Testimony of Conti-Vecchiotti
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This report is opened at 09:00.

The President states that the minutes for the current investigation are prepared with the stenotype in integral form of the sensitivity and complexity of the facts of the trial, in accordance with Article 134 and following of the Code of Criminal Procedure.

Constitution of the parties. (Omitted).

It is recognized that the experts are Professor Stefano Conti and Professor Carla Vecchiotti, experts appointed by this Court by order made on 18 December 2010.

It is recognized also that there are the following Consultants: Knox defense, Dr. Walter and Dr. Sara Gino Patumi; Sollecito defense, Professor Adriano Tagliabracci and Professor Valerio Honors;

Prosecutor's Office, Dr. Patrizia Stefanoni and Professor Giuseppe Novelli;

Kercher Family plaintiffs, Professor Francesca Torricelli, and Professor Anna Lucia Nurini.

PRESIDENT - We introduce the experts who will exhibit their elaborate. Please, go on then.
EXAMINATION OF EXPERTS - PROF. ACCOUNTS AND PROF rather old

PRESIDENT - The oath you have already paid at the time the order is placed. At this point please illustrate the relationship with which you have fulfilled the question placed there.

Vecchiotti C. - We had been in charge on January 22, 00012877, Exhibit 165b contained in a 15 ml test tube with red screw cap. The knife instead of ... a large knife overall length of 31 cm, as well as also reported by the minutes, with 17 cm long blade and handle of black, Exhibit 36, which is in the envelope, handed over the envelope of the Scientific Police Security number 00015662 and this Exhibit 36 is locked in a brown cardboard box, by means of a security seal of red color having the identification number of four zeros 179. This is the knife at the time of posting. Description of Exhibit 36. Sorry, but there are many images that need to be reported. Then, the Exhibit 36, which is the knife appeared to our observation, as you saw earlier, closed inside a transparent plastic bag of the State Police, sealed precisely with this rigid plastic tie red. A first observation that was seen in this plastic bag, the object inside the sealed envelope, it brought out some fine streaks on the right side because they still remained blocked, remained locked in that position, that the departure of the blade continued until about the medial half of the blade itself. We then proceeded to disigillatura the envelope with sterile scissors. So this knife of the brand, the brand appears to be Arnold, stainless steel manufactured in Italy, which is affixed to the left side then on the opposite side from what we are seeing at the moment but we will see after turning the blade. I note how the product characteristics of this product cutlery brand Arnold, as is apparent from the card manufacturer's turns out to be a 420 stainless steel blade AICI, the AICI 420 is a type of stainless steel according to the American nomenclature, which are the blades printed and polished. The handle has a shape, roughly in the shape of quadrilateral, with a size of about 3 inches by 6 to 6, 6.6 with the blade inserted in the center which is to be held, so it is not movable nor moves. The length of the blade is about 17.5 cm along the back and along the cutting edge 18 cm, with a height of about 3 cm and thickness of the edge of the blade, taken from the edge of the blade of approximately 1.5 millimeters. On the right side, always on the right side of this is confirmed then the vision, the visual presence of these thin streaks that had already highlighted within the sealed envelope, some of which are of type curvilinear, you see that go down and that extend from the tip to about one half of the blade and on the whole surface of the height of the blade itself. At the level of the leading edge of the blade with the handle there is an area of darker color, which is this, another lighter color on almost the entire height of the blade to a thickness of about 0.5 cm corresponding then up to the beak of a flute, here this part of the knife blade. Also on this right side, and exactly at the level of the leading edge of the blade on the handle, showing the presence of dark-colored material which extends over the entire height of the blade, this. I think you can see well from ... for

the entire height of the blade to a thickness of about a millimeter and up to live ... and at the level of the chamfer practically about two millimeters. Always on the right side, at the level of the back of the blade can be seen even small streaks, in particular these, placed diagonally which extend toward the center to a length of about 6 cm, the upper edge of the back blade presents no alteration of the form, as you can see. On the left side of the blade, where it appears the brand of the manufacturer Marietti, we highlight here too thin streaks, here they are, which extend approximately in the middle of the blade. At the level of the leading edge, here too, the blade on the handle, these are the striations, this is an area of darker color as well as was also the other side on the right edge, which extends to a height of the blade for a maximum size of about 0.6 cm and for almost 1 cm at a lower level in correspondence of the beak of a flute. Also in this level, at the level of the leading edge of the blade with the handle, the color material, this material is present in a dark color, extended to approximately the thickness of one millimeter. The upper edge of the back blade, this here is a view from the top downwards, presents no alterations, while in ... along the cutting edge there are some elements of discontinuity of the blade, here they are, these small incisions that can, which can be seen, less than a millimeter depth that extend for a length of about 11 cm with respect to the total length of the blade.

Vecchiotti C. - So, once ...

Voices in the background.

Vecchiotti C. - Let's say that we can read here quite easily, otherwise it would not have been possible. Then, on March 22 we have exhibited our work plan that has been agreed to with all the other advisers of the parties, that is to proceed through the genetic diagnosis of blood, the specific diagnosis of blood, looking for any cells with a specific staining and microscopic observation, extraction of DNA from each individual specimen and then the quantification of DNA by Real Time as required by the consultants of the parties. For laboratory analysis of the Exhibit 36 we have made withdrawals facing right images that were found on the Technical Report of Investigations Forensic Genetics of the Scientific Police there are strict guidelines and also behind precise indications of Dr. Stefanoni, what were the areas that were already been examined in such a way that you can make new withdrawals, then the three areas have been identified on the handle of the knife, which we attributed the same letters that were assigned by the technical consultant and four areas on the blade, just the letters B, C, and G just to avoid confusion. Then it was always agreed with all consultants to perform two additional samples, ie both those in the point of contact between the blade and the handle, in the two opposite sides of the knife and that have been indicated by the letter H and the letter I . It should be noted that, even before the start of the appraisals or just the best of analysis, all of the counters, work surfaces and shelves, were decontaminated by sodium hypochlorite and all operations were carried out wearing masks and gowns This not only us but all of the consultants and all those present during his investigation. Here, here now are shown, maybe send a little bit faster, are indicated by the letters exactly, then the points will be those of sampling that there have been kindly suggested by Dr. Stefanoni and at that point you have performed a genetic diagnosis of blood using the test that is called "Combur Test" which only serves to genetic diagnosis. Now, for the genetic diagnosis will typically use substances that are colorless in the reduced state and that stain in the presence of a peroxidase, in this case if there had been a peroxidase blood would tacked by the color yellow that has the small square there and then we'll see maybe better in other slides, probably in the next one, here it is, he tacked a blue green color. As you can see has remained the same, which means that there were peroxidase. On the same point, simultaneously, has been taken using a sterile swab, the material that possibly could be immobilized at that point and subsequently, now we will see, each swab was immediately inserted into the respective container. For each new sample there was a change of gloves and then also everything we had was absolutely sterile. This is the other sample B, where presumably both samples have been taken to the doctor, always on display, was also performed here "Combur test" and just as we can see the color has remained the same, the same procedure, now the spilled, perhaps fairly quickly because all of them are equal in the sense this is always the point C, always running the "Combur test" negative, removal of material on the handle there, we can move forward, always negative, I think it is clear, the F. .. this is the G always on display and always negative. The following is the letter H, which is the point of attack, this is the new sample we agreed, that letter H is the point of contact between the blade and the handle, even in this point has been tested for genetic diagnosis of blood that was negative and was performed by means of a levy buffer. The same thing on the other side, which is always attack the grip, "Combur test" negative, withdrawal, here you will probably

notice ... here you can see on the right side of the pad a color a little more intense, a little darker, I do not know if there is light in this way because for us ... here is there, that area, you will notice is a little bit darker. These are, again we left off ... these swabs are placed in their container and strips of "Combur test" that have been put next to demonstrate more negativity. So, this is the summary table of all of them negative reaction on the tracks. Now, let's see what has been done, more than this, of course, since we have done all of the pads, the pads were made by taking in the various areas, we also performed a negative control, which is another swab was inserted into the same sterile distilled water with which we made the levies, the cladding, so that it can be initiated at successive control investigations.

CONTI S. - Let's move on to the description of the exhibit 165b, bra hooks, the finding presented itself to our observation in a closed tube that was in this plastic bag and this is the moment when you open the envelope with test tube red cap of the State Police. It is emphasized that from photographic survey are many, many components of dark red color, scattered inside the cylinder to the bottom, and also near the cap. As you can see, here's the bottom, on the bottom of the tube. The hooks are, at the moment in which they were removed from the container the hooks were both without the eyelet sealing of the counterpart, ie in practice, the hook of the counterparty bra ie the sealing ring were present but only the two hooks and with initial extended parts of brownish-red color as well as reddish in color and are still partially detectable traces of whitish initial structure with which they were made the hooks. This here is the real hook and you still see a hook is still recognizable as the colored square that I am highlighting in this moment, in which the seam sealing is performed with the counterparty that is precisely the bottom end then with the hook which then goes on the ring. The other hook does not have, that other hook here practically no longer presents any shape element as completely deformed so as to have precisely inserted in the first with which collabisce partially due to the processes of rust that are present. The separation of these two elements, these two hooks involves the fragmentation of some components rusty, as can be seen here in the center.

Vecchiotti C. - So on these findings an attempt was made to perform genetic diagnosis of blood at different points on these hooks that have been labeled with letters L and M. The examination was performed always the same, ie both the "Combur test" with a result that as we can see is negative, or both was not present peroxidase. Here these are the hooks, this is the execution of the "Combur test", negative, these are the withdrawals made with sterile swabs as always, we see that the rust is particularly present so much so that it has a colorful way. Then, at this point we proceeded to the next stage, ie both to the extraction of DNA from both the specimen 36, that is, from the knife, as the infill that were performed on the hook of the bra. Swabs were 12 total including the negative extraction buffer and before proceeding, however, the extraction of DNA on each swab was taken a fragment of about two millimeters for two, this always as required by even the advisers of the parties, which experts concordavamo us perfectly, which were inserted later then analyzed in order to ascertain whether there was the presence of cellular elements. The swabs residues were then extracted with a system that is a very, very well known and that uses a resin that is magnetic and the DNA IQ SYSTEM. Now, this is a protocol indicative of the User's use of the kit, which has been used by us, it is probably unnecessary to dwell, naturally all the extractions were performed in the presence of advisers of the parties who were able to perform each step. Between an artifact and the other is always, has always been carried out the change of gloves and samples are then, you see, rigorously tested with use of sterile disposable tips that have filters, wearing masks, that means using all those tricks that were been previously illustrated. What has been done? The Real-Time, or is a quantification using equipment of last generation that is the Real-Time PCR 7500, and as requested by the consultants and always always agree precisely with the experts, was Quantifiler Duo DNA Quantification Kit, the Played Biosystem, which had an interesting feature, apart from its being designed to be used with the Real-Time 7500, but had ability to simultaneously measure both the total amount of human DNA as that of the human male DNA if it was present , so it was possible to obtain two pieces of information in a. And of course what is the Real-Time? To consider what is the real, at least the amount of DNA useful for any amplification. Now, among other things, has a specific internal control is based on a sequence of synthetic DNA, what is this internal control? That is to assess the performance of the Prosecutor and especially see if they exist or not, if, because of the inhibitors in case the sample that we examine, we can not know a priori if ever there may be inhibitors, this internal control if you do not amplify it gives an idea of PCR inhibition due to phenomena, to the substances that we could not have foreseen or otherwise not know about. Even in this case, all the surfaces were treated with disinfectant solutions, this is the protocol that was used, in all, 25 microliters, samples, here this is precisely the photo

of the screen, were placed in a plate of 96 wells, each sample was analyzed in triplicate, that is three times. And for all of the samples were entered two microliters of each reaction volume for up to a total volume of 25 microliters, and are indicated with the letters A to M. The MC is seen, probably do not see very well because it is a photo taken of the screen, however, there is, of course, was also amplified the negative control sample and the other hand, NTC, the Notes (inaudible) control DNA-free amplifiable. These are the conditions that have been used but were also the consultants who know exactly then attended, this is the standard curve with eight DNA concentrations ranging from 0.023 nanograms, picograms ie 23, 50 nanograms and all of the individual results that were obtained were printed on the same day in which they were performed and were provided to the consultants of the parties. Now, we see that in fact also be found on the expertise, we have not shown here because it seemed beside the point, however, say that most of the samples did not show, or at least there was no evidence the highest quantity of DNA as we say, if we are talking about more the 5 picograms that are found in sample I. Of course, since the positive control precisely as we shall see was present there were elements from the inhibition of PCR, here are the graphs of all of the samples. Probably you will not see colors well but ... sorry. After that, it is seen, considered precisely the negativity after all or at least the non-presence of a DNA that could be in sufficient quantity as to be analyzed, we proceeded also under other analysis, or both cytological analysis on fragments of cotton. Have been set up and what has been used in reality? They have been ... was used a cytocentrifugation in such a way that it works well, or it is the extract of these sample of two millimeters of tissue were centrifuged in a centrifuge ad hoc, cytocentrifuge, and were, say what has been extracted, the liquid extract from this this tissue was screened on a glass slide, each respectively on a glass slide in mono-layer in such a way as to highlight the presence of any type of cellular material or even more, because as we will see in reality then has been found in the other. The staining was performed with the ematossilima which is a common basic dye which is used to highlight cell structures acidic as the endoplasmic reticulum, the nucleic acids contained in the nucleus but we say that were then photographed, were first observed at microscope, always in the presence of all consultants, before staining then after staining. So here, in fact you can not see very well, but we have shown in another file that now I will show you pictures that are related to the slides as well as obtained. Here, so maybe ... so we decided to put them, extract them and put them ... these are of the granules that have been observed in the sample A and were photographed, in the sample B instead were not present any kind of grain, the same thing in the sample D, E in the sample were detected only a few granules as you see all have , and we will see even better, the sample F equally so are quite sporadic, this is even shattered, the sample negative G, this here is the sample that we say has been particularly, say this was the champion who was present at the point of attack between the blade and the handle of the knife and see that there is a large quantity of material type starch. Actually going on, going immediately to check the literature, it was done immediately then in the presence of all of the consultants, has been seen that these are precisely starches and there is particularly concentrated, are practically of the cellular elements of nature round or sometimes even are hexagonal, present the central structure in a radial pattern that here, this is perhaps even greater magnification, this is seen in a particularly obvious. The same thing in the sample I, there are less, that is, the I always corresponds to the attack of the blade with the handle but from the opposite side, even here there are these starch granules that you see always have all the same features. The sample L instead is one of the hooks, and it shows the material of reddish color which probably corresponds to rust, to elements rusty, the sample M had much more, the sample is negative instead result such. Then we tried to find in the literature that it was, what could be the nature of the starch, so we report illustrative purposes only what we found on the books of organic chemistry, either photos or starch, rye, barley because they have all of them as you see a central hilum which is what we have seen previously, millet, if we were to put towards the sample H and starch of rye would say that there may be similarities between the different types of starch also then We always put the same sample, but why do not we put this is that differed from the other, differed only for a quantity extremely high in comparison with other types of starch or starch and barley, buckwheat, millet and maize , this is probably what most resembles, at least in our opinion, this is fact. At this point we come to the conclusions that there was no evidence in the effects of the presence of cellular material in the test samples, some samples are AEFHI and in particular the sample H of the granules have a characteristic morphology with circular / hexagonal structure with central radially. This allowed us to state that this may have been the starch granules plant. So in practice we note that there are evidences of the presence of blood or blood substance on the knife. This is how we emerged, nor amount of DNA suitable for subsequent amplifications for which they were informed consultants who otherwise would have continued the

investigation, which would be passed on to consider the second part of the question that both the assessment of the technical advice that was performed by the State Police.

CONTI S. - At this point we have a moment to bring back a small engraved which normally are internationally recognized techniques of inspection and the findings repertazione also for the method of sampling. We have reported many it is a bit 'too long this presentation. On these investigative techniques at the crime scene was written in 2003 by a treaty of precise information on the correct approach to the crime scene by the general staff not qualified in addition to the qualified, but also has given very specific directions on what to do and what not to do at a crime scene. Why is that? To avoid the possibility of error extremely coarse or reduce the risk of contamination, especially in cases of determination on DNA, is always present around the corner. The starting point of the investigation inspection especially on DNA is that two bodies that come into contact each other with the material in various forms. This is the principle of Locard. The same principle obviously also supports scientifically the possibility of contamination and alteration by anyone else, including investigators, come into contact with the scene. So what to do? First thing absolutely limit the crime scene with the limitations primary and secondary, then the focus will be better if you will see that there are three forms of barriers to eliminate the possibility of contamination before arriving at the crime scene. Make a note of any change in the crime scene due to their actions, then the same investigator or third parties who have intervened on the site, to avoid introducing direct or indirect contamination within the scene and especially to accurately record the position of the objects prior to removal. Do not groped to put objects in their original position, so take care of themselves as a source of tampering with evidence, that is, be very careful as it moves within a scene. It also gives other indications as I said before, what not to do. We must not allow or make discriminatory access especially without verbalizing or change the status of the area, moving carelessly, then the use of protective clothing and disposable the move procedures and protocols according to well-defined procedures. We must not access or document not trust that other people will take your original condition in which it was found at the time of the discovery of the event. Among these also report the Crime scene management, is in 2009, where it gives a clear indication of a figure is extremely important that the crime scene manager, ie the person who is the coordinator, call the conductor, in this case the scene of crime, which has a well-defined task which is to ensure the proper conduct of significant transactions and documentation by all members of the team who will speak to the inspection and sampling. Furthermore, it must also be able to handle emergency situations through a proper flow of procedures, repeat procedures, protocols that are predetermined. Here is also the information on the integrity of the crime scene of the State of Missouri, written in 2006, which speaks of the correct procedures for the delimitation of the crime scene, precisely as I told you before, with multiple levels of containment. These multiple levels of containment help avoid possible conditions that may lead to alterations of the course of the tests that are present at the time of the visit and especially avoid contamination. And in particular: delimit an area outside understood as containment perimeter, within this area external to create an area of secondary containment and once after this secondary containment which is primary and finally the more sheltered location, the place of scene of the crime, the crime scene. So three levels of containment before arriving at the crime scene. Still, protection of the crime scene, laboratory of the State Police of the State of Louisiana, where they give a particular attention with respect to the floor why? Because the floor is the common place where they gather more evidence, normally, but there is a big but at the same time is also the greatest potential for contamination because you walk, you move, there are a lot of people coming in and out and so on. The guidelines of the U.S. Department of Justice and, in particular, always on the investigation of the crime scene in January of 2000 tell us that the contamination control and prevention and crosscontaminazione also in many scenes, and also in a variety of scenarios in which you can find is essential to maintain not only the safety of personnel but also the integrity of the evidence. Therefore suggest, in fact give precise instructions to limit access to the scene, follow the ways set out entry and exit from the scene, a kind of safety corridor that allows you to cross without contaminating or create disruptive actions on the elements that can be found in places adjacent to the crime scene. Then designate a safe area for waste and equipment, use of personal protective equipment, PPE, clean, sterilize or dispose of toolkits or equipment, protective equipment repertazione between the evidence and the various environments of the scene. So if there are multiple environments must change everything and put something new, clean, sterile. Use disposable equipment when you proceed directly to repertazione of biological samples, maintain the safety of the premises during procedures until the final expulsion from the crime scene. Close the exhibits to prevent contamination and cross-contamination, keep the evidence at the scene in an appropriate manner to prevent degradation or loss. Keep the evidence also means maintaining the proper chain of

custody so that these tests may then be resumed at a distance of time and can be used for further investigations in the case. The guidelines of the State Department of Justice of the United States always with regard to the investigation at the crime scene, 2004, tells us even more and with more emphasis, more precisely, how should designate areas or separate areas for waste products in the course of the investigation at the scene. Then establish an area or areas as the location for the equipment that are used, which can not enter into the crime scene, but rather should stay out because simply place something on the floor and could create the conditions predisposing to a contamination. Appoint a person responsible for the removal of waste, use of personal protective equipment specific to delete this specific personal equipment in specific containers for biohazard. Use equipment, clean equipment and disposable, throw the same disposable containers for the note that have been put to the biological risk which of course will be outside of the areas of security that have been established. Clean the reusable instruments before repertazione of each new track. In 2007, the Laboratory Division of the FBI with regard to section protocols and repertazione closure and preservation of traces of DNA gives precise instructions: If DNA testing is not adequately documented its origin can be challenged if the track is not adequately repertata can be lost biological activity and, if not properly sealed contamination may occur and, if not properly maintained can cause decomposition and deterioration. It also gives guidance on how to make the samples, do the repertazione, sorry: absorb suspected blood traces on a clean cotton swab, wipe the pad and seal in paper, and I emphasize this here, in paper or plastic bag. .. or envelope with sealed corners, do not use plastic containers. I stress this "do not use plastic bags" is written in bold. Traces of blood, dry clothing with suspected blood traces, wrap once dry, I emphasize again, clean paper, do not put wet or dry clothes in plastic or airtight containers. Place all debris or residue on clothing clean paper or envelope with sealed corners, absorb traces of dried blood found on items of non-removable cotton swab moistened with distilled water. Wipe the pad and close it in clean paper or an envelope with sealed corners. Here, too, refrigerate, freeze when dry, at room temperature away from light and moisture. Furthermore, the Office of Forensic Sciences of the State of New Jersey gives even through the manual of instructions in Rel 1 of 08 biological and blood on the tracks, particularly on blood scrupulously dry tracks and put them in a paper container sealed paper bag or wrap in clean, do not use plastic containers and paper clips. Knives bloody same procedure, traces of saliva same procedure, nail buffers under moisten the swab with distilled water and dab it under your nails, a buffer for each hand, air dry, seal, label and send to the laboratory. In procedure for the State Laboratory of the State of Missouri and the help of the North Carolina State Bureau of Investigation, in January 2010 then gives indications latest collection, closure and preservation of evidence: Avoid excessive heat, moisture, temperature fluctuations maintaining the conditions controlled environmental; allow a track moist or formed from biological fluids to dry before storage; preserve the evidence in appropriate containers, paper, envelopes, cartons, but not in plastic in order to avoid the formation of condensation; always close the exhibits in paper never use plastic containers. Security Considerations for biological tests: Always follow universal precautions, use clean gloves, do not shake the stain and avoid spreading fine particles that can float in the air. More on how to repertazione the Crime Laboratory of the State of Louisiana gives us the information: particular attention should be paid, as we mentioned previously, to the floor as this is the most common place where you collect the evidence and at the same time is also the largest potential for contamination. Giving information on repertazione traces of blood and body fluids, if the object can be transported in the laboratory stained wrap it in a sheet of paper or an envelope and send it to the lab if it can not be transported to absorb the trace of tissue dampened with water distilled to dry before sealing. For the transport, in order to prevent the cross-contamination can be put in a plastic container for not more than 2 hours. Upon arriving in the laboratory should be removed from the plastic, again for no more than two hours, and left to dry. At this point, put them in a container of paper and put it in a paper bag. Blood and body fluids moist: all the tracks must be closed separately to prevent crosscontaminazione, if it can be transported to the laboratory then put them in a container of paper or plastic if the shipping time is less than 2 hours, take in a safe place, allowing it to dry completely and close in a paper container. If it can not be transported in the laboratory, absorb the trace of a small piece of sterile cotton, paper or plastic close if the shipping time is always less than 2 hours, put in a safe place, let it dry completely, then close in paper container . Under no circumstances tracks wet or damp can stay in plastic or paper containers for more than 2 hours. Department of Justice of the state of Wisconsin, the State Crime Lab still gives us a handbook, a manual on the protocols and procedures of DNA, which tells us that we must make sure that the track is not affected or contaminated between the time of repertazione and examination time; tracks for DNA testing should always be closed paper or cardboard, even if they appear dry. Department of Justice, on the evidence of DNA in which they also give further details here: investigators and laboratory personnel should always wear disposable

gloves, use clean instruments, and avoid touching other objects including your own body and how environmental factors such as heat and moisture may accelerate the degradation of the DNA. Traces that are wet or damp closed plastic creates a breeding ground for bacteria that can destroy DNA evidence. Consequently, the biological evidence should be dried completely in the air, closed paper, properly labeled. In this way, the DNA can be stored for years without risk of degradation, even at room temperature. Interpol, let's Europe, gives us guidance on the monitoring group of experts in the DNA, Second Edition 2009., And here gives us an indication of the fluid samples. If blood, semen or saliva is present as a liquid or wet track should be withdrawn using a dry swab or pipette. Sterile cotton swabs are available for pick up traces of the crime scene. The track must be taken on an area of the buffer and not, and not rubbing over the entire surface of the head of the swab. Traces dry: Use the swab slightly moistened cloth to collect material for DNA concentrating the track in the smallest area possible. In all circumstances, it is also important to take a control sample, collect clothing and gloves and throw them in special containers. If at any stage during sampling, the sample is dropped or has come into contact with any surface, stress came into contact with any surface, ideally the procedure should be stopped and used a new DNA kit disposable. Guidelines anticontamination: extreme caution, such as wearing a mask, it must be taken if the person who is carrying out the sampling has a medical condition that causes loss of body fluids or particles, such as in the case of cold, cough or flu. All containers used for transport must be cleaned before and after use or, if possible, do not re-used, and the area of work of employees at the crime scene should be cleaned regularly with wipes containing chlorohexadine; wherever possible the presence of DNA must be used disposable material, if possible bring the container to the specimen and not the artifact to the container, disposable gloves should always be worn over the cuff and need to be changed for each specimen sample, it is necessary to change gloves during collection of different artifacts, then for each finding there must be a change of gloves, contact with the victim of suspected samples should be avoided at any time, make sure that each person at the crime scene no contact with the suspect and his clothes; manipulating objects should be kept to a minimum, and the items should not be reopened even for the purpose of interrogation. Multiple suspects, victims and their clothing must be kept separate at all times and should not come into contact with the same objects. And we also European regulations ENFSI which is an organization created in 1995 that includes 19 European countries that are creating manuals, have, there are already more precise indications on the standardization of protocols and procedures. I refer to the code that you see appear, on 1 May 2008. Section 4.3.2: The expert should also assess the risk of contamination or any other issue that could affect the integrity of the finds, before the findings provided for the examination are sent to the laboratory for examination, or before ' analysis begun; 5.1.1: particular emphasis should be given in the manual procedures to prevent contamination and the advice given in order to support individuals in the management of specific risks associated with the analysis; 5.1.3: the consideration of the precautions appropriate anti-contamination should be based not only on those for the analysis in question but for all types of testing that may be potentially available. If these include materials that might be required for subsequent analysis of DNA, extreme caution should be adopted by use of appropriate clothing including gloves and face mask, there is always a reference to Appendix 2 of this Code; 5.4.1: all the exhibits should be closed and sealed as soon as they were taken using envelopes or containers of appropriate size and made of material that avoids damage to the packaging or breaking the seals; 5.4.3: Once sealed, the containers must not, must not be re-opened from the outside of the laboratory and if in exceptional circumstances should be reopened then they must be drawn up a comprehensive and detailed documentation of the condition in which they were opened. " And here we are, always dall'ENFSI the Guide to Good Practice on the investigation of inspection in which it gives us of the recommendations that we say and it is essential that all agents are aware of the importance of the preservation of the scene, so avoid the temptation to examine , consider and record all the risks of contamination, take note of the names of all the people on the scene, protect the scene, identify the extent of the scene and limit it, to prevent access by other people, then improve the boundaries more appropriate, is better than the cords delineate a wider rather than narrower as it may be reduced later; protect the scene of the crime; establish a rendezvous point outside the boundaries concrete and efficient channels of communication between the examiners of the scene and the investigative team are essential in every case. And here we refer to the Crime Scene Manager and here it is in fact, who must ensure that all persons entering the scene wear protective clothing, supra shoes, masks and gloves, provide advice and assurances on the quality of all scientific questions included the conservation and repertazione evidence and the abandonment of the scene. They also give information on the contamination it is essential that all steps are followed, then all the steps to ensure that no contamination of the evidence. If contamination is detected the results of any scientific analysis could be

invalidated. The protection from contamination should always start at the crime scene and continue until the sample is deposited at the Laboratory of Forensic Sciences. It is essential that each action for the collection of evidence should be documented. At this point right on documentation ... a moment that is loading the movie, this is the movie when it was reperted the hook after 46 days. Does not last long, I took only about three minutes. As you can see from this movie already and according to everything I've said before there are a number of circumstances that do not match, the protocols and procedures. The movie is finished. So according to this here, that's what we have just seen carry the record of the hearing, GUP role of 4/10/2008: "Question ..." D is demand response and R is obviously ...

PROSECUTOR - Who? Maybe if ...

CONTI S. - On the part of the Prosecutor and the answer is by Dr. Stefanoni. "An activity of this kind in itself, that I put it back there and take it back on, beyond the steps of hand on which she first said something, it is a possible source of contamination? No we put in the ground, roughly at the point with the same gloves that the operator had when he had taken. After a month and a half but maybe there was something different than actually having us your shoes, having entered several times there is nothing that might lead to contamination with DNA different from that of the victim. Yes I want to say that if there was Sollecito's DNA on earth was not there, there was not the first time and then there was the second time was on the hook. That is, the contamination is to be understood as something exogenous, brought from outside to inside the crime scene, but the scene of the crime itself is chaotic, absolutely non-sterile and is obviously dirty. So whatever may be dirty, dust-like DNA of the people, but if this DNA is already in a crime scene, maybe here, inadvertently the only thing that can happen is to transfer the DNA that is already present there and that was not brought from the outside because the operators from the outside obviously trying to take the utmost precaution dressing with the suits, with the boots, gloves, masks not to bring anything more than it already was present. So the only thing that could happen in general, in any survey, is to transfer something that is already there, however. If this something has been moved this can not be excluded. " Question: "So she can assume a maximum displacement of a DNA already present on the spot? Yes So you say I feel assured that from the outside has not entered anything. Inside has not entered anything because the protocol says the important thing is that the door does not come on, nothing. " Of course. "But instead of inside the house and then the various rooms, the kitchen and the various rooms, the bathroom rather than Meredith's room, we are able to establish or rule out the possibility that through this movement of objects there has been contamination? If the tracks were already present before you became obviously the first survey and the more the second inspection, if the tracks were already present on the objects that have been moved is possible contamination. "

PROSECUTOR - So what?

PRESIDENT - When you want a break tell that we suspend ten minutes.

CONTI S. - No I can not, we can still ...

Voices in the background.

CONTI S. - Yet this still here. This is regarding the minutes of the hearing, always GUP role, the continuation. "Did you have to shoes your shoes? Yes, yes, always. The shoes when you bring? Prior to joining? Yes The shoes are not changed while turning for home? No, generally not. In that case it was chosen to perform a flow, had the rooms along a corridor, then there was a larger space which was the living area and two more bedrooms, two rooms and a bedroom and a bathroom. " Sorry ... "It was decided to operate going from the inside out so the first things certainly in that case the very first effort that was analyzed was the victim's room, then went to the small bath which was adjacent, then we say other rooms to come outside because being a very small corridor we had so many people in that house more or less ten, then there was the coroner. So basically who walked into a room and then came back into the room could? Yes could fall. She herself tells me that you were out of the various rooms? Yes My question is if you came and you went out from the rooms and that there was change of shoes, and this is the only question. Yes, yes. " Forgive me, forgive me, but I keep you another ten minutes before a break because otherwise otherwise then you lose the thread and it becomes difficult to take it back. Always record of the hearing role GUP 4/10: "Let the gloves before. That's right, the only thing I could say is definitely emigrate,

quotation marks, on that floor is the blood that Barry Fischer who gave a lot of information respectively in different tubes should be used once right? Yes, if they are disposable, single-use intend to use them on one occasion or every exhibit that I take I have to change gloves? Every exhibit that I acquire as evidence. Then if I find one thing and touch ... no I did not touch I look without touching it. When this is taken hook bra there are gloves that draw? Yes, because it was not taken with a pair of tweezers? Then the object, say massive define it ... "...

PROSECUTOR - Does that clarify the questions of who they are, even the previous ones please?

THE CIVIL AVV. Maresca - Maybe even the pages of transcripts.

CONTI S. - Well, then, then we will provide ... we are on the transcripts ... Please?

PROSECUTOR - The minutes of these we've got them huh.

DEFENSE AVV. BONGIORNO - not President ...

CONTI S. - And then ... are the prosecutor and Dr. Stefanoni who responds.

Prosecutor - The prosecutor is impossible to look at, just in case Dr. Micheli, who was the judge.

THE CIVIL AVV. Maresca - No it is not the prosecutor ...

CONTI S. - Very well, then it will be, then it is Dr. Micheli, fine then is Dr. Micheli is fine with me.

THE CIVIL AVV. Maresca - But tell us if you know the pages.

CONTI S. - The pages I have not transcribed ...

THE CIVIL AVV. Maresca - Okay '.

CONTI S. - ... But since they are acts Lawyer can safely go and if he wants to give her the files and can safely go to seek.

THE CIVIL AVV. Maresca - No, no, I have it before.

PRESIDENT - Yes, but then we have all the minutes.

CONTI S. - Did you yes, I mean are the acts ...

PRESIDENT - Bravo then ...

CONTI S. - ... So it's not that I'm making things.

THE PRESIDENT - No, no, of course.

CONTI S. - These are the things ... I put quotation marks because they are the exact words that are said, no more, no less.

THE CIVIL AVV. Maresca - We wanted to know the pages to have clarity in what it refers to, you understand?

CONTI S. - E 'on the clasp.

THE CIVIL AVV. Maresca - There are hundreds of pages.

CONTI S. - And in fact, we know, we know that are hundreds of pages Lawyer.

DEFENSE AVV. BONGIORNO - President Excuse ...

PRESIDENT - E 'indicates the date of the hearing, however, it seems to me ...

DEFENSE AVV. BONGIORNO - President ...

PRESIDENT - ... on the report.

CONTI S. - Yes, yes, that's right.

PRESIDENT - So going to the minutes of that date ...

DEFENSE AVV. BONGIORNO - It seems to me that these oppositions are completely out of place so ...

THE CIVIL AVV. Maresca - But they are not opposites.

PRESIDENT - Come on, let's move on.

THE CIVIL AVV. Maresca - No objections.

DEFENSE AVV. BONGIORNO - You should not stop, he cited the transcript of the hearing ...

THE CIVIL AVV. Maresca - Lawyer Bongiorno are not opposites.

PRESIDENT - He had asked ... the lawyer had only asked ...

THE CIVIL AVV. Maresca - I asked to document the page.

PRESIDENT - ... an indication of the page and nothing else.

THE CIVIL AVV. Maresca - No opposition, thanks President.

PRESIDENT - Go ahead.

CONTI S. - "Why was not picked up with tweezers? Then the object, say voluminous define it usually need not be reperted with tweezers. The tweezers both disposable and sterile steel is a medium that I use if I need sample of biological traces. With the result that these gloves will be touched just the hooks of the bra? No, I was touched, I've obviously seen the shooting, has been touched the fabric between the hooks. She was present when there was this passage of hook? Yes, and she is able to testify that he had just put new gloves? Look at me, which one of the two people I was. Did you have just changed the gloves? Yes, I turned around, he had not touched anything, and the operator has shown me the hook and I just have ... And the - operator is shown here deva but it is assumed that there is a transcription error - had clean gloves? Yes if you had seen them had just made? Yes, because we were looking at that very moment to the eye if it was possible to find this little piece - first spoke of a massive object now becomes a little bit - of cloth that was very small. Then you said that you put on the ground to photograph it ... "...

THE CIVIL AVV. Maresca - President'm sorry, we do not make comments to the expert.

CONTI S. - No, I'm ...

THE PRESIDENT - No, it is ...

CONTI S. - ... Is not a comment ... Lawyer

THE PRESIDENT - No no no.

CONTI S. - Excuse me President.

PRESIDENT - I got it. It's just a note, a survey which highlighted the Court. Go right ahead professor.

CONTI S. - Thank you Chairman. "Yes Then at this point ... "...

DEFENSE AVV. THE WIDOW - President excuse me, in the meantime, to request clarification of the Civil Party, this is page 91 and following of the report mentioned then be referred there in those pages, page 91 and following.

THE CIVIL AVV. Maresca - Please note ...

DEFENSE AVV. THE WIDOW - Just check it on the record.

THE CIVIL AVV. Maresca - ... questions of defense Sollecito, Lawyer Bongiorno, so we complete the specification.

CONTI S. - Thank you.

THE CIVIL AVV. Maresca - Only the defense Bongiorno.

CONTI S. - So, it was claimed ... excuse me a moment is loading the images, it was stated that the hook has not been touched with your hands, these are the slides of the Scientific Police officers. There is one last thing, behold, there is one last thing that I want to show with a speech that hearing more and ... (Off microphone). Always role GUP 4/10/2008: "The change of hands which is still better photographed or filmed - and it's three minutes of the movie that I've shown you before - because this strip of cloth with the two hooks passes from the hand of an operator to the hand of a second operator. But if the gloves are clean - lies - is absolutely irrelevant. " And then ... this is always the image of the Scientific Police officer, filed in the proceedings, and then we found this. And this is the sign of a dirty glove that touched the hook. I will stop here Mr. President? For a moment's pause.

PRESIDENT - Yes, I'd say we get up to when ...

CONTI S. - Okay, okay.

PRESIDENT - ... you begin to draw conclusions, then run out of this part.

CONTI S. - Okay, that's fine.

PRESIDENT - We Interrupt If not then and gets a bit 'more difficult.

CONTI S. - Yes that's fine. There is yet another, because we have been concerned together with Professor Vecchiotti also to look at the video, and this, please excuse the picture quality, it comes directly from the video, the video is taken from the movie and here I note that even here the glove is dirty. And how, again from the video because here was this past frame by frame of those three and a half minutes, also below, excuse me for a moment appeared a message, even below the glove is dirty. And then we we ... we also saw a attimino why all this has happened and then we faced the problem of what had happened in those 46 days in which, from the time of initial recognition of the hook until the time of repertazione and indeed in those 46 days are to be been moved many things. It is always the GUP role that asks: "I believe that according to the protocols can be moved - the object obviously repertare - after that is if I remember correctly, the clothes, the cabinet doors and so on." And precisely with Professor Vecchiotti what the problem is, beyond seeing that there were forty one time considerable hiatus, 46 days that have been moved a large amount of objects, and at the same time there have been several bouts of different people then a, income and expenditure in the various rooms of the house on Via della Pergola, we went back in time. Continuation President? Can I continue, is a bit 'long ...

PRESIDENT - So we suspend ten minutes. We continue to the 11:20. (Suspension).

TO RECOVERY

PRESIDENT - We can retake the exam experts.

CONTI S. - Thank you Chairman. We stopped with the problem that this hook was for a time period of 46 days in Via della Pergola that has remained practically in a given environment. And then we have reviewed back in time also the DVD of the investigation of inspection in Via della Pergola. And by the Scientific Police DVD was shot on November 3 of 2007 go back in time. The numbers above refer to the numbering of the movie for minutes and seconds. Withdrawals made with your finger to introduce sampling taken from the ground even though he had in his hand a pair of tweezers. I refer to the person who performed the sampling or Dr. Stefanoni. At 26:38 repetition ...

PROSECUTOR - Sorry, sampling of what?

CONTI S. - Excuse me ...

PROSECUTOR - No, because since there is no expertise in reperted, she tells me this? Yes, I mean I can move a relic after the exhibit, I put it in the bag. Yes To take it. Of course. This provides the protocol? Yes because then the frames even already on the evening of 3 I see this shift I wanted to understand if she is able to give us some clarification. No. It 'but can not remember. Between the first survey and the second survey there was a shift of many objects in the rooms? From what I could see myself, yes, the second visit I realized. I describe what happened? Objects have been moved, I remember for example that the mattress was no longer on the network - and in fact was in another room - it was resting on the couch writing shall state that ...

CONTI S. - No look, there's no skill in writing because obviously these are here, we tested the DVD which is regularly the record, I gave the Lawyer Maresca has been no exception in regard to the pages, I thank the Attorney which has supported for page numbering, here I quote the DVD of Scientific on November 3 with the number of minutes and seconds.

PROSECUTOR - Eh sorry but ...

CONTI S. - So just look ...

PROSECUTOR - ... use of the Court ...

CONTI S. - ... If you want then we have to examine the DVD of the Scientific ...

Prosecutor - But it is the removal of the hook or knife?

CONTI S. - No, I'm ...

PROSECUTOR - So in short, is out of the question.

CONTI S. - No, no ...

PROSECUTOR - Oh no? I note.

CONTI S. - ... Is not out of the question Dr. Convenient, is not out of the question because we're talking about the lack of procedures and protocols relating to possible ...

Prosecutor - What it had not been asked.

CONTI S. - ... And the question is on the second ... let me finish please ...

PRESIDENT - But anyway, anyway ...

PROSECUTOR - No, you do not use ...

CONTI S. - E 'on the second, on the second part relative ...

PROSECUTOR - ... but in short, the expert can not use that tone.

PRESIDENT - Prosecutor ...

CONTI S. - ... The possibility of contamination.

PRESIDENT - Silence please! Prosecutor, first of all you do not interrupt me, ask me, if anything, to stop the appraiser and ask him the question.

PROSECUTOR - He's right. He's right.

PRESIDENT - The assessment then the discussion will, if anything, if it is in or out of the question. Now let him finish the show and after the end, even with the questions that you will ask him any questions, expose it ... no?

PROSECUTOR - President, you're right ...

PRESIDENT - Otherwise if we continue to interrupt ...

PROSECUTOR - ...President you are right but surely, and especially to use the Court to understand what the expert refers when he speaks of withdrawal, I was wondering this here.

PRESIDENT - Yes, yes, but we understand very well. Now then let me illustrate ...

PROSECUTOR - The traces are 460 huh.

PRESIDENT - Go ahead.

CONTI S. - Excuse me President, I would submit to the Prosecutor, the doctor Comfortable ...

THE PRESIDENT - No, you do not worry ...

PROSECUTOR - No I do not you should tell nothing.

PRESIDENT - You should only talk with us.

CONTI S. - No no, if only for a matter of ... because if it is not possible to evaluate new technical assessment according to the documents ...

PRESIDENT - Yes, yes, do not worry.

CONTI S. - ... The degree of reliability of the investigations already carried out ...

THE PRESIDENT - Do not you worry, she's ...

CONTI S. - ... With reference to possible contamination.

PROSECUTOR - Yes, the clip and the knife.

PRESIDENT - Professor she is the expert of the Court, the Court, then we will indicate which are the questions or what they are not.

CONTI S. - Very well, thank you President.

PRESIDENT - You go ahead.

CONTI S. - At 26:38 repetition of the same gesture and more takes the swab with ...

THE CIVIL AVV. Maresca - (Off microphone).

CONTI S. - 26:38, takes the pad with the other hand to fold: 26:53 picks up small trace of blood with the buffer that is passed on almost three tiles, you are asked if there are paper envelopes, you are notified that you have finished your paper envelopes; 46:27 to no longer use the tweezers for collecting on the floor, in an hour same levy as the previous drawing on the floor holding the pad with your fingers without using the pliers that are inside the palm of your hand , at 01:05 are not used tweezers to hold the pad on the levy of the floor, between 1:16 and 1:18:24 feels Dr. Stefanoni enter and leave the room or more times the maximum level of containment, as we have seen before, crime scene, an hour is 22:25 took a bra, I presume Meredith from the floor with your hands and is put into transparent plastic bag, Dr. Stefanoni is not wearing the mask, all ' a 22, one hour 22:25 seconds, you can see an agent behind without protection and without mask on his head, before being put in the envelope the bra is touched with a finger to another agent, you can see from the floor to take the slip, shake, there would be a more accurate term "sgrullare" the find and then place it in a plastic bag. Before being put in the envelope the bra is touched with a finger to another agent, you can see the pulse of the suit of Dr. Stefanoni dirty substance of blood, to an hour and 34 there are two people that move the body without protective suit, have only gloves and boot covers, one of them has a female voice, in an hour and 37 shows a person with a black hat on his head while another uses the glove blue. From this time and later in the formation of hairy withdrawals are made by hand and without the use of tweezers. An hour and 44 and 36 to 38 feels Dr. Stefanoni that says: "It has long nails and well looked after" in an hour and 46 both hands are placed in plastic bags, in an hour and 48 we see a person who is in jeans in the crime scene, or in Meredith's room, an hour and 49 it is seen clearly touch the body to an hour and 52 feels Dr. Stefanoni referring to the wound on his neck "I would be jagged edge" while the other person touches the edge and the edge of the wound and partially inside. An hour and 53 you see the hair of a person without protection in front of the camera, an hour and 54 people still without protection suit only with gloves and shoes that are around Meredith's body, one hour and 55 , an hour and 56 a person with only his shoes, dressed in jeans and a sweater indicates something with your foot and leg stretched over the body of Meredith, an hour and 57 other person in jeans and sweater with boots low; to take an hour and 58 formations hairy with gloved hands and soiled with blood substance, from behind the buttocks and after repeatedly manipulated the body to two hours and 02 a person dressed in jeans and sweater takes his hands equipped of gloves a piece of fabric found in the body and puts it in a plastic bag, there is also another person dressed in jeans and a sweater. Two hours and 12 woman without a mask, without protection in the head with a sweater and always in Meredith's room. Two hours and 24 shows the bra clasp, which is described and referred to as placed under the pillow. There is also an iconographic documents, photo's on the repertazione of this hook. The movie shooting will resume at 12:41 in which it appears that Dr. Stefanoni holding the fabric with your fingers, pliers unused in the palm of your hand, is cut the fabric as finding and again missing the protective cap on his head. At 12:42 another drawing, this time using the tweezers but the gloves are stained with blood and substance of the index finger of the left hand with the glove seems broken. 12:45 without head protection and no mask is used buffer without tweezers; 12:47 identical sampling in the same way; 12:51 like its predecessors, on repertazione of traces of the door handle and only then is used tweezers to 12 : 51; 24:55 the same situation without tweezers on traces on the wall, at 13:00 three distinct bloodstains albeit contiguous are taken with the same buffer and without tweezers; 13:50 biological traces taken from the toilet with his gloved hands and put in a plastic bag and shove her fingers to push well into the tube; excrement collected at 13:56 from WC with tweezers, you can see the outline inside the cup is not smeared, when they are placed in a test tube is evident glove and sleeve of his soiled; 14:02 again without mask and head protection while you hear give an indication to put the glass in a plastic bag; 14:02 you see dirty glove left hand thumb; 14:10 on two blood spatter levies are made with the same buffer that is clearly seen wet and is not dried; 14:21 again without any protection on the face; 16:36 levy without the use of tweezers, not by time but more disposable tweezers metal; 16:54 reappear paper bags for the preservation of artifacts; 18:23 videographer comes from outside to inside without changing your shoes and here you can see from this video then by the continuity of the transition from the deterioration of the outer containment to containment level , 18:24 and here I would like you to do a lot of attention to this

passage, at the request of the Scientific Police video if you were to film the cigarette butts in the kitchen, from the dialogue with other Agent of the Scientific results: "It 's absurd, it is just absurd, I have criticized, disorganization beyond belief in every way. " You see a person without any protection 18:27; 20:45 three people without a mask and protective head flat on the floor with instruments for collecting safely placed on a floor of the house without any protection. And going back again in time to see, even back then, if you had been adopted all procedures and protocols dictated by the international community Regulatory anticontamination arrive at 2/11/2007. 15:10 no outdoor area of protection or lack of containment perimeter; 15:10:45 any interior area of protection or lack of secondary containment, videographer of the Scientific enters from outside toward the inside wearing the same shoes and this through the continuity Video; 15:10 no storage area between the outer perimeter and the lack of secondary containment or container material used gloves suits masks tweezers etc.; 15:10 no security zone between the various environments, lack of containment from the second to the first level , Scientific agents enter and leave all environments without ever even replace your shoes; 15:20 no security zone that borders the Meredith's room or the maximum limitations in the crime scene. 15:20 a person with the coat is in Meredith's room, which I remember is the crime scene, and touches the duvet covering the body when wearing gloves; 16:28 an Agent from outside the house trying to break with repeated kicking a door window without any protection if not the gloves, the end of the attempts splits with a football violent that the glass shatters outwards, towards the interior. And then, continuing, depositions of Monica Napoleoni heads: "I entered, I went over to Meredith's room along with Assistant Chief Buratti is left on the door, I stepped inside the room while the doctor of 118 discovered the corpse. - Following description of the details - Before I go ahead doctor, when he entered the suit? I've worn, I have not worn the shoes and sterile gloves. Behold, all those who entered had this ... Yes, yes of course. Yes, yes now ... but no, the staff of 118. So this means that whenever she touched an object changing gloves? No means that I wear them when I enter before touching objects, so I did, if it relates to my search in Meredith's room. But then her with the same gloves, without changing gloves, touched various objects during the search? It is obvious, yes. There was a control that was to record all night, your presence known whether this was recorded? Our entry was not written down. " And step by step investigation and inspection of the house Sollecito, then the record of the hearing the testimony of the witness Armando Finzi. "Were you wearing ordinary clothes or have used the precautions? We were all in civilian clothes before many of entering inside the house, we wore gloves and boot covers everyone, we made entry into the room. What did you do? The first act I did as I was with his back to the door, there was the tray of dishes, I opened it, I opened the top drawer of the dishes. He had gloves of course, we repeat. We had clean gloves, new, so the first thing I saw was a large knife, I state that it was spotlessly clean. The first thing I did I opened the drawer and was the first knife placed on top of all the dishes. So it is the first object that you took with the new gloves? It is the first object that I have taken. I had this folder, I took an envelope from the police headquarters in Perugia. It was a new bag? New bag where I keep gloves, new gloves, I've always got them with me, I opened the envelope and put it inside the envelope like this. After the search, you have removed the gloves? {0}<<Certainly !{/0} {0} {/0} We have seized some stuff in the kitchen, the stuff in the bathroom, in the bedroom and in every room, each object seized us we put inside envelopes that we took inside the kitchen of Sollecito? The second knife, the smaller we put it inside the envelope, shopping bag that we took inside the kitchen. Yes that was put into this bag disposable gloves. This packet is a packet that disposable gloves then you can seal? No no, it was similar to this here where I always keep - and I pointed out a pair of gloves - one pair of gloves inside. Therefore remained the top open anyway? Isn't it?" Excuse me, these errors are due to errors in my spelling but that's what the minutes. "It took me a bit of scotch. Yes, there on the spot, a police station, after the act the seal with a little scotch but it was not really sealed, they were two flaps, I closed two edges so as not to open the envelope. There had been sterile gloves in that envelope? No, that day there had been in any way. No gloves and boots we took them by the Scientific and put them in your pocket. " Testimony of the witness Stephen Gubbins, February 28, 2009 page 202: "The gloves that he used that morning, wait, they were the new ones he used to go in Via della Pergola or were new? No, no, look, I in Via della Pergola think I've changed the gloves at least twice. What did he do then? Had available a box, a cardboard door agenda, an agenda was the container of cardboard up, if I'm not mistaken Renato Balestra, I took it off from the bag with gloves because the volume of the envelope did not allow me to be able to put all 'inside of this box and I put it in the box and I repertata, then I closed with ribbon. I wanted to know if she rather suddenly the object, the various objects that have been touched it with the same gloves and other gloves instead she changes every time, right? It depends on the findings, I told her before the bucket, a sponge, a variety of exhibits. Same pair of gloves? With the same glove, some findings have changed gloves, when I evaluate when finding things ". Still from video cd investigations inspection of the

house Sollecito, carried out the 16/12. 14:14 Police Personnel is no anti-contamination suit, 15:20 you see used gloves and seals of seizure thrown into the bucket of the house, mixed with the garbage of the house itself. The minutes of search and seizure of 6/11/2007, material found in the kitchen placed on a piece of furniture in front of the door of the apartment were found two newspapers, within the first kitchen drawer, cutlery drawer was found a big knife. Testimony of the witness Chatting Mark: "As has been found in it the knife? I got it "... here is a consideration, the other witness has said that he had taken him. "Put yourself in the envelope" same applies the other witness who had put him inside. "Closed" and he says he has sealed, the other heads said that instead he closed the police station. "It brought to the police station. Then the police station by whom it was taken over? Superintendent Gubbins, he reperted mean sealed it inside a box. I said I was on the first drawer in the apartment ... In a drawer. "

Vecchiotti C. - I will be very fast in the sense that I would like to clarify what is the only protocol that typically is used in a forensic genetics laboratory in order to arrive at a personal identification so I'll be as quickly as possible not to bore the audience. So, we know that in all the laboratories of forensic genetics you must follow an established protocol that is agreed course in science or international is the one we've seen before, when you have you have to make the finding of its investigation into the generic diagnosis in order to determine what type of material we are looking at and is present on a given on a particular finding. We have seen that in the case of the blood have been used, for the generic diagnosis, based on tetramethylbenzidine that assumes a coloration in the presence of an oxidizing substance. But these, all of these techniques we say that we use as a generic diagnosis require further confirmation, that is if we had had a say positive for the presence of blood would have to be sure that it was mostly blood and blood human then continue by switching to a generic diagnosis depending on the specific test that is usually based on the actions immunocromatografiche. After what it is you are interested in forensic geneticist and in any case I would say a little 'to everyone? That is we know what material it is, we know for example that it is blood, which is human blood and so we have to try to arrive at a diagnosis individually to see who it belongs to that profile. Now ... I reported but only very briefly because we say so because then hear of genes, of doci of alleles and so on, DNA, what you going to study? It goes to study the DNA is the genetic material of the cell that is localized within the nucleus. There is also another type of DNA, which is a mitochondrial DNA but also has other purposes and we do not care at this very moment. Now, we know that the nuclear DNA then is formed, is a macromolecule that is made up of sub units called nucleotides. Are shown so briefly enough of the photos are reproductions or better say that I hope we can see that inside the nucleus are the chromosomes in some specific points of the chromosomes are the genes that as you see I have given only simple definitions, genes that are stretches of DNA that determine the characteristics of an individual and that are transmitted from one generation to another. The point at which the genes are located on that chromosome is called locus; when they are on two loci, in case they are two. Now, the genes may have alternative forms, and then may give rise to the expression of different characteristics. Why is that? Why is one of paternal origin and one is from the mother. I could give an example for the Court quite simple because when we talk about DNA is more complicated but if we are going to look at for example the blood groups, the AB0 all know each of us knows what is his blood so to speak, so I just wanted to explain in a simple way when I am in group 0 0 I have received a gene, one allele from the mother say 0 and the other from the father - okay? - From my father. And then have a homozygous because of all the points and two, on both of a locus and the other I a 0. But the mother can transmit to his son the A, an A allele, the father of the B allele, the child will be of type AB and is heterozygous. It's clear. If you understand the concept because I think this is so, quite elementary. The same thing will be when we see for alleles that there are, or which may be homozygous or heterozygous, homozygous if they are equal and therefore is obviously present in different forms because we will see that in the case of DNA will occur as the peaks, if they are homozygous there will be only one peak, if there will be two peaks are heterozygous. Then, and are also shown below, there are still ... So, we know that what we are interested in the field of forensic genetics non-coding DNA that is subject to Mutational phenomena but as these mutations are located in intronic regions, that do not produce proteins, they do not cause functional alterations but what they do? Determine an individual variability, that is each of us has different points then we say that are the basis of this term polymorphism polymorphism, then different things, the genetic variability that is connected with the existence of different loci of different alleles. Now, what is that we are going to study mainly? We know that DNA is made up of many scattered tandemly repeated sequences, those that most interest us are those which, microsatellites known as Short Tandem Repeats and who will be, as we say acronym, STRs, ie repetitions of small and those that use are repetitions tetrameric. That is, we know you do realize that the repeats can be formed from adenine,

guanine, thymine and cytosine, which are marked by the names, ACTG, and these four repetitions in some individuals can be repeated three times, in some four in five others and so on, and will be indicated people with the number corresponding to the number of repetitions. I hope I was clear enough.

PRESIDENT - Chiarissima.

Vecchiotti C. - So, these are the ones most commonly used in personal identification but what are the benefits, because those? Because we also have those who have two reps, five repetitions seven repetitions, we say that what are the benefits? Are the small size because we say the fragments ranging between 100 and 300 base pairs for which allow the amplification even in conditions of high DNA degradation. That is more DNA is large more likely to be degraded so we are going to look for smaller fragments, the smaller pieces. Then, since there is a short interval of length between the allele with a lower molecular weight and one with a higher molecular weight, you can get the amplifications homogeneous, avoiding the amplification of, that is, the phenomenon of preferential amplification. What is this? That an allele can be amplified more than another for which there are alleles unbalanced and we may have difficulty in identifying them. The rate of mutation is known so you can avoid incurring false exclusions, the results are readily reproducible and then we have the databases that are related to the frequencies on which we can do and we can redo the calculations of probability, biostatistical calculations. Now, phase that is a diagnosis of the species in which they are used we see that in the '97 CODIS gave, precisely FBI, said which are according to him the number, the type of Short Tandem Repeats of these microsatellites that must be used , also in Europe, 5 December 2009, is established by the Member States of the European Union to be used other systems, and I must say that all laboratories are organizing to replace kits that did not contain those specific types of DNA markers with which these are represented here. Here you go really fast because then we'll see later, once ... how do we know what is the genetic code of the person? Then, you go in a certain way. Meanwhile, we must extract the DNA, then you have to quantify it to know how much we have available, so be amplified, then should be placed in the running, it should be separate, it should be made an electrophoretic run and then the results should be interpreted. Now, as regards the extraction of DNA I give you see, it shows some but each course according to their own experience can use the method that considers most appropriate, bearing in mind that the methods can obviously change also in relation to the type of specimen because we obviously have blood or saliva or semen, we could use a kit and a method easier than if we had instead of the bone fragments, so you create different problems then we adapt different the different methods of extraction to the type of material that we have available. Once it is extracted quantify, these are precisely the possibility of ... the possible methods of quantification of DNA, you see that there is between the Real-Time that has high sensitivity but also a fairly high cost. That is, everyone is given the pros and cons. But we must because once we have quantified the DNA in the meantime we know if we find ourselves in the range that is indicated by the amplification kit we need to use. We may have too much and so we have to dilute the sample or we may have too little and therefore not being able to have amplification. That is, it makes sense DNA quantification, you may not even quantify, you do the tests, but of course you'll waste material to be examined and kits to use. So let's say from a point of view that economic, the ideal is to quantify it and then adjust the conditions for amplification. We make the prosecutor, us, we all actually to duplicate a specific DNA fragment. Now, here is a script quite complicated, I would like to see as is the case for example, a DNA amplification. Be 'DNA is amplified by placing the extract in a test tube, we have an abstract, we put a small fraction of the extract, keep in mind that in general the different amplification protocols provide amplifications in volume of 25 microliters in which they should be placed from 0.5 25.1 nanograms of DNA, measured eh, as always. And then there are the TAC polymerase, there are, nucleotides and so forth. This small test tube, a small test tube, is put into an amp, what does? Increases or decreases the temperature and what is the logic of this? You see, I tried to bring it back, above there is a double-stranded DNA, because I think everyone know that the DNA double-stranded circular so here we reported in a linear fashion. What's going on? That if you increase the Thema Cycle then the temperature of 94 degrees leads to the two chains are separated, they separate the two chains in the solution, but we have spent many nucleotides, adenine, guanine, thymine and cytosine, what do they do? With the polymerase chain each, you see that the free points, these free nucleotides will go to attack any loose parts from each of the two separated strands of DNA. What do they do? Flow along the respective chains and reforming another chain, two other double chains of DNA. It 'clear? So from a single chain separates into two, from two of them reforming two again whole and this always increasing and decreasing the temperature, there are three types of temperature, is riaumenta again at 94, the two pairs of DNA, the two

DNA chains are riseparano again ie it has a multiplication in practice and they form many chains of double-stranded DNA. And we can start from a very low quantity practically increase it, we can get a certain amount so that then I need to be able to analyze. Now, the products of amplification since there are primers which are obviously provided with fluorescent material say, are put in an automatic sequencer, this has the ability to excite the laser beam during the electrophoretic run, are identified and recorded in a software that is attached to the sequencer. After that we will have to decode, but how we interpret them? We need as with all things of reference points otherwise how do we know how many are, for example, I how many base pairs that make up for example my D3S1358? There are of the ladder which is what you see above, see there is a whole series of peaks that are separated from one another and for example take the first, D3S1358, indicate what those? What is say is no more than the number of polymorphisms about that can be found within that particular genetic marker, or both individuals may have repeats ranging from 12 to 20, others who have it by 5, for example, to 24 and so on, and are of the reference points. When I put in the race and then I go to decode with, say, a specific program my sample I will get as you can see in the first case will get only one peak, what does it mean? What is a homozygous, that he received from his mother and father the same allele, okay? And it is a 17, as I identify the 17? Because if I draw a vertical line between ideal above, where there are all kinds of alleles and below, you see that corresponds to 17. In fact the unit does this automatically because they already recognize them, others are heterozygous, that is, one has received from his mother the next, say 6, and the other the 9.3 and are becoming a point of reference the ladder. And we've got them for all the DNA markers. But it is not that they are always so easy in the sense that for example if I have little material can lead to loss of one allele for example, you see this is the same sample that I already know that, what is the true genotype, what is to example of ... reads pretty bad, D18S51 I think, but there is a 20, that is, since it was too little material that I used an allele or lose it I may have unbalanced, one higher and one lower. There may also be in a degraded DNA which does not amplify all of the alleles. So, at this point I tried to make in the shortest possible way, we see a moment to go instead to the analysis, because in fact we said that we had not found in our opinion insufficient for DNA amplification of DNA on Exhibit 36 as We have already said that in most cases the DNA was undetermined in some others there was a picogram and what it contained the most was 5 picograms, even if we had used a mix that used 10 microliters of DNA would come to 50 micrograms , 50 picograms excuse me, then below a limit that we really do not amplify. And after we will see below that limit even. Then, we moved to, as well, to assess the advice of Dr. Stefanoni. I must say a rather full-bodied but whose advice we've taken really, we analyzed only the sampling of two findings, of 36 and 165. So, I want to say that it is precisely indicated if the environment where the samples were carried out, whether or not the samples had been previously decontaminated decontaminated now I realize that the doctor had probably had a number, a rather significant short of samples to be tested, probably did not specify, however, this is a fact that is not written any of this, if you have changed the gloves for every single sample if they were used gowns and masks and so on. They are then shown on page 77 pictures related to findings that bear on the handle on the blade and the letters A to G that are indicative of points where samples have been performed. Now, with regard to withdrawals in fact, levies, samples of Exhibit 36 is also listed on the report, says in effect that were made were not random because some traces, perhaps the only one he could, so for his experience , give some result could have been say the track indicated as B, no trace or is referred to as the point B which corresponded then to a scratch on the blade relative present only because he thought that perhaps there might be something there, the rest was done everything random. Were then performed three levies on the handle, which have been given the letters A, D, F, 4 on the blade B, C, E, G, for a total of seven samples. There was exhibited the progress of the works, tabs where you can see that for every single track has been given a code which will then be reported later and has been presumptively indicated what it might be, or both cells of exfoliation for the letters A , D and F, that is those who were present on the handle of the knife and instead presumed blood substance on other tracks that were taken on the blade. I speak of tracks but really not visually, you could not see anything so I could say about the infill performed in those specific points. Then, on the blade of the knife has been performed by the generic diagnosis of blood test with the use of tetramethylbenzidine, is not specified but I assume that may have been performed by the "Combur test", however, whatever the way we say that the method was always the same, and the principle was always the same. And what we're going to see? On page 77 and 78 of the technical report is seen that the search of blood that was performed on the samples indicated with the letters B, C and G, and then on the blade of the knife, was still negative for the presence of blood and was also performed the species-specific diagnosis that I think I read during the interrogation of the doctor, at the moment I do not remember if the GUP or others, was carried out by the Hexagon, the diagnosis of species that the whole street was negative also diagnosis of

species. While the tetramethylbenzidine then ascertain whether or not there could be traces of blood has not been performed on the handle, on the pads that have been made, the cladding made on the handle of the knife. But it was not even done any investigation appropriate to detect the presence of biological material such as blood-borne non-cellular material. So, despite the negativity then we test for the diagnosis of blood and omitted investigations cell research, the technical consultant has suggested the presence of supposed flaking cells on the material taken on the handle of the knife and alleged biological material or better both of presumed blood substance of another nature, I probably blood since it has been only the diagnosis of tetramethylbenzidine and diagnosis also specific for the blood, from the material taken from the blade, or both cells on the handle, blood likely blood on blade. So ... then moves to the second phase, the extraction of DNA was performed for all of them the samples using an automatic extractor, as shown on page 78, then on tracks A, B and C was performed on 13 November 2007 on the traces D, E, F and G was performed on 17 December 2007. Also on the card work progress shows that the amount of extract for all those samples was 50 microliters and in fact in the surveying operations Dr. Stefanoni us ... told us that this was the minimum amount that the extractor could do, it was not possible to obtain less. On page 78 shows, always following the pattern that we said, extraction, DNA quantification. So here, from these tables is something that in reality does not correspond to reality, however, we extract that the quantification of the tracks would have been done, everything in Real-Time with ABI-PRISM 7000 Sequences Detector of all tracks and these only track A, that is, the alleged cell exfoliation and track B is the alleged biological substance was positive to the positive result has little meaning if it does not show the quantitative value, ie positive than there was DNA ? This frankly do not know. While all the other tracks C, D, E, F and G were negative. In fact, if we are going to look at the relationships of the Real-Time PCR performed, it appears that the quantification was not carried out for all of them tracks, I remember you coming back for a moment that even for the silent A, B and C, quantification is done in Real-Time, only traces D, E, F and G were quantified Real-Time and were all negative for the presence of DNA. We have been performed the report of the Real-Time DNA and is 0.00, while it is attached to a report of 13 November 2007 concerning the quantification of the extracts of samples A, B and C which has not been run by Real-Time but was performed using another method, or both the fluorometer, the fluorometer that is another type of equipment that can also be used, is used for the double-stranded DNA but not as accurate as the Real-Time since it is not specific for example for the human blood and allows the quantification of samples with DNA concentrations with a range between 0.2 and 100 nanograms, 0.2 are 200 picograms or 0.2 nanograms, 200 picograms. If you remember when we made the Real-Time at the express request of the parties say that the lower limit was 23 picograms, so there's a big difference. This is the card that is attached to the fluorometer in which, well, is reported and tells us that the trace A shows, has at least gives positivity 0.08 nanograms per microliter while the track B, then what will the genetic profile, is too low and the trace C always too low, that is too low to be identified, so do not determinable. Now, regarding the quantification of the track A that is always that you remember the grip of the knife precisely that emerges from the results of the Qubit fluorometer that the concentration of DNA in this sample was of 0.08 nanograms per microliter. Then 0.08 nanograms per microliter correspond to 80 picograms, then the fluorimeter was able to detect 80 picograms. If we are going to multiply 0.08 nanograms per microliter to 50 microliter where it was (inaudible) the track, if you remember it was reported in the previous SAL, we must assume that the total DNA was 4 nanograms. Now, the kits can detect or at least give an indication as to amplify between 0.5 and 25.1 nanograms then 4 nanograms rightly is a positive track to quantify. While some doubt came on the evaluation of the positivity to the quantification of trace B and C of the negativity of the track, if you remember in the previous slides, if you want to put them back behind, that we speak of positivity only for A and B and C is negative, but the tests performed with the fluorometer you see that are much too low track B because the trace C. So here it is unclear why the trace C was considered negative when in fact it has the same result too low trace B, or rather the contrary, as it is possible that trace B was considered a positive result given the same track C. So since we know that the threshold of sensitivity of the fluorometer is 200 picograms actually in the track A had dosed as many as 80 picograms, we must assume that it was at least below 80 picograms. And it is understandable given the negativity as you see the results on the track B as reported by Dr. Stefanoni in the GUP questioning, on page 178, when he says that "The DNA in the track B, quantified by Real-Time PCR", now I here I reported that the quantification as well as confirmed in the hearing has never been performed or has been performed better if there was provided no documentation to support this assertion, though there is also in this case there has been provided , was still in the order of a few hundred picograms. But we have been provided the work progress, the report of the fluorometer, the report of the Real-Time, or technical report on the results. So a few hundred picograms are not few, a few. However, it

remains this way we have a few hundred that we do not know how many, it might have been good at that point run the Real-Time least to see how, given the sensitivity of the case, however ... We proceed in consultation with the amplification of Short Tandem Repeats, the ones we have seen before, autosomal and this is what is shown on page 78 - 79, which is carried amplification in the manner described on page 31, or both according to then we will see who are the indications that the kit is a kit that is used identifiler, and it also says that "the traces tested negative quantification were analyzed after spin ... concentration by use of instrumentation speed-back "and then is concentrated but also in this case is not reported whether or not were again quantified and how much it was, as was the DNA may be present. On page 31 it says that the way they are actually amp mode shows that it is these which are the methods which are required, at least the information that provided by the manufacturer and see that the concentration range that is recommended is 0.5 to 500 picograms to 1.25 nanograms per microliter. Then, always together in the directions provided by the manufacturer is said must be arranged one negative controls, or both without DNA, and with another instead of DNA that is supplied and is present in the kit that you go to use to monitor the effectiveness of conditions of the amplifications chosen, that is when I'll put the DNA that gives me the same company that I should amplify DNA, if you do not amplify something is obviously wrong. Or instead of the negative control consists of all reagents except the DNA I must test negative, or both I do not have to have any peak otherwise I think it may be contaminated. At this serve controls. In the documentation are not indicated volumes of Mix nor is indicated that the quantity of DNA is used for each reaction. Here, here again carry that on page 79 there is a concentration of those tracks, it does not appear, however, that both the quantification was repeated but at the end it is acknowledged that these tracks there is, has not been obtained no amplification product . Now, since the technical report is not listed, there is no record of any changes that have been made to the protocols we have to believe that they have been applied protocols that are attached to the kit, then were put 10 microliters of DNA extracted from track A and 10 extracted from track B. Now, if the track had been used in the volumes indicated by the kit identifiler, ie, 10 microliters, if I'm going to multiply 00:08 10 nanograms per microliter I get a concentration in 10 microliters 0.08 nanograms, ie 08 and 800 picograms that if you look I is within the range that was suggested by the kit, the range from 0.5 to 1.25 then 0.8 mi fits perfectly in the range. And in fact we will see that the electropherogram is suitable with the amount that has been used. Again I must emphasize that there are concerns always on the amount of DNA extracted from the trace B because although it has, we have already said, the result can not be interpreted as positive. Then missing some points, ie both in the interrogation GUP, on page 178 it is learned that from an initial volume of 50 microliters Dr. Stefanoni also focuses trace B up to 20, 22, 23 microliters, of having carried out a subsequent quantification by Real -Time PCR of total DNA and the DNA of male origin, I repeat we have at our disposal these cards and hence do not reveal anything so probably if there is we have not been performed. However, since the quantification of the Real-Time, however, that we do not have it documented, got a concentration of a few hundred micrograms, this statement is to GUP on page 178, has a few hundred micrograms and continues to focus until you have a final volume of 10 microliters that would have used to the (unintelligible) PCR. But even on these volumes, of these 10 microliters we did not quantify so we still do not know how much DNA was amplified or otherwise be present in trace B. Here, then we believe that it is not been any quantification because there is no response, then if instead has been carried out and has not been performed that is another thing. It then passes the electrophoresis capillary, also in this case since there are specific annotations electrophoresis was performed as normal. Now, here we see perhaps a bit 'wrong but anyway, this is the electropherogram on the electrophoresis of DNA that is amplified by the trace A, the handle of the knife. You see that there are two peaks or a peak only depends, are quite high, it is a path we say electrophoretic pretty neat, on April 29, there was sent the electropherogram on the electrophoretic run of the amplified DNA which shows the heights of the peaks of the alleles. And then the peak heights and peak areas. So, what do you see nell'amplificato sampling of A? That are present, this is a summary table, I hope we see, there are peaks that exceed the threshold of 50 RFU is the relative fluorescence units the more DNA there is so much more we say is the peak, in very simple words , and that then the alleles are balanced. The balance of the alleles do you say as indicated by Gill and others, or both must be greater than 0.60 then those alleles are balanced, and we see that we have the peaks that are high 147, 172, 69, 63, 92 in a point we have 49, other 271, and the balance exceeds 60, is greater than 60 then is a good route on the other hand there were 0.8 nanograms of DNA. Then, the sample B of which we know very little, however, the electropherogram, this is the one that was attached to the technical report. On April 29, there were instead electropherograms for two electrophoresis runs of the same amplified track B which shows the allelic peak heights, first and second electrophoretic run, maybe the numbers you misread but there is always a summary table fortunately and May 11, we

were sent via e-mail again the same electropherograms are indicated where heights and peak areas. This is the second. What's going on? That in these paths we always see that there are peaks with a threshold well below the 50 RFU alleles and unbalanced. Here they are. That is the height of the peaks, then again and again was told that the limit, and the manual of the kit says it, it must be at least 50, do not go below because then it becomes risky as we read, that has rightly Dr. Stefanoni also said several times in his interrogations, but we have high peaks that are 41, 28, 23, 15, 32, 27, 22, that we peak well below the 50 which is the limit that is specified as acceptable and we also have an imbalance of heterozygotes. So, what do we see? That Dr. repeats twice the electrophoretic run, the first time with a microliter, the second time dall'elettroferogramma who sent us, with the same amplified use of other equipment with dive times ... in a different way. And what happens in those in the comparison of the two electrophoresis runs? You have some alterations, ie in the second electrophoresis, which indeed one expects, since there is a greater amount I would expect that in reality was even better than the first, you actually lose some alleles that are the TH01, the D16VWA , the D18, the FGA and there is even a marker for the presence of a, let's see if I put it after ... no. Even the presence of a peak which was not present the first time and for others there is a reversal of the height. So imbalance of the peaks, reversal spikes, loss of alleles, the presence of additional peaks make us think of something, something different. Moreover, there are neither the negative control which could indicate the presence of contamination or the positive control, and then in practice we can only a posteriori, in the absence of a previous quantization, only a posteriori we can think of being in the presence of a sample low copy number, or both of a sample at a low quantity of DNA. But after this we gather because in fact it does not appear anywhere. So, even if we have to say that the possibility that there had been a product of low copy number was also established, and then we will see later, by Dr. Stefanoni on the explicit request of one of the advisers of the parties. Now, I will try to be brief as much as possible about what what is the low copy number. It is a technique that is related to the analysis of samples with values less than 200 picograms of DNA, it is a value associated to the amount of DNA described by various authors as stochastic threshold for the typing of conventional STR. What is a threshold stochastic or stochastic phenomenon? That is, it is a process whose outcome can not be determined with certainty in advance as subject to the laws of probability and the magnitude of the statistical fluctuations becomes insignificant compared to the amount of material that you have available, ie less material I have available, I have less DNA available, it is no coincidence that the kits indicate 0.5 as the lower limit because they feel that below that there may be problems. So below 200 would be 0.2 what can I have? You can have imbalances in the height of the peaks, you can have loss of alleles, you can also have the presence of additional alleles. So, the imbalance of the peaks we have seen in the trace B, we saw that some alleles are lost, then we drop-out and in one case there is a drop-in, meaning that there is an allele that was not present in the first race. So I dall'elettroferogramma conclude that it was a sample low copy number, not sure why I was given a numerical value. So, we say that the low copy number, having to do with sample low copy number always creates a lot of problems, let's say I have given only a few of, protocols, or more protocols that say of thoughts and experiences of the international scientific community because as see Gill, who is a very big expert, Peter Gill and many other scientists caution should be exercised in practice and in the interpretation of low copy number. Budowle in 2009 calls for caution, so that he is so cautious that suggests the use of low copy number only in cases of identification of missing persons, including victims of mass disasters and for research purposes. Now, of course advise against the use of existing methods in criminal proceedings because these methods, technologies, and the current recommendations do not yet allow the overcoming of the problems that characterize these samples low copy number. Now we'll see something, say that are recognized all important and effective practices that are aimed at minimizing the contamination induced by the laboratory. This problem of contamination will see that will be repeated continuously, is a real problem and extremely important therefore it is important to the practice of decontamination and even if in a relationship, the reports that Cuddy is this, is shown here in 2009, that is, the problem of low copy number is put for the first time in Northern Ireland in 1998 when, following a bombing of a market I think there were 29 victims and hundreds injured, the suspect initially had been indicted on the basis of some elements, then since the samples that had been repertati, the DNA that had been extracted was in a quantity less precisely to 200 picograms, was released. Hence arose a commission that studied the problem thoroughly and in 2009 came the so-called Report Cuddy, Cuddy Report in fact, saying that the method can also be accepted, robust, but must follow very specific directions, we must absolutely respect of fees precise which are reported in the report, saving them there, wishing I could even read them but I think that you have already done. So ... So what are the problems that are associated with low amounts of template, the template will be easier, I tell you a low amount of DNA, DNA (inaudible). Then, these basic points related to low

amounts are stochastic effects, those who see them again for a moment but still have the imbalance, the presence of drop-in and drop-out, the detection threshold, the interpretation of the profile, the allelic drop-out, the imbalance of heterozygous peaks, the stutter, contamination, analysis of the replicates, appropriate controls and limitations of application. That is, there are indeed numerous, now the fact that there are all those limits makes you realize how difficult it is to work and to interpret especially when DNA is particularly low, which is why it requires the utmost caution. Stochastic effects we have said that because of its kinetic PCR process, a low amount of template will be subject to these effects so you have to be extremely careful because these imbalances and presence of drop-in and drop-out can bring big problems interpretative also and above all in itself but let alone when they are in mixed tracks. The threshold of detection, we have said that in fact we talked about before, and he had spoken, I saw reading acts, even the previous times that the detection threshold usually a good profile should not fall below 50 RFU. So, let's say that maybe you could drop by some but it is absolutely necessary to have evaluation studies within the individual laboratory in such a way and that's because we need as stochastic control, there are peaks that below a certain threshold should not be interpreted. Now, however, there is a valid method to determine which is the threshold of low copy number typing, this will continue to be one of the biggest weaknesses of the application. Now, even the reading of the interpretation of the profile is a very complicated thing, we say that in mixtures this problem is absolutely important but, as Gill points out, have not yet been described well-developed guidelines for the interpretation in low copy number in cases of mixtures. Then we will see why we even there that talk about the mixtures. The allelic drop-out instead is the phenomenon related to the low copy number typing easier, or is the loss of one allele, when I see I can say that only one allele is an allele only because it is a homozygous attention since we are in an area high risk could be also that the other allele is lost. So I may have lost one allele thing that happened in the second race and I do not speak of amplification, in the second race of track B. Were not written so .. to no, this is ... I moved on ... (Off microphone). The other problem is the stutter peaks are non-specific due to the production of a product during PCR amplification of a shorter repeat allele compared to the same allele that is, I have a top 16, I can have one allele peak or at least a 15, I have determine if it is an allele or if it is a stutter. Now we will see later how do you assess if a peak is a stutter or is an allele, while ... in the presence of low copy number the percentage value of stutter is variable and thus is not informative as a stutter peak can surpass the height or the area or the peak associated can be absolutely different from those that are the standards of, the stutter . There, you see what happens, for example, is shown here in the case of low copy number, low in the first 30 picograms we all identifiler amplified, so we are below 200 picograms, were amplified again with the identifiler and the first In the first figure, we see that there is an imbalance rather high because these are all things done in the lab so I mean the values that have been given are the right ones, or is in the first case, the subject was a 10 11 but you see the imbalance between 10 and 11. It 'the same subject should have approximately the same height instead are significantly unbalanced. The allelic drop-out instead is the loss of one allele, the loss in the case, in the second picture we see Allele 14 so I can interpret that profile as a 12 12. There may also be the stutter, the stutter qualify as prior to the main allele in height and shall not exceed 15 per cent, in this case we have a stutter by 64 per cent, but because we know that it is a stutter? Because the authors know for sure that this is a sample that could be amplified 12 13 but you always think the fact of an unknown sample of course. And the drop-in on a 18 19 shows an allele is different than the 16. But what is the most important thing then to have a low level of DNA? That is, is the contamination. However, the Board in its recommendations dell'ISFG tells you what is the contamination, "the DNA is introduced after the crime, from a source unrelated to the crime scene, investigators, laboratory technicians, the laboratory instruments" however this is a rather narrow definition of the source of contamination because contaminating DNA can also result from reagents or other products or there may be cross-contamination from sample to sample. So many low copy number samples are samples from contact, the touch DNA, or both I touch one thing and then leave DNA and therefore low levels of DNA can be highlighted in the exhibit. Now, contamination can occur during sampling and sample handling, or it may be intrinsic to the samples also induced during sampling at the crime scene, and of course it is never easy to know what is the probability of the occurrence of this. Now, what is another key thing that is also echoed dall'ISFG when speaking of mixtures? That is to step 5 says that the profile obtained from the sample but this does not say just ... this is taken from, say, the entire international community, which must necessarily be, the profile must necessarily be pronounced without knowing what is the profile of the suspect. In fact in this way can be guaranteed the approach unexceptionable and balanced interpretation of the profile emerging from the sample. Because the interpretation of the profile obtained from the sample having made available the reference profile of the suspect is indicative of imbalance in contrast with the absolutely objective of forensic science. So you

have to be absolutely careful. Gill, who is always just an authority says ... be 'short, is not only say the presence of contamination is very much felt, as we shall see later, and says that their definitions and analyzes, as they had got, had criticized by budowle, they say that their definition and analysis not is limited in the processing steps in the laboratory but include all phases of the transfer from the sources to the crime scene unit repertazione up to the same unit of the DNA. There is shown the scheme that they say, or is there may be a random transfer, there may be a transfer of the DNA at the crime scene or event due to criminal who committed it, after which there is a potential contamination that is, at any time for the arrival of the investigators, in laboratory tests and analyzes completed in the laboratory. That is, the contamination is almost always possible. And also tell them that the burden of proof may arise through three main terms, ie the so-called "innocent" you leave the track regardless of the crime, as a result criminal event or as a result of contamination or move to volunteer. Here we say that what is reported is the thought of Gill (inaudible) which is a little 'thinking actually of all forensic geneticists, or is that if DNA evidence corresponds with the suspect then he must be guilty of the offense, this is something that in fact the forensic geneticist who does the investigations should not be of interest, namely the question of what you see "is irrelevant to the scientist whose responsibility it should be only to illustrate the test correctly in the context of the specific case in examination. The question of what was the actual mode of transfer of DNA from the suspect on the same finding must be evaluated by the judge and not by the scientist, whose main role is to explain the various possible ways of existing transfer and the associated risks to each of associated with them. " That is, we are not judges, we only provide directions. Here you will not going to read all of them but of course if you see how much there is in the international scientific literature for precautions against contamination makes you realize how important the contamination findings with low DNA content.

So we see that in bold is reported that contamination of PCR reactions is always a problem because the technique is very sensitive to the low amounts of DNA, for which an operator preparing the PCR reaction can inadvertently add their DNA to the reaction, must everyone be typed. These are other precautions to avoid contamination, then I obviously need controls to be used and the limits, this here there are limits that are contained in that there is an extreme sensitivity of the method and the levels of DNA must keep in mind that can be in the background as well as DNA from casual contact may be highlighted in this way. Therefore profiles that may emerge from such analysis may not be at all related to the specific case. So according to the international scientific community to advertise the application potential of the low copy number without describing the limits is not taking a responsible role by the forensic geneticist. So they are given various recommendations, to summarize: the quantification is crucial because we need to know if you are in the presence of a quantity of less than 200 picograms of DNA, now the main problem of the low copy number samples as you'll see from the long conversation that I fact is contamination, so they should be applied in the appropriate protocols of inspection procedures in order to minimize environmental contamination on the fall of the crime, strict protocols for the collection and sampling of the exhibits to minimize contamination from handling from the crime scene, also strict procedures from all recommended to reduce contamination in the laboratory as a low-level contaminant DNA can result from reagents or other consumables, personnel or even by cross-contamination from sample to sample. The other key element concerns the procedure for the interpretation of the results and for the designation of an allele. Then the process that is recognized by the international scientific community is the analysis of the replicates, or is the sample must be divided into two or more rates and must be riamplificato. Now, the observation of a more amplified allele causes me to consider that repetition as a true allele and see that the scientific community again repeats: "assuming that during the sampling phase of contamination did not occur", ie the contamination is a point from which there is no escape. There is always and it is always possible and we must always take into account. So most of the scientists stress the need to carry two three replicates, an allele must be observed at least twice. So the redundancy allele is still the method recognized and accepted and is the basis of the reliability of low copy number typing. This is a small pattern that has been reported, taken from the book by Buttler, another great scientist forensic geneticist fact that, as you see, if there is a single amplification results are not reliable, they can not be trusted with the different amplifications results are reliable, but should be taken into consideration only those alleles that are repeated, those that do not repeat not be taken into account. There are of the authors, I can not remember the name but it is reported, that require even seven amplification ie it is clear that the greater the number of amplification, the greater the correspondence of the alleles, the more likely that that is the real allele. And then the other thing is it possible that the PCR product of a low copy number can highlight results that come from an amplified DNA that contaminates a sample not yet amplified, for this reason,

test samples are to be processed in the laboratory before reference samples in order to avoid any possibility of contamination, again returns the word contamination, the test with DNA already amplified. The Exhibit 36 has been inserted, for analysis, in a context where in fact had already been examined a large number of samples belonging to the victim. If I remember correctly in the interrogation comes to about 50 samples, therefore, can not be excluded that contamination may have occurred with the aforementioned mode on the other hand there were exhibited negative controls that should have been amplified at the same time and that there could provide an indication of the absence of contamination phenomena. We have already said. So, what can you conclude about the investigations that have been conducted on Exhibit 36 of the Scientific Police? So, there is no scientific evidence that prove the nature of the trace B blood, we saw that it was all negative, so tetramethylbenzidine as the diagnosis of the case, there is no evidence that there were cells of crumbling because they were looking for, do not follows from what has exhibited his colleague Professor Conti, is not that the methods of inspection are carried out according to international protocols in order to minimize contamination of the environment, were not applied international protocols for the collection and sampling of the specimen in order to minimize the contamination by handling, it is not known whether in the laboratory have been applied rigorous decontamination procedures in order to minimize contamination of the laboratory, has not been employed a reliable method for the quantification of DNA on the tracks A, B and C and quantification with the fluorometer has provided for the tracks B and C a result too low, indicative of the presence of a DNA below the sensitivity threshold or below 200 picograms per microliter and hence indicative of the presence of a finding probably low copy number as then result from the electrophoretic pattern. Then, by the electrophoretic patterns then it is clear that the sample indicated with the letter B was to be considered a sample low copy number, was the imbalance and it was below 50 (unintelligible) of alleles and low copy number in the sample would have had to be applied all the precautions that are indicated by the international scientific community. These include what has been said before: strict compliance with the procedures of decontamination of instruments and laboratory staff, analysis of the specimen in a laboratory where they were analyzed the findings attributable to the victim in order to avoid any possibility of contamination with DNA test already amplified. On the other hand it has been reported, I had already said that the finding had been inserted instead in the context, in a context in which they were examined a considerable number. They would have to be performed two three replicate amplifications with development of a profile of consensus, in this case the amplification was performed only once, it is the stroke that was performed twice but this is not what is required, is the 'amplified, and the use of negative controls in the amplification procedure in order to verify the presence of contamination, electropherograms not contained in one another. It does lack the records on file relating to the traceability or at least the documentation that has been performed, in fact the quantification ... the doctor said repeatedly that he had performed the quantification by Real-Time PCR on all samples, we saw it is also written on the technical report, but this is not accurate, that was performed on some and on others it was performed quantification different. With regard to the extract of the sample B shows that it has been repeatedly concentrated but it is not reported in any of the documents the process predicted. So we can say relatively riconcludere to Exhibit 36 that the sample A is relatively agrees with the conclusion reached by the CT, about the attribution of the genetic profile obtained from such samples to Amanda Marie Knox, relative to the sample B instead you do not share the conclusions about the certain attribution of the profile found on trace B to the victim, Meredith Kercher Dear Susanna, as well as the genetic profile obtained is unreliable because not supported by scientifically validated analytical procedures. Neither as previously explained is possible that the result obtained from this sampling may result from contamination phenomena occurring at any stage of repertazione handling or analytical processes executed. This is for the Exhibit 36. We continue?

PRESIDENT - Yes much ... As you still have? We want to take a break and resume at 14:00, 14:30?

DEFENSE AVV. BONGIORNO - More or less, President, today our work until the last hour?

PRESIDENT - But I'd be willing to do to end the relationship to experts and postpone the upcoming hearings requests, positions their consultants. But I think that with a little more than half an hour should end.

Vecchiotti C. - In half an hour, three-quarters of an hour.

THE CIVIL AVV. Maresca - But the questions, the examination of the experts from other parts of the President?

PRESIDENT - I rinvierei at the next hearing so metabolize a little expertise. similarly, the police officer, and so on so

THE CIVIL AVV. Maresca - And then the consultants? Voices in the background.

ATTORNEY GENERAL - E 'to be assessed, it is very unlikely that we can do it at the hearings that we have fixed because we ...

PRESIDENT - I will provide a other.

ATTORNEY GENERAL - But as tomorrow, as it would be more logical, that is, follow it ...

PRESIDENT - I did not understand sorry.

ATTORNEY GENERAL - Make tomorrow cross-examination of the consultants?

PRESIDENT - Sounds good to me.

THE CIVIL AVV. Maresca - We could go tomorrow President. Voices in the background.

DEFENSE AVV. BONGIORNO - President I ...

PRESIDENT - but says ...

ATTORNEY GENERAL - Because I believe that we do not make such times, then if we start well ...

THE PRESIDENT - Do you think that two hearings are not sufficient?

ATTORNEY GENERAL - A hearing for cross-examination I think that all goes away.

PRESIDENT - All right, then we also planned on August 1st.

ATTORNEY GENERAL - Yes, but we have to feel ...

PRESIDENT - So we 30 July and 1 August.

DEFENSE AVV. BONGIORNO - President I just wanted to point out that unlike in the rest of the year probably since August 1 closes the Parliament will be the last session, which usually is never closed on Monday, however, the Parliament likely there will be a session in which I I should be there.

PRESIDENT - You want to anticipate tomorrow?

ATTORNEY GENERAL - Tomorrow at least for cross-examination.

DEFENSE AVV. BONGIORNO - President tomorrow I can not, I always from Tuesday to Thursday ... on Friday?

ATTORNEY GENERAL - No, no.

PRESIDENT - Friday could not the Attorney General. But I would keep the program.

DEFENSE AVV. BONGIORNO - But you Saturday ...

ATTORNEY GENERAL - Saturday we have already fixed.

PRESIDENT - Yes July 30 we have already fixed.

DEFENSE AVV. BONGIORNO - So what? But on Saturday it can not be that it's over?

PROSECUTOR - There is a review of our consultants.

ATTORNEY GENERAL - There is the examination of the consultants ...

DEFENSE AVV. BONGIORNO - But what exam ... Voices in the background.

PRESIDENT - If anything, we will move forward in the afternoon on July 30.

DEFENSE AVV. BONGIORNO - But then that examination of the consultants? Ie they must ask questions to their mica there is an examination of the consultants.

PRESIDENT - They end the relationship another half an hour, three-quarters of an hour they end the relationship.

ATTORNEY GENERAL - An examination of ...

THE CIVIL AVV. Maresca - President'm sorry, we could go into closed session as we did last time?

PRESIDENT - Okay, then let's step back a moment, let's suspend.

At this point the Court and the parties retreat into closed session.

PRESIDENT - We returned to the classroom only to formalize. Adjourn the hearing until 15:00, then continue with the report of the experts to exhaustion and then resend to July 30 and we will do the cross-examination of expert witnesses. (Suspension).
TO RECOVERY

PRESIDENT - Please, we can continue.

Vecchiotti C. - Analyze laboratory tests that are relevant to finding 165b, which is described as hook bra with small piece of cloth attached white, blood-stained substance allegedly found in the victim's room, already finding 11 ... Y sorry. From the board of the progress of the works can be seen that this finding has been given an identification code and are also given the following information - see? - The type of track alleged saliva, description track the alleged cell exfoliation, quantities produced are certainly 50 microliters, the location and date of the first extraction. So, There is growing evidence from Sal on this finding, the 165b which is what characterizes the hooks, because the 165a if I am not mistaken is the piece of cloth, was not carried out any genetic diagnosis of blood through the test of tetramethylbenzidine or no investigation was carried out laboratory as always such as to indicate the presence of any cell exfoliation. The extraction was performed using also in this case the automatic extractor BioRobot EZI of Quizegen and the extraction of the traces was performed December 29 '07; again the amount of extract was 50 microliters. So, it then goes on to page 101 of the report in which there is a quantification which was followed by Real-Time so much on the track A much on track B. Now, from the examination of the relationship of the Real-Time shows that the quantification was performed on 3 January 2008 in two replicates that have provided the following values, we always talk about here, from this moment on track B, that is, the hooks and are 0:14, gave as a value, and 0.09, then the average of the DNA that was present in the sample was equal to 0.115 nanograms per microliter. Now, since the amount of extract given in Sal was 50 microliters, we must assume that the total DNA present in 50 microliters was equal to 5.75 nanograms large quantity allowed to believe that the positive track in question. I see that there is an error, it says nanograms bar microliter, no nanograms and is not microliter. You say a clerical error. So the amount in 50 microliters was equal to 5.75 nanograms. So it was clearly a positive track for the presence of DNA. Regarding the amplification of autosomal we have seen that these were also amplified with the same procedures that have been described previously and not only the autosomal but was also amplified

the Y chromosome as we shall see later. Even in this, are not shown, note any changes in the technical report for which it is believed that the total sample was 15 microliters of amplification Mix plus 10 extracted DNA then the DNA was analyzed and was amplified stood at 15.1 nanograms , I always remember that the limit was 0.5 - 1.25 then the same for the amount that is recommended. Capillary electrophoresis as well that present no problem and this is, this is the electropherogram on the race of the amplified sample of 165 which is dated 10 June 2008, which is stated in the technical report. Then, as I come back a little bit more markers, as you see, there are only two peaks, a peak or two peaks, but there are more than two peaks, rightly CT has formulated the hypothesis that it was a genetic profile resulting from mixture of biological substances belonging to at least two individuals of which at least one male. Subsequently concludes that the comparison made between the genotype resulting from track B of the specimen 165 with those belonging to Raffaele Sollecito and Kercher Meredith Susanna Cara has provided a result of compatibility, that is, the genetic profile shown in table 165.1 is compatible with the hypothesis of mixture of biological substances presumably flaking cells belonging to Raffaele Sollecito and Kercher Meredith Susanna Cara. And this is the table of results as obtained and interpreted by the doctor. Now, we need to see some things, I have reported here the definition of new stutter, which are non-specific peaks due to the production during PCR, we already mentioned, a shorter amplification product or a repeat on the same allele, because this is why we say had already been discussed by the GUP if I remember correctly with a previous consultant, Professor Vincenzo Pascali. Now, let's say that since the presence of multiple peaks in different markers indicated and you are in the presence of a mixed profile and the same CT confirms that there are international standards that are still of the recommendations for the correct interpretation of the guidelines are then, we must remember what is in my opinion the definition, interpretation of stutter in a mixture which is stated in the recommendations of the International Society of Forensic Genetics, Peter Gill and the reference of 2006 but is widely known to all forensic geneticists. In step 6, for the treatment of stutter, it is said that the area or the height of the stutter peaks is measured as a proportion of the area or height of the allele close. There allele and stutter, the stutter is usually less than 15 percent of the height of the allele close. So, this is the electropherogram that was sent to us, dated 25 September, on the interpretation of stutter, run by Dr. Stefanoni and in order to interpret their own, to assess whether the interpretation stutter has been made, as stated by CT , according to international standards and has been tested according to the recommendations of the electrophoretic pattern that was sent to us by Dr. Stefanoni by email on 10 May 2011, with the information on the height and the areas of all the peaks, I remind you that the ' height is critical because it is where we must evaluate the relationship between the two peak heights contiguous neighbors. In track who sent us is missing, any date of execution of the electrophoretic run, but the comparison between this and the electropherogram dated September 2009, where are indicated the stutter, it is observed that the peaks have the same height, then it is believed that the track sent to us on May 10, refers to that dated 25 September 2009. However, from the comparison of these electropherograms with the electropherogram attached all'RTIGF dated June 10, 2008 differences emerge about the height of the peaks in the plot because the peaks are attached RFU over a thousand, and two while in the aforementioned tracks, the electropherogram of 10 May and 25 September electropherogram peaks are RFU significantly less than one thousand and two. This is the track that was sent to us on 10 May with, where they are given all the peaks present with their height, really there are also areas that I do not think you see very well, but in fact there are. And then, there are some markers that I reported and now that I think could indeed had to be interpreted in a different way, at least this is my interpretation, these had already been the subject of dispute and for each one of them has been reported numerical value for the height of the peaks and this height will be used, it was in fact used to assess whether the peaks present graphically be interpreted as alleles or as stutter. We have said that the stutter must have a height of less than 15 percent of the allele main. If we look at the D8S1179 14 that the peak has a height of 52, then exceeds the threshold of 50, is the 39.09 per cent of the allele 15, then according to the definition of the International Society of Forensic Genetics should be considered an allele and not a stutter. Another thing is the peak 29 of the D21S11 which is the second, the first 29, which is 15.58 percent of the allele 30, exceeds 15 per cent, therefore, in my opinion, is an allele. Here as you can see there are several peaks in the D19S433, some were considered, the 12, the 13, the 15.2 and 16 alleles, and in my opinion the 14 is an allele. The D5S818, the peak 13, while having a height of 108 and not being in position stutter was not considered an allele while in my opinion it is. So we can say that relatively to markers D8S1179, D21S11, D19S433, D5S818 there has been an erroneous interpretation of the peaks present in the electrophoretic pattern, as were considered stutter peaks whose height was over 50 RFU, the D19S433 was the peak of 'allele was high 14 54, or exceeded the threshold of 15 percent of the allele greater, D8S11 the peak 14 was 39.09 Allele 15, D21 in the peak 29 was the 15:58 to 18 percent of

the allele, or were not in stutter positions and therefore should be considered alleles. But another thing to be considered, ie both the International Society of Forensic Genetics, expresses a very clear recommendation to step 6 and it is this: "If, in a mixture of alleles contributor minor are of the same height or area of stutter and then the alleles and stutter is not distinguishable should be included in the assessment alleles in stutter position that do not support the prosecution's case. Taking into account also the similar consideration about the possible occurrence of allelic drop-out - always in step 7 of the recommendations - it follows that all the peaks present in the individual DNA markers as reported in the electropherogram should be considered alleles. " Doubtful pro reo practically. The table below then again all the electropherogram and see that I have actually made a table showing the results that have been obtained and reported in the technical report by Dr. Stefanoni, then the interpretation of the electropherogram according to the recommendation number 6 International Society of Forensic Genetics and I made another table, where I collect what he says the recommendation number 6 but publishing only the peak height of more than 50 RFU, I would like to emphasize, however, that the recommendation number 6 does not make a distinction, not only says those above 50, does not say absolutely, so let's say I did that, I arbitrarily table type nevertheless it is clear that the alleles are higher in number than those that are listed and identified in the technical report. Then we moved to the amplification of the Y chromosome, the kit is a kit very well known, in fact known to all geneticists, Yfiler, the amplification conditions are the ones shown here, but in short, here too the volume of the final report is 25 microliters, the range Recommended is equal to 0, 5-1 nanogram per microliter, also in this case we see that as it was, was assessed 0.1 115 nanograms per microliter, were added 10 microliters then was amplified 1.15 nanograms of DNA which is well within the range that is suggested by the kit. Nothing to say capillary electrophoresis, and this is the route of the electrophoretic run of the amplified DNA, here you will see that, you see that there are always except in one case only one peak because in fact it is haploid, that is, the Y in a subject c 'it is only the Y that characterizes the male. And this is the table that was made summarizing the results obtained by CT. It says here that "the analysis of the Y chromosome has allowed us to determine the Y haplotype shown in Table 165.2 on the DNA extracted from the trace B and also this result confirms the presence of DNA belonging to Raffaele Sollecito in the trace analyzed. Since the Y haplotype obtained is equal to that belonging to Raffaele Sollecito - abutment carried out with the Y haplotype already reported in Table 30 of page 63 extrapolated from the genetic analysis of salivary swab taken from the same "and here is shown the profile of ' Y, the Y haplotype of track B. Subsequently, however, there has been provided, again by Dr. Stefanoni, kindly upon our request, the electrophoretic pattern with the presence of the Y, more of the same race, with the indications, however, about the height and the areas of all the peaks present. So what have we found? That in addition to the main peak which was identified by Dr. Stefanoni there are more peaks with heights of more than 50 RFU which, although not in position stutter, have not been taken into account in the technical advice and are marked with red arrows. This is in our opinion the reading that was supposed to do or both while in the technical report shows only one profile, one haplotype Y corresponding to that of Raffaele Sollecito, from a different reading, going to analyze those alleles that were present, say those peaks that have a height as you see for example 15 of the 82, the 13, the second, the first 389, 118, 76, 23 and 108, there is the 212 is 12 which is the 18.97 percent of the allele 13 then is not a stutter; under all'YS437, 14 has a height of 144 and is the 18,18 Allele 15 then is not a stutter, the S439, 9 has a height of 201 and then 32, 47 percent of the allele 10, so even that is not a stutter. So we believe we can say that is exactly what Dr. Stefanoni said that, let's say that there are more subjects in the electropherogram, but most contributors have multiple contributors also male that is not equal to one, but is more of a definitely . And this is the fact, say that the presence of more contributors who are confirmed by Y haplotypes are also indirectly to confirm the presence of additional alleles belonging to other parties in the mixture. Therefore it is a genetic profile in my opinion mixtures of unidentified biological substances, whose major component is certainly represented by the DNA of the victim, the minor component of DNA from multiple individuals, it compares the autosomal STRs, male , always compare Y chromosome, a haplotype of which corresponds to that of Raffaele Sollecito. With regard to the reliability of the find then we must say that there are in fact already described the manner and the circumstances in which the acquisition took place in the exhibit 165, here we give here only a few things so circumstantial, we remember that the finding was recovered 46 days after the crime, in a highly suggestive of environmental contamination, the DNA obtained while quantitatively sufficient to allow the analysis does not meet the minimum quality requirements because of evidence of environmental contamination. Several peaks, we saw because we believe there is environmental contamination, first showed Professor Conti, who had several peaks until proven otherwise be considered alleles were not taken into account in the analysis, but the presence was indicative of the

fact that in addition to Kercher and Sollecito, probably, other non-identified were represented in the genetic traces at the crime scene. In this regard, in our view, would be necessary to further amplification of the extracted DNA in order to confirm the presence of different haplotypes present at the scene of the crime, which is not clear although it has been made available an appropriate amount of extracted DNA. Furthermore, the documentation about the possible contamination of the specimen before and after the recovery in our opinion is inadequate, the simple negativity also the amplification control for other not attached is not sufficient to preclude environmental contamination of the specimen prior to the extraction and amplification, in fact would be necessary to obtain allelic profiles in the context of the environment, we saw showed us how it was before the professor the environment, the finding was recovered on the floor, was predictably in contact with dust environmental indoors and frequented by human Human is made up largely of elements, cells, hair, hair, etc. of human origin. And it has been scientifically proven, there are publications, that the dust in closed environments may contain tens of micrograms of DNA per gram, depending on the quantity of DNA of course the intensity of the attendance of individuals and the amount of dust that accumulates in the specific environment . It has been widely demonstrated that the presence of dust constitutes a significant source of environmental contamination in forensic investigations since the DNA resulting from such dust may be evident in the form of alleles in analysis of polymorphisms. The risk of incorrectly interpret these environmental contamination from dust can be minimized only by having the foresight to set extremely stringent control procedures, including the analysis of extracts from sterile cotton swabs soaked in sterile buffer passed on environmental surfaces to take samples of powder, in each case the allelic profiles obtained from powder or from environmental samples contaminated with environmental dust may be considered indicative of individuals who have attended that particular environment. And there are also scientifically say work along these lines, it has been shown that the direct correlation between human presence and levels of dust with the quantity and quality of human DNA present is difficult to generalize because of the potential effects of other factors such as uncontrolled environmental variables, such as may be light, heat, moisture, can degrade DNA, residual detergent for example, bleach can destroy DNA, ventilation systems can also serve as a vehicle for the transfer of dust between the different rooms, introducing DNA from from individuals who do not necessarily have attended to the particular environment. So to speculate interpretation would be necessary to multiplex amplifications on exhibit 165, whose alleles would have to be compared with the alleles obtained from multiple amplified performed on extracts of multiple samples of dust environment. Only alleles found on the 165 and not on finding environmental dust could be considered circumstantial evidence of possible importance, and this regardless of the height and the area of the peaks relating to it. Since this was not done the allelic profiles, Exhibit 165b, are not in our view be considered as evidence. The way we saw it so we jump. The final considerations are these: that of the nature of the material taken from the above findings there is no evidence scientifically convincing the presence of cells of disintegration, from the electrophoretic pattern relative to autosomal STRs one can say that with respect to certain markers there was a misinterpretation of the peaks present in the electrophoretic pattern as were considered stutter peaks whose height was over 50 RFU or exceeded the threshold of 15 percent or greater of the allele were not in position stutter and that, therefore, had to be considered alleles. In DNA extracted from the specimen 165b are more minor contributors that have not been highlighted by CT; from electrophoretic pattern relative to markers of chromosome Y, in addition to the peaks indicated in RTIGF as alleles, it appears that the presence of additional peaks with heights that exceed the 50 RFU that, although not in position stutter, were not taken into consideration. In DNA extracted from the specimen 165 are more minor contributors, confirming what has already been observed in the electropherograms of autosomal STRs and that have not been highlighted by the CT We therefore believe that the CT has arrived at conclusions restrictive of only two individuals, the victim and Raffaele Sollecito, as a result of an incorrect interpretation of electropherograms of autosomal STRs for failing to meet the recommendations of the International Society of Forensic Genetics of the correct interpretation of mixtures. The finding was recovered 46 days after the crime in a highly suggestive of environmental contamination, it is believed in the inspections carried out in Via della Pergola have not been implemented procedures for inspection and correct protocols for the collection and sampling of the findings, universally known to order to minimize the environmental contamination and contamination from handling. Therefore, in our opinion, the survey conducted in order to ascertain the presence of blood on Exhibit 36 and 165 were negative. The investigations citomorfologiche on these findings did not reveal the presence of cellular material, some samples of Exhibit 36 instead, especially the sample H, present granules with a characteristic morphology, circular or hexagonal structure with central sunburst and a thorough microscopic study, together with consultation of data in the literature have led to the conclusion that the structures in question are

attributable to starch granules, and material of vegetable nature. The quantification of the extracts obtained from samples taken of Exhibit 36 and Exhibit 165 performed by Real-Time did not reveal the presence of DNA. So much for what we have done. To conclude and summarize on Exhibit 36, in relation to genetic tests performed on trace A is agreed with the conclusion reached by the CT about the attribution of the genetic profile obtained from such samples to Amanda Marie Knox. With regard to the trace B, knife blade, we believe that the technical assessments carried out are not reliable for the following reasons: there is no evidence scientifically conclusive nature of the track blood B; performed by electrophoretic patterns can be seen that the sample was indicated by the letter B a sample of Low Copy Number and, as such, should have been applied all the precautions indicated by the international scientific community, taking into account that you did not follow any of the recommendations of the international scientific community concerning the processing of samples Low Copy Number, you share the findings about the certain attribution of the profile found on trace B to the victim Kercher Meredith Susanna dear because the genetic profile, as obtained, appears unreliable because not supported by scientifically validated analytical procedures, were not followed international procedures for inspection and international protocols for the collection and sampling of the exhibit, it can not be ruled out that the result obtained from sample B may result from contamination phenomena occurring at any stage of the repertazione and / or handling and / or analytical processes executed. For finding 165B we believe that the technical assessments carried out are not reliable for the following reasons: there is no evidence scientifically evidence of the presence of supposed flaking cells on the findings, there has been an erroneous interpretation of the electrophoretic pattern of autosomal Short Tandem Repeats, and there is was an erroneous interpretation of the electrophoretic pattern on the Y chromosome, were not followed international procedures for inspection and international protocols for the collection and sampling of the find, can not be excluded that the results obtained may result from environmental contamination and / or of contamination arising at any stage of the repertazione and / or manipulation of said finding. These are our conclusions.

PRESIDENT - Okay, thank you. I would say, just as it had been agreed earlier, to postpone to July 30, any questions for our experts in order to have time to metabolize them processed.

At this point, the Court has the acquisition of expertise already lodged at the Registry on 29 June 2011.