal standard conditions in which they work in a laboratory for forensic genetics, which are then optimal conditions are those that make you say "genetic profile that you've got is a good genetic profile can use it for comparisons" below 100 picograms that is when we work with low copy number is still possible to make all those processes ranging from amplification and to obtain a genetic profile, but when we go to interpret the result we must remember that we are working conditions and therefore we must remember that there are guidelines that say: "if you want to interpret that result you have to do these things, you still need to ensure that two, three, four points are made, "and these points see them again later, here I am only a moment to the history of this sample for which the Doctor had found a low amount of DNA within its extracted sample was concentrated, focused means that we decrease the volume available to extract and what does it do? This makes it perhaps as happened in this case you can make a single amplifier that it can not control the final result that we obtained. The Doctor in one of his insights has shown us these two electropherograms. What is the electropherogram? The electropherogram is the end product of all our genetic laboratory forensic investigations that we extract DNA quantify, verify that the DNA is present in our extract, amplify, and then we have to do this race to see what is electrophoresis, which are the alleles, which are variants for all those stretches of DNA that we have studied and then once you have this genetic profile necessary to make comparisons, in this case, the Doctor was able to do only one thing to repeat the stroke and repeat only the electrophoretic ' last step but what they tell us the guidelines is to repeat the amplification repeating the amplification because only I can see if there are errors of amplification occurring mostly when I start from low copies of DNA, in this case even the same race electrophoretic ... that is, the electrophoresis of the same sample yielded different results, but I'm not saying one is usually the second race to get a better result, in order to produce an iconograp_y so if we want better call when I go to file my report, in this case The electrophoresis gave a worse outcome, for example if we look at this second marker is totally missing here as this locus became homozygous or heterozygous for the loss of an allele

is, even here you do not see anything of these two present alleles, so what can we say? We know that a withdrawal was made in an area where we do not know what it was, we know it's been a test for blood by benzidine, a non-specific test and this result is negative, we know that this extracted material... this material has been extracted DNA that has been judged less than a... present in small amounts in our statement of fact, was amplified without following the guidelines and has been interpreted not to follow what the guidelines say that when we remember that a low amount of DNA is called low copy number DNA and in the presence of this type of DNA so we can conduct our amplifier to obtain a profile, but we must remember that we have the disappearance of one allele, we can have a allelic imbalance, we have the presence of stutter bands on there has already been particularly extensive discussion before the GUP of what they are, so are the peaks that are created regardless of whether there exists within the DNA we want to copy but only for a mistake that we use this enzyme to copy it several times during the DNA amplification, the problem is that the stutter bands we see them even when we work in very good condition but as when they are in excellent condition and I have going to interpret my peaks seen (inc.) say: "If there's this little spike that goes a very large spike, if it is less than 15 percent of its height would consider a stutter band when working conditions Low copy number DNA they stutter bands can get to be 30, 40 percent major allele "here so that it becomes very difficult to distinguish from a true allele, so when you work on the amount of genetic material is ... small amounts of genetic material must be very cautious when interpreting the results. Here are now three slides in which I'll show you what are the guidelines that should be followed when working with quantities less than 100 picograms of DNA, we have work of Gill (or similar) which is always taken by all subsequent authors in which it says that the amplification of the extracts should be conducted at least in duplicate, is not our case, that a particular allele should be reflected in the final genetic profile identified only if at least two different experiments, it was not possible to do so, it is not advisable to concentration of the sample was carried out here instead. Another great reference for us Boudowell forensic geneticists (or similar) FBI says, "is not recommended the concentration of the sample" them back even suggest a dilution of the sample to reduce these effects and emphasize that the stochastic contamination in this type of analysis is to be feared because it can cause development of allele foreign to the track and given the increased sensitivity should always consider the possibility of casual contact that this is what it says Boudowell "if the victim and the suspect have was the result of previous contacts may be unrelated to the case dealt with "because they are small amounts of DNA. Finally the guidelines of our Italian colleagues who ... all belonging to Italy GEFI Bracci Dominici, Pascali where in these guidelines ascertainment criteria evaluation methodology for genetic studies of paternity and forensic identification personnel at this time are those that say we care about when it comes to low copy number "boost beyond also traces the substrate at various points to reveal the presence of mixed traces "of contamination and I would add that in all these cases has never been made so to speak a negative control on the surface in the vicinity of the tracks that were ... that are ... the track was better, or in the case of our knives we know that the Doctor told us that he conducted in areas surrounding this type of withdrawal, do not we ... there has never been do_e to see that the result obtained in the

direction (inc.) negative but we would like to see if the electropherogram to judge whether there really was a background noise that could instead be interpreted as additional peaks. He was then taken ... is still said to take as a threshold value for the interpretation of the peak value of RFU so solid that can vary from laboratory to laboratory but can not be less than 50 RFU, if we go back to our image most of these peaks to exception of three or four have a height less than 50 RFU then according to these guidelines do not should be considered. Finally I would like to introduce you to a decision of the Superior Court of the State of California dating back to March of this year, was an event that has been used in the study of low copy number at the end the Court decided that since there is a unique methodology in Low copy number treat, we saw some people focus, there are those who use the amount as it has been extracted, some even want to dilute the DNA in these samples, there is an unambiguous interpretation of results were obtained and then this court has decided that everything that comes from the low copy number can not be allowed to finish this and say the second part of my deposition. As regards the last are just small refinements of the investigations that could be useful but have not been made. First of all, returning to the slides of Dr. Dr. Stefanoni we presented this slide tells us where the DNA in the cell, we have spoken only of a type of DNA or nuclear DNA in our cells, but there is a second type of DNA for genetic forensics is very important and it is the mitochondrial DNA. This DNA, unlike the DNA in the nucleus comes from the father and mother originates only from the mother or the egg, is a DNA that is located in the nucleus but not in the mitochondria are small organelles to cellular respiration and that deputies are in numerous copies within a cell. Why is it important to this type of DNA? It is important because it allows us to obtain a genetic profile that will be different from what we get with the study of nuclear DNA where? Where there are no cell nucleus. What are those findings which normally forensic geneticist must collide with no core, it is primarily because the formation formations hair follicles, a short way, training has pilifera its life cycle, anagen phase, catagen phase and telogen phase. In the anagen phase catagen phase and the bulb of this coat is rich in nucleated cells in the anagen phase longer then lost in the catagen phase to get to virtually zero in the telogen phase. Most of the formations we find that hair at the crime scene but that we find in our house or our car anywhere hair formations are found at this late stage because they are the formations that hair fall off spontaneously. Hence in the study of formations is important to know how the hair bulb, if present, if there is, if it is present in anagen catagen or telogen rather than because it allows us to do different surveys. There is also a larger number of copies within the cell, and we said so this may serve especially for those findings where the nuclear DNA has been degraded in this case, for example by high temperatures. But returning to our formations hair because I wanted to introduce this topic because for example on the window of the room that is the window that Romanelli had been broken on the lower frame carry the slide of Dr. Stefanoni was present training pilifera indicates that the same Dr. as useful, I guess this means that profit had a bulb and then try to extract nuclear DNA results are negative, but goes further, that this training could be tempted because pilifera not always formations hair ... Unfortunately for the forensic geneticist is not always a big problem because they can then give result of a genetic profile, however, surely there was a stop and complete the analysis with the mitochondrial DNA that we could

possibly provide the genetic profile of the person pilifera this training could belong. Leaving aside other mitochondrial DNA investigations that do are probably worth examining the markers on the Y chromosome FTR I think certainly in both cases higher than those on which it was done, surely under the nail samples that have been made right hand and left hand, the victim had not of particularly short nor very long nails, the collection was made and was only obtained DNA from the victim, why? Scraping away because obviously we bring a lot of material in which the victim can there be when the aggressor is a male subject very little material men, men of detection that this large amount of female DNA I going to hide so that I I like the Doctor rightly pointed out last time had to look for exactly what is male DNA? It is to study the markers that are present only on a chromosome of males, so this could perhaps be useful to understand it even if there was contact between the victim perpetrator, if there is negative could say nothing, perhaps the victim could not have scratched the subject in order to gather material, but surely if he was positive he could give us more input. I would say that same thing could be done for example on the inside door handle on that substance is blood, many times the Doctor told us that this substance was bloody great, so great was that he had not thought of this test for chromosome Y because you think this material could not be there, if I had been my case I tried this because I was tying up this way, I could tie a male subject exactly that ... in that room with that handle this finding. I would have done.
REPRESENTED BY WIDOW - Thank you, I'm the lawyer from

A Widow for Knox, Dr., first of all I think the first thing that comes to ask you is whether you can explain exactly one definition, a distinction between low and detection of DNA copy number in general, that is, what is the distinction, that this low copy number is defined in some way?

CONSULTANT - But we usually mean low copy number

when we have quantities less than 150 ... picograms to 100 as I already mentioned before, so we need to quantify our ... our extract, see if there's DNA because many times we extract the dark not knowing if he actually is human DNA, because what interests us is a trace of human DNA so that we have not made a diagnosis that is a generic diagnosis in nature, then we can not really know if it is a human biological trace. Once we did we quantify the extraction and quantification can be defined according to whether we are working or if we are operating under normal conditions or in conditions rather than the standard ... in the presence of low copies of DNA, usually when we go to add a boost to 10 nanogram nanograms of DNA for amplification when we are already fewer than 100 picograms talk of low copy number.

REPRESENTED BY WIDOW - But in Italian translates as

low copy.

CONSULTANT - Yes or DNA present in a limited number of copies, that is, we might even get a genetic profile for absurdity even a single cell, usually say that with 15 ... in short, between 10 and 15 cells is the minimum to start working, we could go to absurd even to a cell, but of course the result we get is a result that needs to be verified later many times. REPRESENTED BY WIDOW - But we can say that the result after an examination of low copy number is less reliable

compared to a result of the ordinary with normal numbers? CONSULTANT - So let's say that if one were to follow the guidelines we give them a good value that we obtain this result, we must take into account that the guidelines above the guidelines that were developed by our Italian colleagues are telling us: "be careful all those times when you have a peak below 50 RFU maybe it's better if you do not consider "that leaves plenty of room to the laboratory to decide what is the minimum threshold, the minimum threshold to be taken as good a genetic profile as some say below of 150 RFU not wait for others to say below 100

I do not have to consider, but they are very specific in saying that the RFU under 50 that kind of genetic profile can not be considered valid.

REPRESENTED BY WIDOW - Of course, we a_e confident that Dr. Gino

the report 36 track B which is of great interest in this defense is a low copy number, she said that this reference 50 which I understand to be the threshold above and below for low copy consider it, this is a case of low copy number? CONSULTANT - Let's say I have too much based on what Dr. Stefanoni had said before the GUP was asked when she had told us to quantify very low, then seeing the results obtained all'elettroferogramma I would say that we are facing the Low copy number DNA.

REPRESENTED BY WIDOW - I get it. Look, general questions about

certification and the databases, you can inform us about the ISO certification of laboratories in Italy and so on and what is it exactly, we have already heard but we wanted to know also its evaluation.

CONSULTANT - So, in Italy there is no requirement to be certified ISO 9001 or ISO 17025, there are suggestions that come from the international community, the community international scientific where it says that ... for example, says it will enter the Empsi but it is one of the recommendations in the database only those data ... those institutions that have ISO 17025 certification in Italy we are still far from everything but also because we have not even the DNA database and therefore we lack the assumption that the laboratories should also convey to all the information they get from the cases dealing within this database may then say that there is still a lot of places the problem, I know that many labs are ... are doing which is the ISO 9001 certification for the quality, the next 17025 is a certification much more accurate on the test, then what you are going to produce and not on the quality of what you produce but how to produce it and maybe there are one or two laboratories that are engaging in this direction, our laboratory, for example at the moment is making the ISO 9001 and then later once you have made this certification possible accreditation which is 17025, but in Italy there is no specific law precisely because of this lack of legislation on the database.

REPRESENTED BY WIDOW - We also heard from a consultant to plaintiffs, however, that there are databases in a single laboratory, then I wonder how it is possible that there are private databases even if there is a law? CONSULTANT - So that speech on the databases of each laboratory is a very difficult discussion, in the sense that, in theory, none of us could have a database as we understand database ... I do not know what there is in England, we could collect data but these data should be

anonymous, I speak for those who as I say that that is secular is not part of law enforcement agencies, their regulations did not know them, do not But surely we know that

We then lay mainly university can not keep a database where we associate the name and last name and a genetic profile could have a database anonymously, then collect ... This is because it can serve? It can be used in case of contamination in the lab I have so I can go and see if the genetic profile I had already obtained in another case and therefore may be an additional check for contamination, however, does not exist on this single Decision ... let's say a single vision on the issue precisely because there is no law and there is no case law and then ...

REPRESENTED BY WIDOW - Listen, returning to the finding that 36 is the

Slide 105, see also made her the first presentation, I do not remember her, I wanted to know the identification of point B because you rightly did ... reminded us that the assessment to look at that point in B and we focus on this was done because it visually appeared to be a streak. CONSULTANT - A ... yes, but a streak ... REPRESENTED BY WIDOW - Streaks are defined.

CONSULTANT - Yes, however be a streak as it was described is not intended as a streak of material spread on this blade, but a streak understood as a defect or alteration of the blade.

REPRESENTED BY WIDOW - This is her from objectively analyzing the documents it has ...

CONSULTANT - No, as I have ...

REPRESENTED BY WIDOW - I _ean there ...

CONSULTANT - As I said before, we do not have pictures of this streak.

REPRESENTED BY WIDOW - The findings of fact or images ...

CONSULTANT - but also a written description, a description made by those who worked on this does not describe "there is a scratch on the size ..."... absolutely we have no pictures and no description, we are ... We knew they were alone in front of the scratches ... when it was made by the defense were made and in which questions were asked: "What was there because the sampling was done there," then was told: "There were scratches" but in Previously ... I start by saying that I was not there from the beginning, my job started in September of this year so I do not know if the consultants who have preceded me if they could appreciate with the naked eye, I say that surely these scratches in the documents that are been made available to us there was a description of these scratches.

REPRESENTED BY WIDOW - She still was present in Dr.

during the preliminary hearing? CONSULTANT - Yes

REPRESENTED BY WIDOW - And then going back to the identification of point B because there are always other assessments were made on the blade, we see that the point C, point D, point E that is very different all three identifications with the same criteria I suppose that visually we decided to go and see if there was something in those spots without a camera or microscope analysis?

CONSULTANT - No, no, no.

REPRESENTED BY WIDOW - But this ... my question is this: it does not appear to be a shortage in the ... its outset in the evaluation of the element, that is, if you do not identify exactly what is going to look

then at what you can do on this item? CONSULTANT - So let's say that I would call good laboratory practice, though perhaps not coincide much with what he said or wrote Dr. Dr. Torricelli Torricelli, but good practice is that when I start

manipulate my finding the photographers, not just say his vision of wholeness, but even if there is something that interests me in such a way as to have a documentation of something that I'm going to alter it later, then surely if I have a spot of Blood 10 for 10 for 10 and 10 cm that I take a piece that can be a square inch is obvious that the rest of the stain will remain and so I always know that with the naked eye can pick what I did there, that at that spot is Sampling was carried out, but if I depart from something that is not seen with the naked eye that I think there is because there are some scratches, I can never go back to what was really there if I have not photographed and carefully documented this part . REPRESENTED BY WIDOW - Yeah, I was interested to understand this. I also wanted to ask her back to the subject of low copy number you referred to a Judgement of the United States precisely where the forensic use of this result was limited, are you aware if there was a procedure in England again in relation a murder where you used the low copy number in December 2007 there was a suspension ...

CONSULTANT - Yes I read but do not quote him because I had no scientific documentation but I basavo only a documentation of a journalistic and then I did not have in hand what the Court had said on that occasion that I have not But I mentioned that there was a break because there was ... there is this problem of interpretation of the low copy number, it is not clear what to do with these low copy number, perhaps a time when I started the business in ... in the mid 90s there arose such problems was already a great achievement to get from one track three, four, five, then loci a genetic profile very low, thanks to technology today we went a long way
But the fact of going forward does not mean that we do not have problems before, that this is definitely a huge problem that must be encoded in some way.

REPRESENTED BY WIDOW - And always in connection with this case English, and I know maybe you can confirm me that it was made in the period of suspension of a commission that approved the guidelines, protocols for use of laboratories that is just ab_origin who can do this type of analysis and then how to use the results of a low copy number within a trial.

CONSULTANT - Let's say I do not know in depth

the topic, from what I can gather from these brief excerpts of news stories that I had on hand, however, it was thought to have no laboratories involved in the investigation say that they can do this type of activity.

REPRESENTED BY WIDOW - When she says she will not implicated

because I also have the documentation from third party laboratories ...

CONSULTANT - Yes laboratories ...

REPRESENTED BY WIDOW - For those who do the investigations? CONSULTANT - Yes I mean that.

REPRESENTED BY WIDOW - And we say to avoid the attitude

centric suspicion of those who ...

CONSULTANT - I think this is ... I think this is the foundation of everything.

REPRESENTED BY WIDOW - This is a protocol that was inserted in 2007 that the need for a laboratory to be compared to one third of those who make inquiries? CONSULTANT - Yes I say it with the pliers in the sense that just ... REPRESENTED BY WIDOW - Sure (overlapping voices).

CONSULTANT - Having access to a small part of

documentation I can say yes.

REPRESENTED BY WIDOW - I get it. Look, the problem of contamination, always in relation to the track 36 B of the findings we felt that the contamination is in the process of finding that in the laboratory stage only if you exclude you can take a number of investigations otherwise it is always possible, she can there. ..

CONSULTANT - then the contamination is possible, it is always possible at any time of the investigations that we are going to do very often even if we adopt all precautionary measures, which means as it has already said Dr. Stefanoni change gloves manipulating each specimen, when open tube with different material as well change the gloves, wear a face mask, but there are not resulting from contamination of the operator's attention but no contamination that can happen because we have this great fortune to have amplification This PCR Vole call it ... amplifying, amplifying what happens to increase the number of DNA molecules not the whole because we are going to copy as they do ... As happens in (inc.) throughout the entire DNA but only small parts that interest us, this amplification can provide samples for possible contamination following, this can happen and this despite the fact that work in optimal conditions and following all the rules, is a problem that I address all laboratories at least once a year with no ... or maybe even a little 'less often also depends on the amount of work that a laboratory has, however, I would say it depends not so much by the operator if it is inherent in the type of assessment we are going to make this possible contamination and this is because such ... maybe that's why some laboratories have the results of anonymous databases have just got to go and see if the genetic profile obtained was been obtained previously with things that have absolutely no relationship to the work I'm doing at that time.

REPRESENTED BY WIDOW - She took the contamination and finding 36, I do very specific questions, I understand that the material extracted from the trace B was then used in a car, we heard a little 'procedures, we also seen how they work and workshops have also heard the same machine, even if there was more than one at the laboratory of the Scientific Police in Rome have been extracted DNA from the victim in a period prior to assessment of track B in various and numerous times, then when she told me that I understand the amplification in a very simple to me is the question immediately, but it is possible that having amplified the DNA of Meredith X times and we have given to the acts but we ... many times it is possible that this amplification was able to cause contamination of the machine which then led to a contamination of the track B, then when it was analyzed?

CONSULTANT - This can not be excluded

and now I definitely came to mind first what I wanted to say but it sticks very well to what I'm saying at this moment, there are authors who are colleagues of reference in Italy for Forensic Genetics and Carlo Ricci ... Ugo Ricci and predicted that Charles wrote a text and reading this text right on the use of DNA forensics say all those times

when we get a genetic profile from something we do not see, a something where we would not expect anything we must always ask ourselves the question: but it is real or is it contamination? This is so that when we work in these conditions it is obvious that if I have a spot of blood when I come out a profile

gene are fairly quiet in the sense that it will be the genetic profile of that spot, but where I do not see what they are going to pick, I do not know the nature, I can not even imagine could be a question that comes to me is that even for this the other authors I mentioned earlier suggest to repeat several times ...

REPRESENTED BY WIDOW - The amplification. CONSULTANT - amplification.

REPRESENTED BY WIDOW - Here I come to this, ie back, addressing a contamination limits for precisely exclude the contamination to be confident of repeating the amplification is that you double test?

CONSULTANT - Yes I repeat amplification can be as negative controls can be added as already said Dr. Stefanoni then the negative control for all reagents that are used in the extraction and you want in the amplification.

REPRESENTED BY WIDOW - The repetition of the amplification for

track 36 B of the exhibit has not been done?

CONSULTANT - has not been done because there's been told that all the material being ... since the low amount of DNA was concentrated and all that was achieved was used to make a single amplification with the rule if I may repeat the "make or-break" that is, in the sense that either go well or I can not do anything.

REPRESENTED BY WIDOW - for now I do not have any other questions

Chairwoman

PRESIDENT - For the prosecution cross-examination, please. Prosecutor DR COMFORTABLE - I follow the same pattern that has followed her in the sense back then to luminol. She told us again, but you already knew, maybe we reported it in more detail the fact that luminol does not exalt only blood but also enhances other substances. Then the first I make a question perhaps more technical than I was suggested and then questions the belly that I have come to me. So one has ever found between the luminol interference contained in a track, and the positive luminol tests to detect specific human blood?

CONSULTANT - Excuse me, then if ... What does this mean that if

I went to the luminol affect the specific test for human blood?

Prosecutor DR COMFORTABLE - That's never happened to have a result ... a false negative? That is, when surely the track with the enhanced luminol contained human blood but its ... its analysis did not give this result. CONSULTANT - But I do not know if the luminol because the track is human blood, do not even see the track, how do I know that this is human blood, I do it on a surface where I do not see anything so you can not know in advance if that is human blood or not.

Prosecutor DR COMFORTABLE - No a priori after the examination,

She is a biologist wrong?

CONSULTANT - No I'm not a biologist I am a medical examiner. Prosecutor

DR COMFORTABLE - Ah well, that is, and then all of the analysis, all

the criticism that she has done on the analysis carried out by Stefanoni ...

CONSULTANT - Most of the Italian forensic geneticists

medical examiners are not biologists, Professor Tagliabracci Pascali Professor to Professor Charles foresaw, Dr. Asmundo. Prosecutor DR COMFORTABLE - I did not understand so she want to say ... all the tests you mentioned ...

CONSULTANT - that I'm anal ...

Prosecutor DR COMFORTABLE - it makes you personally? CONSULTANT - Sure routinely because there is not written anywhere that it should be a biologist to do it.

Prosecutor DR COMFORTABLE - All right, all right ', however, There ...

CONSULTANT - But let's say that only ... no for completeness, in Italy most of the university just dealing with this so the geneticists are part of t_e forensic medical examiners are GEPI, only police forces in the sense that biologists have only engaged in this, this does not mean that in the other there are no biological laboratories that do this type of investigation.

Prosecutor DR COMFORTABLE - I understand, yes, but maybe not

I formulated the question well. CONSULTANT - Well maybe not.

Prosecutor DR COMFORTABLE - Dr. Stefanoni not blindly but after that was used luminol has made withdrawals.

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - On the prints, is it?

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - This is, then I say the cases are ... seen that we are, the cases are false ... She spoke only of false positives, right?

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - The results instead of false-negative cases? That tracks with the enhanced luminol is clear then made visible to the geneticist or a biologist who has taken it a bit 'of that track, he analyzed and it was certain that in spite of that track ... that contained human blood that track the biological analysis were negative.

CONSULTANT - How ... but as I can be sure that

Blood track is if I do not see it, this is what I contend, that is, if I have a positive luminol on something that I do not see ... Prosecutor

DR COMFORTABLE - Yes but it is an experiment

laboratory in fact, has never done a lab experiment in which he deliberately inserted the blood and subsequent analysis place the blood

...

CONSULTANT - No, we never did.

Prosecutor DR COMFORTABLE - was contaminated by the luminol tests were negative ...

CONSULTANT - No.

Prosecutor DR COMFORTABLE - I mean the specific analysis to see if there was blood ...

CONSULTANT - No, I answered no.

Prosecutor DR COMFORTABLE - Thanks. Look, if those tracks that I understand from Dr. Rinaldi call fingerprints and footprints, the footprints, however, enhanced with luminol if they had been produced from fruit juice spilled on the ground could have contained the DNA of Amanda Knox and Meredith?

CONSULTANT - certainly because they lived in that house so I of

I do not know if that floor before or after the juice, you bleach, you want what you want it to be positive luminol there may also be the trace of a person who lives in that house because I like saying I can spit on floor, I do not see so do not wipe the spittle and then I drink my juice and I drop a drop happens at that point, because what I have found is that in my presentation around these tracks have not been made as the sampling controls because, according to ... it is possible that in those samples there was exactly the same material does not tell you exactly Knox Knox as Kercher but rather perhaps more than Romanelli Romanelli, or just another tenant who lived in that house.

Prosecutor DR COMFORTABLE - How ... quantitatively

As would be great for this track existing prevail on the trail of juice?

CONSULTANT - This absolutely does not know him say two things are completely different in nature as I said before, in theory, from a single cell is enough for me then to extract the DNA. Prosecutor DR COMFORTABLE - I mean a single cell prevails over the stain of juice.

CONSULTANT - So ... but ... that we are two different plans.

Prosecutor DR COMFORTABLE - OR bleach, we also look at the bleach that is even better.

CONSULTANT - We ... Meanwhile ...

Prosecutor DR COMFORTABLE - I mean spit to survive bleach.

CONSULTANT - let me finish because I have not finished?

Prosecutor DR COMFORTABLE - Yeah, right. PRESIDENT - Excuse me please

...

Prosecutor DR COMFORTABLE - No let me finish first

demand.

PRESIDENT - Please, please have all the time. Prosecutor COMFORTABLE DR - Why you can not answer ...

PRESIDENT - We have all the time to ask ...

Prosecutor DR COMFORTABLE - Let me finish the question and then I leave them to finish the answer.

PRESIDENT - Well, please come to the questions posed in their entirety

...

CONSULTANT - Okay.

PRESIDENT - And the answer that we gain in all more clearly.

Prosecutor DR COMFORTABLE - I have the memo said. PRESIDENT - Pl_ase.

Prosecutor DR COMFORTABLE - I say spit survives

also important trace of bleach?

CONSULTANT - So ...

Prosecutor DR COMFORTABLE - Take the example of bleach.

CONSULTANT - then known as the bleach is used as a decontaminant in the labs, so if you tell me a track of pure bleach, I might have a little 'difficulty in saying that what survives, it is obvious that we use when we raise a bleach the floor and then dilute bleach is not only pure but it is traces of sodium hypochlorite contained in detergents, so ...

Prosecutor DR COMFORTABLE - So sorry, but ... that is

of lessons that I take from this morning, so I say if the track ... if the stain, the imprint had been produced by bleach there would be the DNA of Amanda and Meredith? CONSULTANT - could not tell you.

Prosecutor COMFORTABLE DR - He may not know. Then juice yes, no bleach, chicken blood, ie blood slain ... I do not repeat the examples ...

CONSULTANT - I did not say no, I said I can not ... REPRESENTED BY WIDOW - (Out of microphone).

PRESIDENT - I'm sorry ...

Prosecutor COMFORTABLE DR - He may not know, can not very well know.

CONSULTANT - It depends ... then to complete my knowing it can not depend on how much as I said before, the concentration of bleach, certain that it was very diluted ...

Prosecutor DR convenient - and because these girls certainly spat.

CONSULTANT - Yes, but that's not something you look so ...

Prosecutor DR COMFORTABLE - No, no, (overlapping voices). CONSULTANT - Unable to find.

PRESIDENT - But do the questions ...

Prosecutor DR COMFORTABLE - But I ask.

PRESIDENT - Complete without it becoming a sort of dialogue to debate two because then maybe you also find it hard to collect positive responses.

Prosecutor DR COMFORTABLE - No I do not think he

ended response.

CONSULTANT - No then it will depend on ... depends very precisely as I said before it is diluted by what we know as I said before that the bleach is used to decontaminate laboratory instruments also by the presence of DNA is possible that if I have a large concentration of bleach that I go degrade the track.

Prosecutor DR COMFORTABLE - Other cleaners?

CONSULTANT - Other cleaning all the detergents we use at home, it happened to me a case where we did the inspection with the Police, with the SIS of Turin in an apartment where you do not know if it was a murder was committed or not, we going to the toilet in the bathroom we sprinkled the luminol and everything was bright as day.

Prosecutor DR COMFORTABLE - No, perhaps the question is not

clear.

CONSULTANT - other detergents So I can not ... detergents are common ...

Prosecutor DR COMFORTABLE - No, but ... CONSULTANT - Yes, but if ...

Prosecutor COMFORTABLE DR - Yes, but I was not clear in the application, I have not asked which are the products that elements other than blood that can be enhanced with luminol, I asked a different thing, if the patch had been produced not by blood but of juice would be joining the DNA of Amanda and Meredith? She said yes.

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - Provided that could pre-exist very well. Bleach had been told me: "I do not know."

CONSULTANT - I do not know, it depends.

Prosecutor DR COMFORTABLE - Had it been another type of detergent?

CONSULTANT - always cleaner to clean the house mean?

Prosecutor DR COMFORTABLE - Yes

CONSULTANT - also depends on the content of bleach that had in it, however it is possible that permanesse.

Prosecutor DR COMFORTABLE - And I asked the same question, what is the relationship between the mixed DNA of Amanda Knox and Meredith's pre-existing to the shedding of the trace of detergent detergent than necessary because the DNA would survive?

CONSULTANT - There is no work in the literature that says

this, I have not done experiments of this kind, so I do not know.

Prosecutor DR convenient - and so do not even know if

DNA survives or not? CONSULTANT - Well it's not ... ITEMS - (in background).

CONSULTANT - Not ... So what that means ...

PRESIDENT - I'm sorry ...

Prosecutor DR COMFOR_ABLE - Surviving ...

CHAIRMAN - There is adviser responds let the consultant, please.

Prosecutor DR COMFORTABLE - I'm sorry I'm not a doctor

Legal short, do another ...

PRESIDENT - But let the questions are simple questions, please, that is, only questions.

Prosecutor DR COMFORTABLE - So do not know what is the relationship, then I say you know ... excludes ... can be said with certainty that the DNA is located in the middle of a trace of detergent?

CONSULTANT - Working ... thinking with the brain and using your common sense because otherwise I could say yes to the home of anyone when we wash a floor or otherwise ... we will never find the track but unfortunately we find, unfortunately for those who must work on in this direction.

Prosecutor DR COMFORTABLE - Even when washed with

Bleach?

CONSULTANT - depends if my business ... Let's assume then, if I commit a murder, I wash with bleach and work accurately because then there are always ... when you brush normally found always gaps between tiles rather than where it is skirting that fits ... maybe there's the collection of material, then let's say I have a small spot of blood and there I put on the bleach and wash well is that I can not find anything because I washed so well that ... But I guess if I had not washed ... namely, that the washing of the floor could be prior to the deposition there is nothing that makes me think that this thing can be destroyed if you use common sense, then the laboratory experiment at least to me that is has never been done by But no one in the sense that we know well that in the sinks where you normally use detergents are finding biological material.

Prosecutor DR COMFORTABLE - I'm sorry Doctor

I want to be polemic, indeed they are not, I just want to understand his reasoning to understand better then ... what is my wrong, then I am assuming that during the inspection using the luminol because otherwise nobody would use, even on the basis of what you said no one should perhaps call more biologists and forensic scientists because however, it is useless, that nothing is certain and that's fine, then I say ...

REPRESENTED BY WIDOW - I apologize if I insist, but this is an assessment that has made the prosecution of his ... which is not only a personal assessment that has no place in a comparison to cross-examination of the witness but it is also unfortunate because it seems almost a provocation, we have already seen that there is some difficulty in talking, question and response should be very cold and only limited say on this topic, if you do these little assessments also appear to be the provocation it is clear that this test is difficult, therefore invite you to enforce rules that are ...

PRESIDENT - Well, maybe we are the first part of question

As we take ...

Prosecutor COMFORTABLE DR - Yes, if during the inspection there almost since the luminol is used because it is mainly a place where ... the place where a crime has been committed it is hoped to find traces of blood, according to his testimony we say we must abandon the idea that even remotely those footprints are left ... have been left by the blood because we do not know, right?

CONSULTANT - After not ... I reply later, in the sense that ...

Prosecutor DR COMFORTABLE - Very well, then I say in my logic that the collection is what I think initially when I pick on that track, the imprint of a foot, is not it, taking material that has been visually highlighted by luminol and I find the mixed DNA of Amanda Knox and ... the victim I would think that the DNA has been ... was contained in that liquid enhanced by luminol, but she is telling me that the mixed DNA of Amanda and Meredith in the liquid was enhanced by luminol pretty, right?

CONSULTANT - No, not correct.

Prosecutor DR COMFORTABLE - So where was this DNA

if it was not on the liquid ... CONSULTANT - No time ...

Prosecutor DR COMFORTABLE - He understood that

I want to ...

CONSULTANT - Of course I understand.

Prosecutor DR COMFORTABLE - I did not understand me then. CONSULTANT -
_I can ... Yes exactly. So, I did not say it was in the liquid because
the fact of having a luminescence in an area we ... admit that the
example did Professor Tower morning of that child who was out of the
pool and had left the luminol footprints positive, this could leave
them the day before or two hours before the meantime, someone else
could have entered this house, and (inc.) may have spit on these
tracks which of course could not see, then I in this case I had a
deposition on top of my biological trace, or what might happen? It can
happen that I have collected this material. Prosecutor DR COMFORTABLE -
I'm sorry who?

CONSULTANT - that I walk.

Prosecutor DR COMFORTABLE - I Amanda, Meredith and I am who I?

CONSULTANT - No I'm not saying either generally or Meredith

Amanda, in general.

Prosecutor DR COMFORTABLE - But the profile is two of them so we do ...

PRESIDENT - Yes, yes, but ...

CONSULTANT - No I'm sorry I have not finished ...

Prosecutor DR COMFORTABLE - For a better understanding. CONSULTANT - I
have not finished.

PRESIDENT - But excuse me, but here is the consultant who

as a consultant makes its assessments to which we
regards. Please, go on then.

CONSULTANT - So I subject, the subject I'm sorry then since we have
seen there are also difficulties in the attribution, attribution has
been made but of course evaluations were made by the defense, which
states that even those tracks . . . now I do not want to get into this
topic because it is not my subject but to take the concept of this
morning, may not be as attributable to the subject as it was called so
I can easily have picked up or there that I first I put my foot at that
point of traces, ie it could be contemporary, today's example, the
plate of the shower ... Prosecutor COMFORTABLE DR - Yes, yes indeed.
CONSULTANT - Where did Amanda Knox and Meredith Kercher in the shower,
of course, leave the biological material because we wash in the shower
let the biological material, one of us, no two of them, another person
may be gone if we take the example Professor Tower of this dish in the
shower where there was other material in addition to their material
soaks the foot of Amanda Knox and Meredith Kercher substrate and this
walk and leave everything or I think the most logical thing would be
seen that lived in the house of ... four girls live in a house so we
know who maybe are not so careful to clean as can be ... how can they
be conscious of our mothers or other people living in a house very
accurate because they still know when you're young, you leave a little
'... these are ... I let go of the considerations but I am thinking

about what can happen then maybe the floor was so clean so those tracks were there and no one has the capacities, that were in the room of Romanelli possibly because I do not know if it was their use in the same room together to talk, chat, play, in short, then those tracks may also be prior to the deposition

...

Prosecutor DR COMFORTABLE - This is absolutely logical and illogical to think instead that Amanda has walked barefoot Meredith's blood and then to have walked on the corridor? It is illogical?

CONSULTANT - It 'illogical.

Prosecutor DR COMFORTABLE - With dirty feet of Meredith's blood? No, since we are talking of logic, this hypothesis is illogical?

CONSULTANT - But since the footprint, the footprint as we shall call

In short we want the stuff that is not glowing ... in our opinion is not attributable, I do not make this statement. Prosecutor DR

COMFORTABLE - Well you can not say whether or not it is due ...

CONSULTANT - No, because if I ...

Prosecutor COMFORTABLE DR - Why did you just said that no specific skills.

CONSULTANT - Yes, but since I ... that I am referring ...

Prosecutor DR COMFORTABLE - Yes I know, but I also can not interrupt while I ask the question, do not interrupt me while answering that, but I can give a response

12 minutes on things that do not interest me.

PRESIDENT - I'm sorry, but please ...

Prosecutor DR COMFORTABLE - So according to their specific skills ...

CONSULTANT - (overlapping voices). PRESIDENT - Please ...

Prosecutor DR COMFORTABLE - Not according to others, according

its specific expertise is illogical to think that that impression was ... that is, but rather that a mixed DNA Amanda Knox Meredith Kercher was found that instruction on the foot with the enhanced luminol have been burned, caused, produced

Amanda from the foot or the feet of anyone watch dirty blood of Meredith? It is illogical?

CONSULTANT - So I would say that if it is not illogical but ... not a moment, I can say that it is not illogical but what I want to stress is that all this talk then of course goes towards a certain direction, can be interpreted in a certain way ...

Prosecutor DR COMFORTABLE - But you forget it

the interpretation ... CONSULTANT - No, I want to ...

REPRESENTED BY WIDOW - President Excuse me ...

CONSULTANT - I want to finish.

PRESIDENT - But maybe we avoid this interruption ... REPRESENTED BY

WIDOW - President I apologize but I have to intervene. PRESIDENT - I'm sorry, please forgive, but maybe if the consultant can turn over to ...

so you do not have this immediate response ...

CONSULTANT - Okay.

CHAIRMAN - In relation to those who might ask the question we pose the question more ...

REPRESENTED BY WIDOW - President I'm sorry if I speak, I really want to take a quiet moment because I think that this has fallen on an attitude almost ... ATTORNEY Ghirga - It 'questioning.

REPRESENTED BY WIDOW - On behalf of the prosecutor. Prosecutor DR COMFORTABLE - No.

REPRESENTED BY WIDOW - also because he made reference to responses of 12 minutes, all argue what I said before, all assessments are going to cause in a sense, now if we make time to respond to the consultant seems to me that this is necessary, In addition to including questions about the illogic of an item that is on record ... that is, either you make practical assessments, documentation but the illogicality of speech has no place, the question was: is illogical for a certain situation? If the question relates to a situation that could be accepted but this is an assessment that does so and is also a suggestion ...

PRESIDENT - But excuse me ...

PROSECUTOR DR. Mignini - suspend for a moment because ... if we can stop ...

REPRESENTED BY WIDOW - Normally ... should normally suspend the President because ...

PRESIDENT - I'm sorry ...

REPRESENTED BY WIDOW - We have interest that this process takes place in a more quiet, and I noticed I seem to be no means the only attitude a little 'aggressive by the Public Ministry who spoke several times with the evaluations and I am very sorry that it went away because it was not my intention to debate nor hinder this review, we have the exact interest we want to go forward, but this is also a demonstration of the fact that the prosecution has left the room for Smoking agree ...

PRESIDENT - I'm sorry, sorry ...

REPRESENTED BY WIDOW - I still think (overlapping voices) a little 'detail.

PRESIDENT - Excuse me, excuse me that the prosecution lawyer was present in court and therefore there is no problem.

REPRESENTED BY WIDOW - No Dr. Handy.

PRESIDENT - Well, the other aspect, however, maybe ask the consultant if it is a certain logical reconstruction of a question I think it is feasible as a consultant called to exhibit assessments fall a little logic because 'professionalism, the competence of a consultant is not is that it requires a witness, on the other hand one can not even say that the consultant has not been given the opportunity to answer the same defender recalled that for more than 10 minutes not responded ...

REPRESENTED BY WIDOW - I do not think they were ... (Inc.) otherwise.

PRESIDENT - certainly were not ...

REPRESENTED BY WIDOW - The Office of the Prosecutor said, "he replied in 12 minutes" were definitely not 12 minutes.

PRESIDENT - Then we can proceed, perhaps we acknowledge that there are times when the level rises, it attracts more attention, maybe we avoid that the answers will follow too ...

PROSECUTOR DR. Mignini - Pre_ident of the links I

asks for a moment of suspension because ...

PRESIDENT - Well, if the prosecutor has little need for a 'suspension suspend.

Prosecutor DR COMFORTABLE - No, no.

CHAIRMAN - There is no need, so we can go ahead and put the question that the prosecution is deemed acceptable, of course if we can avoid that the answers might follow even when the questions are not asked to be finished ...

CONSULTANT - Yeah right, all right.

PRESIDENT - AND even earn back all of its clarity, is basically an examination, cross examination that is used to acquire information for evaluation, elements of knowledge especially in a matter that is not that short ... we are neither legal nor medical biologists, geneticists, and so that's not ...

CONSULTANT - Okay.

PRESIDENT - maybe even an invitation in the exposition if we could pull the words here is a little 'more.

CONSULTANT - Scan a little 'more is good.

PRESIDENT - Because it also allows us to follow the reasoning, the thought that we would otherwise certainly makes it difficult to do, then this logic seemed to understand ... maybe then the other aspect where we are going to parry is a secondary aspect, which is logical here, that after the consultant in its professionalism to this is called, then it will be discussed by the parties, however, the interpretation of all this ... Please click this logic we have sold out.

Prosecutor DR COMFORTABLE - has responded?

PRESIDENT - He replied that it is logical to give the answer but we can still run out to the consultant if he thought better of this issue, the prosecution said then it is logical to think that ...

CONSULTANT - Somebody ...

PRESIDENT - Yes, here is a girl Amanda Knox and others who walk on the blood in the room where there was the blood of the victim ...

ATTORNEY Ghirga - But whose blood? No, no, then ...

PRESIDENT - I do not know here is then the question to leave

Prosecutor, sorry, sorry ... here

ATTORNEY Ghirga - Let's ask the question and then the word. PRESIDENT - Let's ask the question and then if there is no reason to object to do. Please, go on then.

Prosecutor DR COMFORTABLE - I've already asked the question ... why am referring not I went to let off some off my violence I would not present it again.

PRESIDENT - Excuse me please, on this then maybe ask if the adviser wants to ...

ATTORNEY Ghirga - I was asked if I could speak.

PRESIDENT - Well all right 'is responding, however, the consultant, please.

ATTORNEY Ghirga - But is responding but on blood, but what blood, the barrier has essentially alleged that the luminol blood does not ...

PRESIDENT - Alleged blood substance.

ATTORNEY Ghirga - But still ... because the mixed track ... Sorry but if the word does not sit down.

Prosecutor DR COMFORTABLE - No, no, this is just unacceptable, we spoke of fruit juices, chicken blood, the blood of cats ...

PRESIDENT - I'm sorry, sorry ...

Prosecutor DR COMFORTABLE - Well I mean I can not make the assumption that the most likely?

PRESIDENT - Then let us assume, if not please see that Attorney ...

Prosecutor DR COMFORTABLE - but I mean right? we have

until now spoken of fruit juices, detergents, bleach, blood poured profusely chicken on that corridor and she said: "Logic dictates that a dirty floor to ... that is, on a dirt floor may pre-exist the DNA of those living there "because it is so, then I tell if this is logical ... My question was, the contrary is illogical, however, it is logical to think that those who have left the imprint left by the blood of Meredith?

PRESIDENT - We are dealing with hypotheses.

Prosecutor DR COMFORTABLE - Exactly.

PRESIDENT - To respond to concerns that the defense lawyers advancing, please.

CONSULTANT - Hypothetically it may be because of course if that is what we have said that blood is not possible to say whether it was only a presumptive test and not a specific test.

Prosecutor DR COMFORTABLE - Sure.

CONSULTANT - So if I think I might be one of the hypotheses.

Prosecutor DR COMFORTABLE - What has the same dignity o_ dignity than the hypothesis of chicken blood?

CONSULTANT - No, maybe ... Perhaps we have not understood about this chicken blood, however, has the same ...

Prosecutor DR COMFORTABLE - Oh, no.

CONSULTANT - has the same dignity of the blood ... that is exactly on the same plane, I can not say that human blood is different from the blood of chicken unless it's done differently, but the luminescence is the same here.

Prosecutor DR COMFORTABLE - Exactly so ... CONSULTANT - But I answered.

Prosecutor DR COMFORTABLE - then she has focused a lot on the scratch or streak of the knife. CONSULTANT - Yes

Prosecutor DR COMFORTABLE - What you could not

appreciated because it was photographed under a microscope, right?

CONSULTANT - ct esa Yes, but more than scratch that maybe today ... I can?

Prosecutor DR COMFORTABLE - Yeah, right.

PRESIDENT - Yes, yes.

CONSULTANT - More than the scratch that maybe today you could still appreciate what ... however, because the knife is still in the abduction and then to say we could go tomorrow and we may revise this scratch, the problem is that we can no longer see what is inside of this scratch was, then that is what I would have given the genetic profile . Prosecutor DR COMFORTABLE - He would not have given.

CONSULTANT - But I in my speech because I presented a series of questions on this genetic profile, saying also that I could derive from contamination in the express terms of conditional so it may.

PRESIDENT - Yes, yes, has every right as a consultant.

Prosecutor COMFORTABLE DR - Yes, but gave some results of course, be criticized by the consultant to some of the results is not the fact that there has been a result, I mean ...

ITEMS - (in background).

CHAIRMAN - Okay 'excuse me ...

Prosecutor DR COMFORTABLE - No result has been, right?

PRESIDENT - No, no, the prosecutor asks the result was there?

CONSULTANT - Then there was a result which, however, based on

what I thought I clearly said, could be a result arising from the non-biological material that was inside of those scratches but contamination occurred later.

Prosecutor DR COMFORTABLE - Very well, and that there was this contamination?

CONSULTANT - It is not possible as I said before, are effects that we can not even control then by as I said earlier I mentioned the Italian text, which is the only Italian text published on the subject that tells us to be careful when we have the results from what we see, this is my thought, is what I have expressed before I think very clearly.

Prosecutor DR COMFORTABLE - So for example, be very careful not to use or even traces of saliva found on a cigarette butt?

CONSULTANT - No, because the traces of saliva are definitely higher.

Prosecutor DR COMFORTABLE - But you can see traces of saliva?

CONSULTANT - then they are not visible in the sense ... But I can

do a test to verify the amylase then normally when smoked a cigarette butt is seen, that is, you see that has been smoked.

Prosecutor DR COMFORTABLE - see the butt, but you do not see some saliva, you see or not see the saliva?

CONSULTANT - To the naked eye is transparent saliva is a bit '

however, difficult to see the butt ...

Prosecutor COMFORTABLE DR - Yes, No, you said that you must use caution not to use even the tracks that are not seen ...

CONSULTANT - No. ..

Prosecutor DR COMFORTABLE - Then I asked her saliva on the cigarette butt you see?

CONSULTANT - The saliva on the cigarette butt if I do a test with the amylase can the presence of saliva and deceptive in that case there was not ... was ...

Prosecutor COMFORTABLE DR - Yes, but at the time of ... sorry.

CONSULTANT - I do the drawing and immediately after taking the course I diagnosis of nature, so if I had a negative test and then should obtain a result and intended mainly a result of low copy number in cigarette butts because normally we get a good genetic profile it is often used as a comparison when the subject does not want to consent to the collection of saliva.

Prosecutor DR COMFORTABLE - Sure.

CONSULTANT - So it's a good c_mparison and then I would put all these problems that I'm asking when I talk about material in small amounts because as we said earlier the possibility of obtaining a genetic profile theoretically would also derive from a single cell, the presence of contamination in a single cell that is quite intuitive in the sense that the contamination is usually not a contamination of 10 ml of blood, it is feared that contamination in our case is a contaminating material present in very small quantities.

Prosecutor DR COMFORTABLE - You know I imagine if the equipment can not be disposable because it might be a little too expensive.

CONSULTANT - No.

Prosecutor DR COMFORTABLE - Do you know if the equipment used by Dr. Stefanoni for the exaltation of this DNA we are talking about then traces the ... of biological material on the blade of the knife to analyze how many different subjects so different tracks was used?

CONSULTANT - to imagine that they have seen a lot of centers of reference for the Scientific Police and then ...

Prosecutor DR COMFORTABLE - How likely is Dr. Stefanoni had to get a result from other contaminated thousand people who were centrifuged in that car than Meredith?

CONSULTANT - could also happen with other things, the likelihood I can not say 1 percent, 0 percent or 100 percent.

Prosecutor DR COMFORTABLE - but was more likely to find Meredith and had the same chance to find John Smith or Francis altercations?

CONSULTANT - then I believe that these devices are

how do you usually clean every few laboratories so do not go too far in time, it is obvious that if I ...

Prosecutor DR COMFORTABLE - No maybe if I ...

CONSULTANT - It 'obvious that if I'm manipulating the samples that contain both DNA and I process them all together it is possible that this contamination has been there, I can not tell if it is more likely ... perhaps in while I do not know if they normally deal with one ... with the same equipment with more cases or when the machine is used for the event is dedicated to the full stop and the rest passes in succession, so I imagine that when she was working on that ... was working on that knife was also working with other material containing genetic profile or biological material derived from the victim because as we saw in one of the slides that Dr. presented the samples were analyzed in this case are many, more than 400 samples .

Prosecutor DR COMFORTABLE - So contamination

within the first use of contaminated equipment or machinery?

CONSULTANT - So this is not possible to define it, let's say ...

Prosecutor DR COMFORTABLE - This is not possible

(Overlapping voices).

CONSULTANT - You can not define it, that is possible in both moments.

Prosecutor DR COMFORTABLE - The moments, you know that there was a consultant to the operations ... about this knife?

CONSULTANT - No, I do not know. No.

Prosecutor DR COMFORTABLE - That the consultant ... the

Professor Power, right? Yes, I do not know?

CONSULTANT - by us I mean I do not think of others then if I do not know, that I have taken care of ... of what we say about the defense

...

Prosecutor DR COMFORTABLE - Knox course.

CONSULTANT - So I do not care if there were other consultants o. .. that is, frankly I have not examined the subject is not that I do not care, I have not examined the subject. Prosecutor DR COMFORTABLE - All right progressively and she knows when it was analyzed the trace on the blade than the other tracks on this case?

CONSULTANT - But I know that the application had been paid to Dr. Stefanoni and she could not remember when exactly so I can not say: "I know that that day was done," she told us: "more or less half" we had indicated at the hearing of 22 if I remember correctly.

Prosecutor DR convenient - and that day was the

first track or the second, third?

CONSULTANT - I can not know, I did not register as I said.

Prosecutor DR COMFORTABLE - Okay, it appears that the DNA is always or only sometimes associated with biological material because she has stated before that ... va be 'now I was _ff the computer that we do not know what kind of material we had, because there was this larger picture with the microscope at the point where sampling was done, so do not know well the position, we do not know good texture, the color does not know or maybe we could certainly appreciate.

CONSULTANT - obviously depends on the size of the track. Prosecutor DR COMFORTABLE - So it is also possible that using this microscope do not know, this is a question so that was not even expected, so it is possible that the microscope ...

CONSULTANT - Normally the zoom is such that it

can see ...

Prosecutor DR COMFORTABLE - Even what is not there. CONSULTANT - what is not there No no, what you see there, what is not there you can not see if there is not there.

Prosecutor DR COMFORTABLE - Ah say the color,

color, color.

CONSULTANT - The color? The color ... then a brown red color stands out well enough to say with a knife, the color of the blade, then it is obvious that if ... do not tell me.

Prosecutor DR COMFORTABLE - I'm sorry, it's clear why he said it before, but it was a micro piece of skin color for example, that would take ...

CONSULTANT - Yellow ...

Prosecutor DR COMFORTABLE - One thing macerated? CONSULTANT - Yellow orange would have been.

Prosecutor DR COMFORTABLE - Yellow-orange and then brighter than blood?

CONSULTANT - Lighter blood.

Prosecutor DR COMFORTABLE - Anyway, my question is, DNA is always associated with biological material or not?

CONSULTANT - It depends on what stage I am of my activities in that it is usually DNA within a cell as we have said before, it is obvious that if I have already checked this DNA is no longer the DNA inside the cell but I have a DNA laboratory and that can give me a contamination.

Prosecutor DR COMFORTABLE - Yes I understand but if she

always speaks of contamination never answers the questions, it is clear that the contamination removed, ie excluding the possibility of contamination that is not proven nor provable, however, seems to have understood, is neither proven nor provable, then in normal DNA containing the biological material, or are there alternative hypotheses?

CONSULTANT - I can not understand the question I'm sorry if I may make the another way because I can not understand. Prosecutor DR COMFORTABLE - So regardless of the nature of the track as the Doctor Stefanoni considered not to say that qualitative analysis because the track was so small that much just said, "or the all or nothing" right ? Here, it is possible to think that a human DNA is extracted from the plastic, I do not know that or other material that is not organic does not seem

...

CONSULTANT - No time ...

Prosecutor DR COMFORTABLE - this question is difficult. CONSULTANT - No, now I get a moment, she tells me that if I have not used a plastic bottle or a pen can extract human DNA?

Prosecutor DR COMFORTABLE - No.

CONSULTANT - No.

Prosecutor DR COMFORTABLE - This is not the question. CONSULTANT - And then we did not understand.

PRESIDENT - Yes we can but repeat the question we have time and patience.

Prosecutor DR COMFORTABLE - swab Then I have the one you use operators to detect you ... nay detect ...

CONSULTANT - Take.

Prosecutor DR COMFORTABLE - To sample tracks, Struffi a bit 'random even though the Dr. said and we all know that concentrated on that streak with the hope that the streak had held something Struffi, find, do the 'analysis, a human DNA comes out, then it is possible that the human DNA has been produced by a track that was not organic? On that track on the knife, that track if I had produced human DNA could also be human or animal or vegetable or even ... has understood what ...

CONSULTANT - Now yes, then if at the point where I did

sampling there was a trace human biological response is yes, but in the sense that if we admit there was not at that point the track biological human but that it had been put away, I do not know that I had on my tube rather than freshly prepared ...

Prosecutor DR COMFORTABLE - Here we go again with ...

CONSULTAN_ - Okay 'but it is the only answer I can give.

Prosecutor DR COMFORTABLE - Well of course as a consultant to the ...

CONSULTANT - No, no, as a consultant ... ITEMS - (in background).

PRESIDENT - Excuse me, please. Please ...

Prosecutor DR COMFORTABLE - I realize very well. PRESIDENT - I'm sorry ... but we avoid we avoid here is also the Public Prosecutor to avoid comments, you collect only the answers and those that are offered to us will then be evaluated as far as we can but we will answer only to then there will be time for comments.

Prosecutor DR COMFORTABLE - If the answers come to me

dates yes.

PRESIDENT - I'm sorry ... ITEMS - (in background).

PRESIDENT - Please, please ...

ATTORNEY Ghirga - politely, I'm sorry but the consultants

PM consultants have the yes or no? PRESIDENT - I'm sorry please do ...

Ghirga ATTORNEY - No I ask her.

PRESIDENT - This debate, we are at the cross examination

consultant.

ATTORNEY Ghirga - He's right, I apologize.

CHAIRMAN - So the prosecutor asked if this practice assumes that a DNA trace organic.

CONSULTANT - It 'obvious that a human DNA can only result from

a human cell.

ATTORNEY Ghirga - Can I have your word?

Prosecutor DR COMFORTABLE - I would say no because ... PRESIDENT - Excuse me, excuse me, please avoid these dialogues between the parties because ...

Ghirga ATTORNEY - No me because I am addressing you, if the

consultant has finished the answer, that answer has ended

I get the word?

PRESIDENT - After. After the prosecution has completed their examination. Please, go on then.

Prosecutor DR COMFORTABLE - So, the amount defined as that thing that you ... I unfortunately I did French, however, low copy number is fixed or variable, in the sense that all the authors give a quantitative indication of the same or there are fluctuations from author to author and scientist to scientist?

CONSULTANT - Normally in the literature speaks of less than 100 picograms, then if one wants to see it as 150 low copy number and apply the same guidelines do not think there is anyone that prohibits him.
Prosecutor DR COMFORTABLE - I do not know these names

right, I can ...

PRESIDENT - Excuse me, but I did not understand this answer, no one forbids him what it can do so arbitrary ...

CONSULTANT - No in the sense that most of the work ... President - Or has the same dignity ...

CONSULTANT - Most of the work that I know speak of low copy number as less than 100 picograms, and is one of the jobs I think that if Gill has done precisely that is one of the leading forensic geneticists contact us if there's someone else as a low copy number means the higher amounts of DNA that I am not aware that I do not know, I answer for what my knowledge, we usually treat the laboratory as low copy number when they are less than 100 picograms .

Prosecutor DR COMFORTABLE - So there is, however, a

Protocol, a protocol or guidelines, however, that ... a specific guideline?

CONSULTANT - So far as I know, but I think in all articles that I mentioned before there is a definition of a threshold, above threshold when we talk we analyze the electropherogram then tells us all the results that are below 50 RFU this is the only threshold from what I ...

Prosecutor DR COMFORTABLE - I show two jobs

strictly scientific writings in English, if you know them, is one that shows how to limit 200 and 250 picograms.

CONSULTANT - Then one of the jobs that have been quoted talking about values in excess of those that I have defined as low copy number 250 picograms and that is what usually ... that is what the manufacturers tell you to consider how low copy number, I'm talking about something that even the lowest of the low copy number 100 picogram quantities then even lower.

Prosecutor DR COMFORTABLE - Ah ... but to say not what I wanted to ask again ...

CONSULTANT - No, then there is ...

Prosecutor DR COMFORTABLE - That there is a quantitative limit ...

CONSULTANT - No then I have ...

Prosecutor DR COMFORTABLE - Scientifically certificate recognized by all ...

CONSULTANT - Yes that yes, yes in my work is reported as picograms per 100.

ATTORNEY Ghirga - Main.

CONSULTANT - Less than 100 picograms.

PRESIDENT - I'm sorry that the end of low copy number if you can ... so also the letters to register ...

CONSULTANT - LOW NUMBER detached CO PY.

PRESIDENT - For the purposes of phonetic transcription which would otherwise be seen and then you never know who (inc.) both.
CONSULTANT - but many terms have no equivalent in Italian

Prosecutor DR COMFORTABLE - Listen, is that the repetition of the amplification for a low copy number is especially important ... is especially important in confirming the presence of spurious alleles?
CONSULTANT - Yes
Prosecutor DR COMFORTABLE - The results?

CONSULTANT - To ensure spurious alleles, ie alleles that are created artificially without being present, yes.
Prosecutor DR COMFORTABLE - The show that in this case there are spurious alleles?
CONSULTANT - There are alleles ...

Prosecutor DR COMFORTABLE - We always talk about the knife.
CONSULTANT - So I can not know because there was a repetition, I must assume that I can not ... Prosecutor DR COMFORTABLE - Before beginning, the beginning.
CONSULTANT - Can I finish?

Prosecutor DR COMFORTABLE - Yes

CONSULTANT - I have to assume that when I get a profile I can not know who belongs there and then at that point I have to ... if I repeat and I have two times the same genetic profile, then at that point there, then step to the comparison, I can not make a comparison without first verifying that the genetic profile that is the real me comes from my ... extracted.
Prosecutor DR COMFORTABLE - So, then she talked about guidelines that advise to concentrate the sample.
CONSULTANT - Yes

Prosecutor DR COMFORTABLE - This council or this is not recommended for such information?
CONSULTANT - So while for the chance to repeat the investigation because if I focus I have a smaller amount of volume we say that contains my DNA and then amplify it when I go to use all in one amplifier and then to this point I have no way to verify what I get which is what the guideline instead tells me to do.
Prosecutor DR COMFORTABLE - There is a litmus test

in other words.

CONSULTANT - Yes exactly.

Prosecutor DR COMFORTABLE - The so-called litmus test that does not exclude, however, that the first division is correct? ATTORNEY Ghirga - This is another evaluation.
CONSULTANT - That the first?

Prosecutor DR COMFORTABLE - The litmus test is done to the divisions, is not it? Or multiply.
CONSULTANT - For multiplication.

Prosecutor DR COMFORTABLE - This is, in fact all right 'I also did the high school as well as French ... multiplications in the litmus test, I say if you are not the litmus test can not be excluded that the multiplication is correct? CONSULTANT - can not be excluded, however, if I have a guideline that I recommend it to be more quiet even in the present results because unfortunately we are not talking or potatoes or onions, but we're talking about something that still goes to influence. ..

Prosecutor DR COMFORTABLE - Sure.

CONSULTANT - The performance of a certain ...

Prosecutor DR COMFORTABLE - Sure, but if you as a geneticist and as an analyst has very little material, if it dilutes what happens? It could happen that can not get ...

CONSULTANT - Then it ...

Prosecutor DR COMFORTABLE - At useful to have a profile? CONSULTANT - For the three works that I have presented only one recommended to dilute while others advise to use the amount that would normally not say then was removed to concentrate or dilute say, that the dilution is by a single author but then the other takes guidelines then you say differs from other guidelines only for this thing to dilution.

Prosecutor DR COMFORTABLE - But it appears that there are

guidelines also advise that instead of lice ... that is, not recommended to concentrate the sample for not focusing ions also? That is so for a purpose different from that of the repeatability of amplification?

CONSULTANT - then frankly what I've read I

touched upon this point, it is possible that I am going to concentrate concentrating the substances that I go to inhibit the amplification reaction, for example in the presence of blood could go to focus lyme which is an inhibitor of the amplification reaction and then then possibly not even get a result so if I concentrate, however, increase the amount of that ... not only DNA but also let's say that the substance is then to inhibit, ions often inhibit the amplification reaction that bind magnesium.

Prosecutor DR COMFORTABLE - And is that our sample had ions?

CONSULTANT - I can not know.

Prosecutor COMFORTABLE DR - He may not know. The result in the immediate vicinity of the sample B they have been another?

CONSULTANT - Yeah, right ... not when there was a streak at least from what I understand, yes, but then there was the streak had been made clear that

around the other samples, the area around.

Prosecutor DR convenient - and it knows the result? CONSULTANT - The outcome of this sample was negative.

Prosecutor DR COMFORTABLE - Negative. So the mitochondrial DNA, she spoke in that proceeding further that Dr. Stephen ... examination here is that the mitochondrial Dr. Stefanoni you think would have done and not done, right?

CONSULTANT - Yes

Prosecutor DR COMFORTABLE - AND 'ID this test?

CONSULTANT - So it is not identifying because as I said ... then it has the same discriminatory power of the autosomal markers or those that are located on chromosomes inside the nucleus, why? Because as we said before, perhaps I do not remember if I said the past is now also a bit 'of time after exposure, the DNA of the nucleus is in part inherited from his father and partly from his mother while mitochondrial DNA is inherited only from mother so it is obvious that all those people who have an ancestor in common women have the same mitochondrial DNA, however, it is also true that when I get training follicles and a profile if I'm going to compare it definitely exclude that it belongs to someone, not I can tell you how I can say with autosomal genetic profile that is present in a subject every one hundred billion this with the mitochondrial I can not do, however, is certainly very useful for the exclusion, and possible that I will never compare to a similar result the autosomal, is a bit 'the same speech that you can do with the study of Y chromosome markers in the sense that they are inherited only the paternal line then passed to males and therefore the people who have a common ancestor not too males have far the same Y chromosome, is more or less the same discriminatory power, we say that the greatest discriminatory power derives from a study of autosomal markers located on chromosomes.

Prosecutor DR COMFORTABLE - Yes but the 'share-

The same sequence is the same mitochondrial shareability of the Y chromosome?

CONSULTANT - What does it mean ...

Prosecutor DR COMFORTABLE - has the same frequency? CONSULTANT - depends on mutations that I'm going to find on ...

Prosecutor DR COMFORTABLE - according to its No.

ex

CONSULTANT - depends on mutations ...

Prosecutor DR COMFORTABLE - (overlapping voices). CONSULTANT - depends on mutations in mitochondrial DNA that I am because I can have some mutations are very rare and then there, then the probability increases to assign one specific track rather than when I have a sequence where mutations are shared by 99 percent of population.

Prosecutor DR COMFORTABLE - Well, last question, then cited a history of American courts and the English courts, has a history of Italian courts that have considered unreliable DNA analysis?

CONSULTANT - No I am not aware of.

Prosecutor DR COMFORTABLE - Thank you, no question.

PRESIDENT - The plaintiffs if they have ...

ATTORNEY MARESCA - Yes Dr. Maresca Lawyer for the plaintiffs, so you have specified as the first secular, so it is defined, but our consultant Dr. Torricelli is secular, is not it? So she said to take care of Forensic Genetics

forensic medicine as a specialty as I understand it? CONSULTANT - Yes, _e say that there is a specialization of a directive ... ie it does not say that the forensic geneticist is to be a forensic rather than a biologist rather than ... it is obvious that inside there is a problem

of forensic identification, identification can be carried out in different ways including forensic genetics.

ATTORNEY MARESCA - All right, then made a list of its

links all coroners? CONSULTANT - Yes

ATTORNEY MARESCA - There are biologists in that list you made?

CONSULTANT - So I do not think, certainly the ones I

should all be mentioned, however, forensic scientists can always be wrong.

ATTORNEY MARESCA - No I ask because the Doctor

Torricelli is a biologist and vice versa is not forensic. CONSULTANT - Yes indeed I did not ...

ATTORNEY MARESCA - University secular and so, okay.

CONSULTANT - Yes

ATTORNEY MARESCA - So she takes care of forensic genetics has said from?

CONSULTANT - 1994, '93 '94 when I made the claim.

ATTORNEY MARESCA - So in the last 15 years has found cases of contamination ...

CONSULTANT - I found ...

ATTORNEY MARESCA - Where contamination has occurred?

CONSULTANT - Yes, even in ... that we as ... no one knows the university is only concerned with legal cases of interest but also does research and then you manipulate samples may also have no interest from the point of view, however, say justice is possible to see contamination.

ATTORNEY MARESCA - limit ourselves to the court, she happened to meet with cases of contamination?

CONSULTANT - Yes too.

ATTORNEY MARESCA - For what reasons?

CONSULTANT - Example exchange of samples or samples that were still handled together. If you ask me the name of because I can not say.

ATTORNEY MARESCA - No, no, no, just wondering the causes. Of course!

mixed findings of the small bathroom, okay, maybe I did not ... I have not followed well, I do not know them commented.

CONSULTANT - No I have not commented. ATTORNEY MARESCA - we can comment them? CONSULTANT - If you like.

ATTORNEY MARESCA - What is your assessment, are reliable,

may be subject to contamination, an assessment is wrong to speak of the sink, bidet ...

ATTORNEY Ghirga - this President is not a cross examination? ATTORNEY MARESCA - What?

PRESIDENT - No, no, notes ... and on this I think there

opposition is ...

REPRESENTED BY WIDOW - There is opposition because this topic has not been analyzed by us then cross examination it seems to me that there are foreclosures.

ATTORNEY MARESCA - Perfect, is not it being your consultant, okay I'll stop here. If I understand you talked about the contamination hypothesis, I refer to the knife to correct me if I'm wrong order for her the possibility of contamination was linked to the laboratory activities for the knife, possibly as a hypothesis, is that correct?

CONSULTANT - I think it's more ... laboratory, but ... but laboratory is not only understood the laboratory handling the tubes, I intend laboratory since which the specimen is entered in the laboratory, is different because I am riding ...

ATTORNEY MARESCA - There is a laboratory table, right? CONSULTANT - There is a?

ATTORNEY MARESCA - laboratory bench.

CONSULTANT - A laboratory table, what ...

ATTORNEY MARESCA - On which you work, on which you work. CONSULTANT - Yes, Yes, yes the counter.

MARESCA ATTORNEY - Well, then comes the finding in the laboratory course is downloaded, find, and put on the table, okay?

CONSULTANT - Yes

ATTORNEY MARESCA - So if I understand correctly you are referring to the hypothesis of contamination within the laboratory, it is right or not?

CONSULTANT - As part of the whole process of laboratory investigation could have happened at the beginning that had occurred even before the extraction, I am most privileged to the hypothesis that a subsequent contamination when it had already begun the process of this sample, however, nothing prevents the contamination may have occurred before I was doing the collection or when I made the withdrawal.

ATTORNEY MARESCA - Always in the lab?

CONSULTANT - I mean ... yes.

ATTORNEY MARESCA - So you mean that the contamination may have occurred in the repertoire, transmission of the knife to the lab in Rome and so on?

CONSULTANT - I can not exclude, however, from how it had been said in previous hearings even before the GUP this knife would be finding the staff of the Scientific Police, if I remember correct me if I'm wrong, personnel ...

ATTORNEY MARESCA - He's wrong.

CONSULTANT - Am I wrong? ATTORNEY MARESCA - Yes

CONSULTANT - So was finding personnel of the Police

Scientific Rome? ATTORNEY MARESCA - No.

CONSULTANT - No of Perugia, in fact I did you end up. ATTORNEY MARESCA - even from the lab of Perugia.

ITEMS - (in background).

CONSULTANT - From the squad, the squad is good, but not by those who then subsequently worked in the laboratory.

ATTORNEY MARESCA - Yes, but I ask you as a consultant

expressed a wonder of the evaluation, so she refers to the hypothesis of contamination in the laboratory. CONSULTANT - Privilege so this hypothesis.

MARESCA ATTORNEY - Well, if not we ... she took care of artifacts related to the position of course urge. CONSULTANT - No I have not looked into this, simply ask the State's assessment, has not been examined so quickly give up the demand. I ended up with the President.

PRESIDENT - To deplete there are questions of Defense ... I pray to drain ...

WIDOW FROM ATTORNEY - Lawyer Again Dalla Vedova, just some clarifications. Doctor of overseeing the activities in a laboratory there are records of daily activities?

CONSULTANT - then I think it is good practice and then especially if you are certifying these should exist ... or better when it definitely should be certified to exist, what happens before the certification is enough I think at the discretion of each individual laboratory, for example, we each of us when

he finds the work of his notes, some information does so precisely that it's all on a computer or tables, and those who like me takes a piece of paper and writes what he is doing.

REPRESENTED BY WIDOW - She can confirm that the documents

in acts that were done and analyzed 228 exhibits were made by these 400 analyzed traces of DNA. CONSULTANT - In one of the images that he had presented to Dr. Stefanoni I think so, now that I do not remember the exact numbers, however, we are of that order.

REPRESENTED BY WIDOW - She has seen a record in the acts in

his disposal ... CONSULTANT - No.

REPRESENTED BY WIDOW - Of these 460 DNA analysis?

CONSULTANT - No I do not believe in the acts ...

REPRESENTED BY WIDOW - You saw how many of these 460 were related to the Meredith Kercher?

CONSULTANT - I think most now do not know the number but most of it.

REPRESENTED BY WIDOW - you know which of the machines has been

used to know? CONSULTANT - No.

REPRESENTED BY WIDOW - Look, but when one does a service like

I assume that your lab I come to you and ask for an investigation of DNA as I do for a disclaimer of authorship you give me a certificate, a result and I also certifies the accuracy of the analysis in any way?

CONSULTANT - So when you come for an investigation of this

Typically, the laboratory issues a report in when we have the certification will be confirmation that this is a quality that is the ISO 9001 certification for the quality we need, now as we said this morning will not exist

of taxation in our country about what laboratories should have if ISO 9001 rather than 17025, I know that many laboratories as it has already said Dr. Stefanoni also his are working to make this certification as we are doing, then we say that when we got the certification we can also say that the quality is there, just at this time we release a

report and perhaps the quality is based more on experience and type of investigations that have been carried out so far, we say there is no one to tell the public prosecutor, for example, "foo rather than appoint someone for that lab is not certified and that other" here.
REPRESENTED BY WIDOW - But on the burden of contamination

absolute impossibility of proving that a declaration has been free from contamination at the laboratory it is not certain to me that I come to ask the service?

CONSULTANT - No, I think that it is up to those who have completed the survey.

REPRESENTED BY WIDOW - So even in this case since we are ...

PROSECUTOR DR. Mignini - It 'a question of procedure that is outside the jurisdiction of the consultant.

REPRESENTED BY WIDOW - No. I asked her how the laboratory

behave.

PROSECUTOR DR. Mignini - I do not understand the burden of proof of contamination ...

PRESIDENT - Yes, yes, so there is this opposition is not accepted, but maybe also because he asked for his experience when he makes this analysis asks the Defender the burden of proof, but you brought that proof of the goodness of ' examination, she says, "it is up to the lab" and in this respect is fine, but as an experience can be procedural, as a practice test that you give the result offered is good in what way?

CONSULTANT - But right now there is nothing that will certify that what you have done is in compliance with a rule, when the laboratory is certified for quality will say, "Look, that - and then tells you to ISO 9001 - see that the laboratory meets all the quality rules and then what you have produced is of good quality "then the interpretation is correct or wrong this is not me can ... ie not having the sticker is that quality means that I can no longer make mistakes, that is, the label tells me that my quality of equipment, that the procedure I used is a procedure developed good quality and therefore can produce a work good quality.

CHAIRMAN - So is respect for the process of

laboratory? CONSULTANT - Yes

CHAIRMAN - This is proof that the laboratory offers?

CONSULTANT - Yes this is what it offers. PRESIDENT - Please.

REPRESENTED BY WIDOW - But going back to doing a case study

When I come and ask a finding of paternity, then I'm like a challenge to say: "Dr. Gino I think this result is flawed because she does not give me evidence of contamination or possible contamination before or after" the finding. .. Or when he was finding in the car, she would do to counter what I would see the duplication of amplification?

CONSULTANT - I though we were in the case of paternity so where we have a large amount of material would do the picking and I would do it all over again to make them see that what he has achieved a good result, a result that is certain.

REPRESENTED BY WIDOW - So if the assumption of finding 36

She had been the author of the evaluation in front of my objection to a possible contamination she would not be able to give me proof that this contamination is absolutely excluded and that the protocols have been met? PROSECUTOR DR. Mignini - There is opposition to this ... are questions that repeat what I have ... the opposition before, these are questions about ... of a procedural nature that the consultant can not ... on which it can not respond.

PRESIDENT - Basically the consultant has already given an answer when he said that an examination is not repeatable so the answer has been provided, there will then actually be ... during the discussion will be evaluated ... Please. REPRESENTED BY WIDOW - Certainly, certainly will be evaluated. PRESIDENT - Because the consultant has already given this ... REPRESENTED BY WIDOW - Fine. Look, when you make a percentage allocation of the DNA to a person refers to a population, a group,

there being a database works exactly as you also have common elements there to say this information to give this information?

CONSULTANT - There are different ways of expressing the probability that the genetic profile can be found within a population, usually in our laboratory unless we refer it to Y. .. the Y chromosome and mitochondrial DNA data banks that have been made for these two types of markers, when we speak of autosomal markers normally use these frequencies ... that variants of these autosomal markers are within a target population or if they have been carefully studied population genetics in which you go to see what is the frequency of that particu_ar variation in the Caucasian population rather than to 'inside of a

restricted within the population of the Caucasian population that can be in the Italian population, or do not know I can do the evaluation of a population ... I know that we put the comparison is done for example with a subject of Moroccan origin from Morocco so I can then use the frequencies of that population to make this comparison and see how that profile that I obtained from the trace is the profile of the subject that I I went to investigate are unique within that population or are present within that population. The Moroccan population comes to mind because it is a population that often creates problems because we have to do the calculations for two different types of people, the population of Arab origin and the people of Berber origin then becomes difficult even within the same population, then giving references, usually using very large populations, for example, for us ... in this case for example I used as we had people who came from different places but all of Caucasian origin I used the frequencies of the Caucasian population here.

REPRESENTED BY WIDOW - Listen to another explanation, she always

on the contamination has made a distinction between contamination and contamination in the reporting in the lab, I would like you to explain to the Court that another important phenomenon is the degradation or modification of the DNA to the weather and I ask in relation to findings 36 Knife finding that appears to have been inside the kitchen of Sollecito in a place card holder, then placed in a box of a shirt and then sent to Rome for analysis. Now you may think that through a repertoire of such agents (inc.) can degrade the DNA evidence?

CONSULTANT - Anything is possible, the degradation can occur by any finding, we often do not know we face a trail of blood, for example perhaps in this case there were traces of blood from which very large, however, has not managed to extract the DNA were still useful because of mildew or otherwise altered such that mold and bacteria produced

enzymes that degrade and then went to break up my DNA, so the contamination can occur at any time whether there is so much DNA that there is little DNA cellular material that is not so much cellular material, will depend on the conditions, for example, is often recommended the preservation of biological material that can be biological material such as on a garment in plastic bags. Why? What happens? If the garment is completely dry, there's this proliferation of molds and bacteria that break down while this is not going to happen if for example the garment was lying, that was dried and then kept in paper bags, the degradation is a phenomenon that can occur at any time based on the environment in which there is a finding.

REPRESENTED BY WIDOW - Then another consideration of character

conclusive, these findings before we saw the numbers and considering the fact that we are ensuring a murder, I ask: but in the room of the victim Meredith Kercher, there are traces of DNA of Amanda Knox?

CONSULTANT - If I remember right not.

REPRESENTED BY WIDOW - And if you remember where are the tracks that were identified, which have been identified investigating the activity in the house?

CONSULTANT - definitely in the house and the home of Sollecito ...

REPRESENTED BY WIDOW - By Amanda Knox. CONSULTANT - By Amanda Knox yes.

REPRESENTED BY WIDOW - And in the house remembers where you are ...

CONSULTANT - Then in his room, the room of Romanelli, and then probably in the living room and small bathroom in the hallway.

REPRESENTED BY WIDOW - But it is strange to find Dr. traces of DNA in the bathroom, the room and the hallway where you live? At home I would find if she was now the DNA in my bathroom in the hallway and into my room?

CONSULTANT - I believe so.

REPRESENTED BY WIDOW - But the room that the victim's DNA was found on someone else?

CONSULTANT - In the room the victim from the results that have been proposed so.

REPRESENTED BY WIDOW - Guede For example ... CONSULTANT - a Guede, certainly Guede. REPRESENTED BY WIDOW - More than a trace? CONSULTANT - More than a trace yes.

REPRESENTED BY WIDOW - No further questions, thanks.

CHAIRMAN - There are other questions. Excuse me first ask the Defender on degradation, but the degradation of what is the effect?

CONSULTANT - The effect is to obtain DNA fragments for

which I can still have the option of ... PRESIDENT - It is not that enhances the DNA but the ... CONSULTANT - Decreases.

PRESIDENT - The decreases.

CONSULTANT - depends But even if ... then it could not alter it because it depends on where he is going to act this degradation, if action is taken in those parts that I am interested in is obvious that decreases the amount of DNA of interest to me, but if it does not go to interact, to break the molecule of DNA remember that these fragment as perhaps

I've said before is that we study we will study all the DNA fragments, in this case have been studied more than the usual fifteen marcatori autosomal marker of sex, so what happens we have portions of DNA, if my degradation should not be to target these regions that I'm going to study could have a result that is the same as if I had throughout the entire molecule of DNA, these phenomena are, however, certainly not it increases, decreases it.

PRESIDENT - That is the fact that the blade of the knife was

found that DNA was then brought back to Amanda Knox, but there may be contamination was as you said, must be ruled out that there has been degradation?

CONSULTANT - I can not exclude it because we said ... PRESIDENT - But the fact that it has been found ...

CONSULTANT - Yes, however, was found in small amounts so this could also give me an indication of a possible ... I can not be excluded.

CHAIRMAN - So you fell ...

CONSULTANT - E 'decreased, in fact we have seen the genetic profile if we ...

PRESIDENT - Then he recorded the amount?

CONSULTANT - If there has been degradation could have affected the quantity.

PRESIDENT - Well, then I did not understand the contamination, the laboratory, if maybe can give ... as would occur ... CONSULTANT - How can I check the contamination in the laboratory? I speak in general.

PRESIDENT - But in this case.

CONSULTANT - In this case, it could happen that the finding was manipulated along with other artifacts containing biological material belonging to the victim in fact, maybe not changing the gloves, perhaps using the tips that have not been changed, that is, are things that can happen how much attention to a face are things that especially when you work with many samples the error is human, unfortunately we are not machines and error we can

be or contamination could have occurred later for the same effect which we have defined the first amplified by the existing material that had been amplified previously, this material was contaminated so not all the DNA fragments but only those small cars may have contaminated, may have contaminated the tips, pipettes, the place where I make my then that sample B exhibit 36 and then may have moved, is called carry over this type of process. CHAIRMAN - This is not, however, she exposes that exposes it on the basis of objective evidence found of her but on the basis ...

CONSULTANT - experience.

PRESIDENT - Of more than a possibility and a mere ...

CONSULTANT - Based on the experience and the literature. PRESIDENT - Well, and she believes that those who carry out this activity takes into account those situations that she has been precisely to avoid contamination or ...

CONSULTANT - I believe that each laboratory will take this into account, however, as I said before the error is always there, because I always like to finish ...

PRESIDENT - That is, there can be no more.

CONSULTANT - Sure, in the sense that it can not be excluded, the error may lie in every operation we do because we are not computers.

ATTORNEY Ghirga - Talk about random error.

PRESIDENT - No, no chance here. Ghirga ATTORNEY - (Out of microphone).

PRESIDENT - Well, if there are other questions ...

ATTORNEY MARESCA - Can a President on ... always ... PRESIDENT - Yes on these last questions, please.

ATTORNEY MARESCA - Dr. So, she had ... responded

to the President on the concept of degradation and told us that so the knife can not be pre lab was contaminated, but degraded, right?

CONSULTANT - could, could. ATTORNEY MARESCA - May. CONSULTANT - May.

ATTORNEY MARESCA - So since we know that the knife is

been finding with a paper bag, so the slopes ... and then sent in a box and so on degradation as a natural process, biological, I do not know how you explain it to me compared to what happens ... the material that fixes the find? I do not know if I have explained.

CONSULTANT - No.

ATTORNEY MARESCA - then we knives around the paper and cardboard, it is sent to the laboratory of Dr. Stefanoni, then paper and cardboard as if it affects the degradation influence, she said it may have been degraded. It is a natural process, biological or cardboard influence the findings?

Consultant - The board itself does not believe it can influence the findings unless the board is full of bacteria and mold that I sent to my findings are, however, the cartoon by itself as it is ...

ATTORNEY MARESCA - Then in that case we speak of

contamination of degradation?

WITNESS - No, oh no ... because the mold ATTORNEY MARESCA - Let's talk about ...

CONSULTANT - Yes of course, mold and bacteria contamination that can help me, however, should not be interpreted as contamination of which I spoke earlier in the sense that the contamination by mold or bacterial DNA is not revealed in the subsequent laboratory investigations, in the sense that we use markers that are specific to humans than in primates, however, the monkeys are not normally in

our house, so here goes I do not alter the result of a genetic profile in the sense that there was no degradation, and that instead I can go in altering the bacteria or mold what it does, and cuts may be I work for my DNA with less DNA but the DNA that was not introduce another.

ATTORNEY MARESCA - So then does not affect the result of DNA?

CONSULTANT - can influence, in that it can also make

zero that I can not get anything because my DNA is so degraded that I can not seem to amplify it more.

ATTORNEY MARESCA - So let's get back to the concept that (inc.)

President of quantity. CONSULTANT - Yes, yes.

ATTORNEY MARESCA - E 'right?

CONSULTANT - Yes, yes. ATTORNEY MARESCA - Thanks.
CHAIRMAN - If there are other questions the consultant is
dismissed.

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