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SUPREME COURT - STATE OF CALIFORNIA

THE PEOPLE OF THE STATE OF CALIFORNIA, Plaintiff-Respondent, vs. KEVIN COOPER, Defendant-Appellant.	SUPREME COURT NO. Crim 24552 FROM SAN DIEGO COUNTY HON. RICHARD C. GARNER, JUDGE

San Diego County Superior Court Case No. CR 72787

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SAN DIEGO, CALIFORNIA, WEDNESDAY, NOVEMBER 28, 1984 9:35 A.M.

--ooOoo--

THE COURT: Good morning. Mr. Kottmeier, you still have the witness.

Dr. Root, you are still under oath, sir.

IRVING ROOT,

The witness on the stand at the adjournment, having been previously sworn, testified further as follows:

DIRECT EXAMINATION (Resumed)

BY MR. KOTTMEIER:

Q. Dr. Root, returning for just a moment to yesterday's areas of consideration.

One of the wounds that we discussed on Jessica Ryen is a superficial wound was a scrape or an abrasion to the base of the right thumb as illustrated in Exhibit 527.

During the period from yesterday to today, have you had a chance to review your notes and photographs in regards to the question as to whether that particular scrape occurred before or after death?

A. Yes.

Q. And yesterday I believe you told us that the scrape occurred after death?

A. I think I did, yes.

Q. And as far as your review of the material that scrape was before or after death?

A. Well, I think it -- in reviewing my notes I think I misspoke myself yesterday. I am not positive but I think the suggestion is more likely that it occurred before death rather than after death. I just -- my notes are not specific and I base that on the photographic review which I did not have on the desk with me yesterday.

MR. NEGUS: Could we identify that as to number.

MR. KOTTMEIER: Model number or the wound number?

MR. NEGUS: Wound number.

MR. KOTTMEIER: Wound No. 23 to the base of the right thumb.

Q. Yesterday afternoon when we last were talking together we had covered some of the wounds on Chris Hughes, particularly the chop wounds including the incision to the front of the face that came along the right side of the nose.

A. Yes, sir.

Q. And as I believe you stated yesterday that particular wound was number, Wound No. 1 as far as your numbering system which doesn't have anything except a basis in convenience for us to at least talk in terms of the same wound location.

A. Yes, sir.

Q. Referring you to Wound No. 15, which is a wound to the top of the head, a little bit above the series of chop wounds that we have indicated on the model, a little bit towards the back on the right side, the higher wound at a little different angle.

A. Just let me double-check my photograph for

reference. I'm sorry, my diagram. Yes, sir. Yes, sir.

Q. In regard to Wound 15, is that a chop-type incision with no fracturing underneath it?

A. My description is that of an incision, but because the wound margins are slightly abraded, and contused, that would suggest a chopping injury. Again, because the bone shows no evidence of injury, I am hesitant to make an absolute statement. But I do believe it tends to be more in the chop than the clean-cut incision.

Q. And, again, as we mentioned, particularly in Wound 16 through 21 on the left side of the head, the right side of the head, that wound, Wound No. 15, could have been delivered to the victim, Chris Hughes in position as pictured in 175.

A. Yes, it could.

Q. Wound No. 6 is a wound to the back of the right arm, the upper arm portion just above the elbow.

A. Yes, sir.

Q. Is that particular particular wound, in appearance, one which looked similar to the defensive wound that we discussed in Doug Ryen which was to his forearm?

A. It certainly could occur in that fashion, and there are some similarities.

Q. Yes. And what I am more concerned with is the physical appearance of the wound itself, that is, it has a pointed end to it but the middle of it is much wider and open in kind of a gaping, gash or slash fashion.

A. Well, it does gape wide open, yes. Yes, that is true.

Q. What were the measurements approximately of that particular wound?

A. On No. 6 it is 7.5 centimeters in length and is three centimeters in depth, and it does penetrate actually to the bone itself. The humerus, the bone of the arm.

Q. Which would make it a chop-type of wound?

A. Well, not necessarily, no, not in this case.

In this case I simply can't say, because it is only cut very shallow into the bone, actually just through the surface of the bone, and a knife cutting deeply, coming across in a slicing movement, could also incise shallow into the cortex and I simply don't know.

Q. Was that particular wound one that had bleeding with it so that you could say it was before death?

A. Yes, it did have some bleeding with it.

Q. And in particular, all the wounds that we have here to the outside or the outer portion of the right arm, as indicated in photograph 175, could have been done in the position that Chris Hughes was in when he was found.

A. That is possible, yes.

Q. And Wound No. 16, just for varification, this is a wound right here that is to the back side of the arm.

A. Yes. It is quite a large, deep, gaping wound. You have pointed to it.

Q. Now, I'd like to direct your attention to a series of stab wounds.

First of all, directing your attention to two wounds in the chest area: No. 3, which is to the right side of

the chest, and then No. 2, which is more towards the middle of the chest of Chris Hughes.

A. Yes, sir.

Q. On examination did you find that those were really one wound? That is, an entrance wound and an exit wound?

A. Yes, sir.

Q. I guess what I should say is not "one wound", but a wound caused by one blow?

A. Yes, I believe that actually there was a stab wound and it was primarily under the skin, it did not go into the body cavity, coming in at No. 3, and going up and to the left, towards No. 2.

Q. Did it actually come out the position of No. 2?

A. Yes, it did.

Q. What were the measurements on the surface of Wounds 3 and 2?

A. 3 was 3.4 centimeters in length on the surface. 2 was 3.2 centimeters in length on the surface.

Q. And the length of that particular wound?

A. About thirteen centimeters. There was some abrasion, drying, yellow-colored around the incision at the margin of the incision on Wound No. 3.

Q. And that particular wound could have also been given to Chris Hughes in the position that he was laying in on the floor?

A. Well, no. Oh, wait a minute.

Q. That --

A. Yes, it could have it. It is possible. That's the

right size.

Q. Would it require you to reach around though or bring it in from the side as opposed to a straight down motion?

A. Yes. But it could occur in that position.

Q. Referring now to Wound No. 4, which is a wound that is really towards the back area almost under the arm of Chris Hughes.

A. Let's see, this is No. 4. You have it marked in red.

Q. I think you may have anticipated the wound.

A. Is that -- no, I'm sorry. No, that's correct. I have checked it. It is under the arm, it is a red wound under the arm and that is 4.

Q. What kind of a wound was Wound 4?

A. Wound 4 is a stab wound.

Q. And the dimensions?

A. The surface dimension is between 2.5 centimeters to three centimeters in length, it depends. In that particular case I did stretch the skin as it laid loose. It was 2.5 centimeters, but as I tightened the skin up it was three centimeters in length.

Of course, this is a problem in skin wounds in general, because the skin can contract or it can stretch depending on the position of the body, so surface dimensions as I give them do not necessarily reflect the actual dimensions of the wound at the time it was inflicted.

Q. And this particular wound, how deep was it?

A. This one penetrated an estimated twelve to thirteen

centimeters into the body. It went into the chest through the sixth intercostal space between the sixth and the seventh rib, produced slight incision into the seventh rib, through the right lung, the lower portion, actually to the middle portion, the medial portion of the right lung, the hilus, but it also struck the major pulmonary artery, the main artery to the lung on the right. It also struck the esophagus, which is in the midline of the body.

Q. This is a very serious type wound, isn't it?

A. Yes, it is.

Q. And did you notice bleeding associated with the wound?

A. Oh, yes, yes. There was definitely bleeding in the wound with Wound No. 4.

Q. Was there a a lot of bleeding that would indicate to you maybe a time for this wound as to whether it was early in the attack on Chris Hughes or later in the attack?

A. Relatively speaking, early in the attack. He still had blood pressure when this wound, when Wound No. 4 was inflicted.

Q. Did that particular wound in cutting into the right lung, cause a collapse of the lung itself?

A. Some. Not total, but there was some collapse of the right lung.

Q. Wound No. 4 could have been delivered in position; is that correct? In this location that I'm indicating just behind the right arm?

A. Yes, it could.

Q. The arm is forward in Photograph 175.
A. No, I think I lost your question.
Q. The arm, the right arm is forward, it is not straight down hiding the location of Wound No. 4 --
A. No, I think that's correct.
Q. -- in this photograph?
A. That's correct.
Q. Referring you to Wound No. 25, which is really the wound that you had just pointed to in the right side of the back.
A. Okay.
Q. What kind of a wound was 25?
A. 25 is a stab wound.
Q. And its dimensions?
A. The surface dimension is 3.2 centimeters, it penetrated through the body,
Q. A distance of about what?
A. About thirteen centimeters. It went into the right lung and actually came -- well, it entered the chest cavity on the right between the fifth and the sixth rib, and it actually came out of the right chest on the front between the first and the second rib, producing some injury to the muscle.
Q. Or bruising?
A. Well, cutting actually incised the pectoralis muscle overlying that part of the chest. There was bleeding, it did not actually go through the skin in the front.
Q. But there was bleeding associated with that wound that you could even see on the chest surface of Chris Hughes?

A. Yes, that's correct.

Q. Those two wounds, 4 and 25, could they have been given in rapid succession based upon upon their location on the body?

A. Yes.

Q. Referring you now to some incision-type wounds, starting with Wound No. 5.

A. Yes, sir.

Q. Wound No. 5 is this almost elongated "Y" to the right shoulder -- well, upper arm area of Chris Hughes.

A. Yes.

Q. Can you give us some general dimensions of that particular wound.

A. Well, the major portion was about seven centimeters in length. However, as you have indicated in the, on the model here, there are two, well, the top has kind of a V-shaped appearance, and one of those is, well, actually both are somewhat more of an abrasion, scraping of the skin, rather than actual incising of the skin.

Those smaller ones at the upper length, upper end, one is about three centimeters long, one about two centimeters long, the penetrating portion of the wound seven centimeters, and that is a single line.

Q. When you say "penetrating", does that mean that was seven centimeters deep?

A. No. It penetrated into the skin subcutaneous tissue and muscle about two centimeters to three centimeters, seven centimeters in length.

Q. What you are saying is that seven centimeters had a cut in its deepest portion two to three centimeters deep.

A. That's correct, yes.

Q. That particular wound is really a product of two cutting motions as opposed to one?

A. There is a change in direction somehow, yes.

Q. Referring you to Wound No. 22, an incision that really occurs to the back of the head.

A. Yes, sir.

Q. The lowest wound that we have depicted on Model 5 to be right here, almost to the base of the skull just up from the neck.

A. Yes, sir.

Q. What were the dimensions of Wound 22?

A. The surface was three -- I'm sorry, the surface dimension three centimeters. It penetrated about seven centimeters into the body. It went between, well, into the atlanto-occipital joint, between the base of the skull and the the first vertebrae through the back. It did not hit the spinal cord or medulla, but it came extraordinarily close to it.

Q. Referring to the three wounds that we have just discussed, the cut along the arm, the incision to the back of the head and the cut in the back. I should say one stab and two incisions.

Was there bleeding associated with all three of those?

A. Well, 22 I have no -- let me double-check these, please.

Q. 22, 25.

A. Yes. I want to check 22.

There was very slight bleeding associated with Wound 22, the stab wound to the base of the skull. Very slight.

I'm sorry, would you repeat the other ones now.

Q. 5 and 25.

A. Well, 25 is a hemorrhagic wound that definitely occurred before death. And 5 is a hemorrhagic wound and it occurred before death.

Q. Now, turning to the superficial category. First off, Wound No. 7, a cut just above the right elbow --

A. Yes, sir.

Q. -- with some bruising near it.

A. Yes, sir.

Q. That was a small superficial type of wound?

A. It was an incision four millimeters long.

Q. Millimeters as opposed --

A. Four millimeters long, quite superficial. There was some bleeding with it.

Q. No. 8 is a cut to the right shoulder, in effect this is up under the arm itself and we have --

A. Yes, sir.

Q. -- we have pictured here on the diagram, there are two of them in fact, maybe we can discuss both of them --

A. Well --

Q. -- 8 and 24.

A. 8 and 24, yes, sir.

Q. Can you describe those two wounds.

A. 8 is in the back of the posterior axilla of the back of the fold of the arm, the armpit. This, on the surface, had a surface dimension of one centimeter. It penetrated about one centimeter in depth. There was a tailing of very shallow incision into the skin, my recollection is, extending from above down the lower part of the Wound 8. The margins of Wound 8 had a complete margin both around the stab incision as well as the superficial incision of a yellow appearance. I found no bleeding with Wound No. 8.

No. 25 --

Q. 24.

A. 24 is, well, quite close to Wound No. 8.

Assuming the arm down to the side, No. 24 is on the chest wall though, the right side. The appearance of 24 was quite similar to the appearance of 8 and had -- the surface dimension of 24 was ten millimeters. The penetrating portion, it penetrated maybe one centimeter, ten millimeters, and it had a tail of abrasion about eleven millimeters in length.

There was no bleeding with 24. There was a margin of yellow drying around the incised, on the incised skin margin of 24 just as there was on the skin margin of 8.

24 and 8 are quite similar in appearance.

Q. You indicated that 24 was on the chest. We have depicted it really closer to the back.

A. Well, I'm using the chest as the perhaps thorax. It is overlying the posterior chest, posterior lateral chest.

Q. "Posterior" meaning the back side of the chest?

A. The back, yes. Back side of the chest or the back.

Q. These two wounds, when you were questioned about them at the preliminary hearing about a year ago, you took some time explaining them; is that correct?

A. I believe so, yes.

Q. Since that testimony at that time at the preliminary hearing, have you had time to consider and test some of your thoughts in regard to the Wounds 8 and 24?

A. Yes.

Q. And what conclusions have you come to about the cause of a somewhat unique type of wound that you've described in those two wounds?

A. I believe 24 and 8 are caused by a knife. A stab, in a sense. More of a pushing injury. They certainly both occurred after death.

Now, both of these wounds, 24 and 8, have occurred in an area of the skin and the tissue is very loose, and you can push the back of the arm and you can push the back of the chest, the right posterior chest, the skin quite aways. It is not supported in that position unlike the skin say over the front of the chest between two ribs, or the back over two ribs, which is supported somewhat like the drug skin of a drum, taught.

Here it is is very loose. And if the knife is pushed into these areas, into these two areas, rather than thrusts, with a quick thrust, and even with a quick trust there will be some of this, the skin is going to be, the tissue is going to be pushed ahead before the knife actually penetrates; the tip of the knife penetrates.

The surface dimensions of these wounds therefore is

quite unreliable, a very unreliable measurement. As to the nature of the original penetrating wound, there is no way that I can simply say what the original penetrating dimension was.

An abrasion, however, of the margin does indicate that the skin was pushed ahead because it wasn't supported before the knife actually penetrated and that would account for that tailing incision on the skin, at the base of the skin, I'm sorry, at the base or the lower part of each of the wounds, 8 and 24.

They are very, very similar in appearance and they are very similar in direction, if the arm is down to the side, and that would suggest that the cutting edge of the knife was down towards the feet in both cases.

Q. In regard to these two wounds, these are, as we have discussed them, superficial-type wounds, these are not wounds that go deep into the flesh itself, but really more travel along the surface.

A. Yes. Just under the surface, yes.

Q. Directing your attention first, or now to the left type forearm. There were some superficial scratches or scrapes that you didn't assign any particular number to on the left --

A. I think that's correct.

Q. -- forearm.

A. I think I described some -- just one moment, please.

Yes, sir. I described some but I did not give numbers to some injuries on the left forearm.

Q. These are relatively superficial type of little,

maybe, oh, puncture, barely breaks the skin and a scratch along the surface in that area.

A. Yes. There was a little bit of bleeding, bruising under the skin associated with the areas of abrasions.

Q. Now, referring to three wounds: 9, 10 and 11; 9 starting uppermost on the right muscle indicating the right arm muscle, 10, and then 11.

A. Yes, sir.

Q. Can you give us a brief description of those three superficial wounds.

A. No. 9 is an incision that is four centimeters in length on the surface, and it penetrated one centimeter into the tissue, and there is very light hemorrhage associated with No. 9. No. 10?

Q. Yes.

A. Is an incision, 3.2 centimeters in length, 3.5 millimeters deep, quite shallow, and I really don't know whether that is before or after death. I cannot tell either from my report or from the photographs. I'm just not sure.

Q. And No. 11?

A. And No. 11 is an incision that is five centimeters long, eight millimeters deep, penetrates eight millimeters. There is some slight hemorrhage associated with No. 11.

Q. Could possibly No. 9, or any of the other two, 9, 10 or 11 have been associated with the wound that we see in the chest that we have labeled 2 and 3?

A. Certainly.

Q. In other words, as the blow comes in to be

delivered to this stab wound that went across the chest, could either of those three have been associated with the knife passing by the arm and cutting it as it came in?

A. The arm could be in, held in a position to be struck, incised with the same motion.

Q. Dr. Root, as to each of these victims did you take samples for the preparation of a toxicological examination?

A. Yes.

Q. Directing your attention first of all to Douglas Ryen, what results did you achieve from your toxicological examination of the materials that you collected?

A. Well, I had both blood and urine analyzed in this case, in the case of Douglas. The blood sample shows an alcohol concentration of .24 percent, and I give that with a great deal of hesitation because I simply can't interpret that in this case.

There is beginning decomposition of the body on Douglas by the time the blood sample was taken. And with decomposition blood alcohol levels simply are meaningless. Alcohol can be produced by bacterial action after death.

Decomposition means that there is bacterial decomposition. It is equally possible that bacterial decomposition can reduce the blood alcohol level. I simply don't know whether it had any effect or not. There's a measurement. I cannot interpret it.

Q. So basically all you may be able to say is that Doug Ryen may have had some alcohol content in his blood but you don't know how much?

A. That's correct. I, however, in my own laboratory, I have simply confirmed what has been reported in the literature, that it is quite possible to produce alcohol in the blood with bacteria.

Q. Without ever having ingested alcohol at all?

A. Without ever having ingested alcohol. I have produced alcohol up to .15 percent, and this is .24, but literature reports up to .22 percent. I simply don't know what this means.

There was, however, alcohol in the urine. Again, I cannot interpret that. I have a number, .23 percent. Again I simply can't interpret that because decomposition can play a role.

Normally what we would try to do is if you're going to use a urine on a living person you have a person empty their bladder and then collect another sample. Well, this is certainly not that.

Actually the reason I ran the urine here in this case was somewhat of a research project that I was doing at the time, some studies. It shows some alcohol, but again I simply do not know how to interpret that.

The only other compound is that we found was caffeine, a very small amount of caffeine in both the blood and the urine, a cup of coffee, a coke can do this, and a small amount of nicotine in the urine. If he smoked, he certainly could have that nicotine from that.

Q. When you say, "smoked," that would be consistent also with smoking a pipe?

A. Yes. Any kind of tobacco.

Q. Was there anything else as far as your toxicological reports that were indicative of anything?

A. We found no other drugs in Douglas Ryen.

Q. Did you take samples from Peggy Ryen for toxicological survey?

A. Yes.

Q. And what did you find in regard to Peggy?

A. Peggy had a blood alcohol level of .07 percent. I believe this is probably reliable because there was no evidence of decomposition of the body of Peggy when I removed the blood sample.

I also took a urine sample on her and it had a blood alcohol of .12 percent, and again I was doing some studies for my own information about urine alcohol. I don't think they are particularly helpful.

Q. In regard to that .12 that you've referred to, that is not an accurate blood alcohol level, is it, when you give us a urine --

A. No; no. I'm giving you the actual measurement in the urine. I have not tried to convert that to a blood alcohol, actually if I left out a lot of steps, which I simply can't do because of the nature of the test. This is the first sample before the -- in a living person, if you will, but if I used the conversion ratio, the calculation of this would convert down to an equivalent blood alcohol of about .07 percent. But that's really kind of a machination in this case. This is really a meaningless number, the urine alcohol, but it's not a high

number.

Q. That's what I'm getting at. Basically in regard to trying to determine Peggy Ryen's blood alcohol level, how much alcohol was in her system, the only number that we should really be concerned with is that .07, not the urine number?

A. That's correct.

Q. And that .07 would correspond to, oh, things that have been said, for example, in regard to California Driving Under The Influence Laws being .10.

A. Yes, sir.

Q. That number would be corresponding to the .10 blood alcohol type number?

A. That's correct.

Q. The urine number doesn't fit into that category?

A. Certainly not in this case, not at all.

Q. You, I believe, told us that Peggy Ryen did not have the evidence of decomposition in her body that you found in Doug Ryen?

A. That's correct.

Q. She was done earlier as far as your procedures were concerned?

A. Yes.

Q. The examination of the bodies of these four victims really took you a couple of days. This wasn't something that was done in a matter of a couple of hours.

A. No. I spent an average of four hours for each of the autopsies.

I did -- Let's see. Let me doublecheck myself

Peggy was done on the 6th. Douglas on the 7th. Jessica on the 6th. So Jessica and Peggy on the 6th; Chris and Douglas Ryen on the 7th.

They both took about very roughly four hours per case. Actually now -- No, Douglas actually took quite a bit longer. It was closer to five hours. Yeah, five hours.

Q. Dr. Root, in regard to Peggy, were there any other toxicological results or did she in effect have no other substances in her system?

A. Well, we did the drug screen on both the blood and urine and there were no other drugs found in her blood stream or urine.

Q. In regard to Jessica her toxicological results?

A. I found no drugs in the blood of Jessica. Since my procedure is if there is no urine sample I will take a sample of kidney and liver for additional examination. In the case of Jessica there was no urine. I did take specimens of kidney and liver for toxicology. There was no drugs in the blood, kidney or liver of Jessica.

Q. In Chris Hughes, did you do an examination?

A. Yes. And Chris, I had a blood and a urine sample. There were no drugs detected in his blood sample. We did find caffeine in the urine. And we found dimethylxanthine, this is a metabolic product, a breakdown product of caffeine, in the urine.

Q. That caffeine and dimethylxanthine could have been the result of drinking a coke or a couple of cokes?

A. Yes, it could have been. Although in retrospect I

found evidence that Chris had asthma. If he had been taking some medications for asthma it is possible we might actually be seeing -- the dimethylxanthine is very, very similar to caffeine, and that may be part of that particular thing; but in either case it is a very relatively small level. And we did not find it in the blood; it was only in the urine.

Q. Anything else that you found in the toxicological results of Chris Hughes?

A. None, no other drugs present.

Q. Now, based upon your experience in each of the cases of the victims you reviewed as far as the hatchet wounds to the head, can you describe to us, based upon the results that you saw, the effect that even one blow, full blow of a hatchet to the head of any of the four victims would have had on the victims' ability to struggle or resist?

A. Well, let me go just one step further and say a hatchet blow into the bone, because there are some -- some injuries that might have been caused by a hatchet that are very shallow, only through the skin, and they might not have any effect, but any time the hatchet has hit the bone, and that has happened in each of these cases, there is enough force striking the bone, particularly where they have actually incised, chopped into, fractured the bone, there is sufficient force to result in unconsciousness. Whether unconsciousness occurs, I can't predict. I would expect that a person would be certainly confused, dazed.

Let me bring it back to something perhaps we have all, I'm sure, experienced: Standing up suddenly under an open

cabinet door and hitting your head, you've seen stars. And the force that you've generally hit your head with is considerably less than the force that would be required to chop into the bone causing the fracture, and yet there is sufficient impact to your head when you -- well, I don't know whether everybody has done it, but I've certainly done it enough times, stood up into an open cabinet door or drawer door and have seen stars, and decided I would just as soon take a nap at that point until I could see straight.

Whether the person would actually be rendered unconscious I can't predict, but I would expect they certainly would be dazed. I would expect that they would be seeing stars.

Q. In regard to all the chops wound that we have discussed, I asked you specifically yesterday about Doug Ryen, but could all of the chop wounds be done by Exhibit 42, the hatchet that you looked at yesterday?

A. Yes, sir, they could have.

May I add a comment, however? There are chop wounds that on the surface I believe -- and I can't find them offhand, I would have to go back over each case -- that have a surface dimension that is greater than the actual cutting surface of this particular hatchet. However, this hatchet can be not only used as a chopping motion, but it can also cause a slicing movement as it hits. That certainly can enlarge, produce a surface greater than the surface dimension of the cutting edge of the hatchet itself.

So the fact that there are some chop injuries with surface dimensions that are slightly greater than, or somewhat

greater than, and some of those particularly to the face I believe in several of these victims, greater than the surface dimension of the cutting edge does not rule out this instrument. It can be used -- this can do it as it comes across, chopping and slicing at the same time, slicing being --

Let me define what I mean by slicing: Where the edge is brought across the skin surface, not just slice -- chopped to it or stabbed into it, but actually drawn across it.

Q. Unlike the experience of many of us may have had in using a hatchet to split wood, that is, when you bring the hatchet down and it sticks right in the wood and you continue to hit it to split the wood apart, in the human body when you hit, with the lubrication of blood, with the difference in the texture of flesh, basically you're telling us that the hatchet does not stick in the head each time to give you an impression similar to wood?

A. Well, that's correct. Although if you have ever chopped a piece of wood, say lengthwise, you can certainly bring that down through the edge of that wood for considerable distance. It's a good way to cut a hand, too. If you're trying to hold that faggot with that -- that little board or something with your hand and you hit it on the side, you can remove your hand because the blade will go right down through it. It's only when you hit on the broad surface of that log that that hatchet or axe is going to stop and leave its imprint.

Q. Contrast, if you would, the difference between the wounds as we have seen in this case caused by a hatchet similar to Exhibit 42 and wounds that you have seen caused by a

long-handled axe, and by "long-handled" I only use that to mean longer than a hatchet handle, and a kind of instrument that normally would be used with two hands as opposed to one.

A. Yes, sir. Well, first of all, most -- I have to call them an axe, long-handled. Most of those that I am familiar with have a heavier head, so there is more mass than this hatchet would have.

A force is basically the product of several items, but one is the mass, the energy delivered at the point of impact, force, is in part the product of the mass of the object that strikes and in part the product of the speed or velocity, M/V squared, if you will.

The width -- with a long-handled axe with two hands held, one generally takes a full swing bringing that across, and because of the, say, from one's back clear down into that log in front, so you've generated a large -- a long arc, during which you can generate a great deal of velocity; added to that the radius of that long handle adding to the velocity, you've delivered -- you have the potential of a great deal more force with the axe held with two hands than you can possibly deliver with a hatchet held with one hand.

With that great deal of force, the injury, I would expect to be a great deal more severe. An axe with two hands struck into the head would probably amputate the head at the point, slice clear through.

Q. You mentioned earlier in testimony this morning the difficulty to determine the dimensions of a cutting instrument, a knife, from the dimensions of the cut or incision to the skin

or the depth into the flesh itself.

A. Yes, sir.

Q. Have you had specific opportunities in your experience to see that difficulty of trying to measure a wound and find what the cause of that wound looked like?

A. Yes. Certainly there's a great deal written in the literature about this problem. I, however, have had a few unique experiences. I had a case not long ago in which -- well, multiple stab injuries -- in which the knife in this particular case was actually left in the body. It was a stab wound into the abdomen, and the victim died with the knife blade in place. So that when I saw the body in the case for the first time the knife blade was still present. That is a bit unique in my experience to actually have that opportunity.

When I removed the knife blade the injury on the skin surface was about a fourth less, and I don't recall exactly, between a third to a fourth less than the actual width of the blade.

Let me just give an approximation because I don't remember the numbers. The width of the blade was say about three centimeters. The actual incision on the skin measured someplace around 2.3 to 2.5 centimeters. The skin had contracted down around the injury after the knife blade was removed. There was no question in my mind what knife had been used to cause this injury because the knife was there in place in that injury.

Now, it is also apparent, and I've seen a number of occasions where it is known which knife was used and the knife

was brought in, not in place, where there are incisions on the skin with a stab wound and they are a great deal longer, larger than the width of the blade simply because there is motion, relative motion in various planes or at various points or various fulcrums with that knife. So that a knife that is say 3.2 centimeters in length certainly can cause some slicing motion and cause a surface dimension five or six centimeters as well as the stab wound.

I think, however, in this particular case there are a couple of illustrations. There were a couple of stab wounds where the surface dimension, and I will have to go back in and get the exact numbers, but something like 3.2 centimeters. They had gone into into the intercostal space, that's muscles between two ribs where there is a membrane that one can measure the actual distance. There's not as much tendency to contract or collapse as there is in the skin, which is a much more elastic tissue, where the dimension in the muscle from this same wound was four centimeters greater than the surface dimension of the skin in the wound that had gone through the muscle. Again indicating that there is relative motion at differing places in the body with a knife.

The same applies in attempting to determine the length of a knife blade from examining the wound. For instance, if a stab wound were made through the skin of a fold of my -- over my biceps muscle, I could collapse that muscle -- I'm sorry, that flap of skin to less than one centimeter, a full through-and-through thickness stab wound, and yet when that relaxes that would produce a wound that I would measure as two

centimeters or more.

In a similar fashion we can see that same thing occurring in many parts of the body. The body can be, because it's soft, mobile, collapsible, can be compressed. The knife blade may only in position be only penetrating through say six centimeters of tissue, and yet when the knife blade is removed the tissues go back to their normal dimensions. I might measure a knife -- I'm sorry a stab wound that is ten to twelve centimeters and, of course a long knife blade may be only inserted a short distance. So those are some of the tremenduous variables.

I can perhaps give you some ideas but I certainly cannot look at a knife wound, nor can any pathologist, and tell you what knife caused it.

Q. But can you visualize the shape of a single hunting knife that could have caused the wounds, the incision and stab wounds to all four of the victims in this case?

A. Yes.

Q. And is one of the possibilities the shape that is depicted in the larger knife in diagram 165?

A. Yes, certainly a shape of that type certainly could cause these.

Q. These particular wounds that we're dealing with, it took you a long time to do your autopsy, considerable time to discuss them, one by one hear in court; could they have been inflicted with a great deal of speed, relatively fast?

A. Yes. They can. To each individual the stab wounds could be inflicted in as short a period of time as less than a

minute. I'm saying that is theoretically possible. Whether that happened in this case, of course, I don't know.

Q. You can't tell which victim, for example, received their wounds before another victim?

A. No.

Q. And you can't do any more than you've tried to do during our testimony to tell us that maybe as to a single victim one wound was earlier or later; beyond that you can't order these wounds.

A. No, I cannot.

Q. You cannot tell us, for example, if there is time intervening necessarily where a person was unconscious during the attack?

A. No.

Q. You can tell us that a wound may have caused unconsciousness, but whether that could have occurred no one necessarily knows?

A. That's correct.

Q. In regard to each of these victims, did you prepare a certificate of death?

A. I had prepared, let's put it that way.

Q. And you are the surgeon that signed --

A. Well, I don't think I signed any of those certificates. The way the mechanics works in the Coroner's Office in San Bernadino, the certificates, and I think that's the way it is on those, were signed by either the Deputy Coroner or the Coroner, either Mr. Hammock or Mr. McCormick. But the information that's placed on there as to the medical cause of

death is taken direct from my report. I provide that information.

Q. And you sign the report?

A. I sign the report. The original autopsy report has been signed by me. That information is put on the certificates.

Q. Showing you Exhibit 533, for the record a certificate of death in the case of Doug Ryen?

A. Yes, sir.

Q. What was the cause of death to Douglas Ryen?

A. Multiple chop, stab, and blunt injuries; death occurred in a period of a few minutes from the time the first injury was inflicted.

And let me comment, specifically in this case this certificate was signed by Mr. McCormick, and the cause of death is precisely as I have it on my autopsy report. That's where he obtained that.

Q. When you say, "minutes", you are talking what range?

A. One or two minutes up to five or ten, 15 minutes even.

Q. Showing you Exhibit 534, for the record a death certificate in the case of Peggy Ryen, what was the cause of death in her case?

A. Multiple chop, stab, chop/stab incisional wounds. And that is precisely how I again gave that on the autopsy report. That is on the certificate taken from my report. Again the same timeframe --

Q. Minutes?

A. -- reference to Douglas.

Yes, minutes. And this report also was signed by Mr. McCormick.

Q. When you place that term "minutes" on a death certificate, it has the same general minutes of something one, two to potentially 15 minutes?

A. Yes, that's quite correct.

Q. Showing you Exhibit 535, the death certificate in this case of Jessica Ryen.

A. This is the cause of death: Stab incision of the right common carotid artery and internal jugular vein. And again minutes. And again that is the cause of death as I provided it.

Q. In that regard you're referring to the wound you had described to us yesterday that was in the right side of the neck?

A. Yes.

Q. In Jessica's case you examined her brain and found bleeding in the brain itself?

A. Yes, I did.

Q. So that in effect she was still alive at that point in time when she had received the blows with the hatchet to the head?

A. Well, at least some of them, yes.

Q. You don't know necessarily whether the knife wound to the neck was first or whether it came later on in this series of events?

A. No, I do not, except --

Q. But that was the cause of death?

A. The cause of death I felt in this case most significantly was the vessel injury to the artery and the vein, certainly the head injuries were significant, but not as.

Q. Showing you Exhibit 536, the death certificate of Christopher William Hughes.

A. Yes, sir.

Q. What was the cause of death for Chris Hughes?

A. Multiple stab and chop wounds, and again the same time frame, minutes.

Q. All of these four victims, did you have an opportunity to examine the contents of their stomachs?

A. Yes.

Q. And as a result of your examination do you have an opinion as to how long they were alive after they last had something to eat?

A. Very rough opinion. Establishing that is -- well, it simply cannot be done with any degree of accuracy at all. I can say that under normal circumstances the individual will empty their stomach, depending on the size of the meal, in a period of maybe a half an hour if it's a very light meal to as much as four to six hours if it is something like, well Thanksgiving turkey dinner, but there are exceptions, and it is entirely possible that you may not empty your stomach for many hours, eight hours or more.

Q. Usually that involves stress or a situation where the individual has some outside influence on them?

A. Such as a forensic pathologist on the stand, yes.

In this particular case if we -- well, they all had a moderate amount of food in their stomach. And if I assume that at least some of them are normal and were not under particular stress and did not have any particular illness, I can draw some conclusions based on that kind of reasoning that death probably occurred some one to three hours after they last ate, but an approximation.

Q. In regard to alcohol that is in the blood stream.

A. Yes.

Q. From a taking, for example, a drink of wine, does a person metabolize or burn off alcohol at a given rate?

A. Well, there's an average number, yes, this is a range, but there is an average number.

Q. And the average number is what?

A. Well, it's burned off -- well, very roughly at the rate of one ounce, the equivalent of one ounce of bourbon, one three ounce glass of wine per hour.

Q. And that would even start as soon as the person was drinking the wine, that is, in other words, while you're drinking the wine you're in the process of burning that three ounces off?

A. As soon as it gets into the blood stream, yes, sir.

Q. Maybe if you could indicate to us, assuming for just a moment a .07 blood alcohol in the case of a lady of Peg Ryen's size, about how many glasses of wine would it take to get a person to that .07? And when I say glasses of wine, I'm using the three ounce that you've just described to us.

A. Three ounce. Between -- Well, about three

ounces -- I'm sorry about three glasses.

Q. About three glasses of wine?

A. Yes. Well about three glasses of wine in her body. Now how much did she drink? Well, there's a total unknown because time becomes a factor here; but this would represent about three -- I'm sorry, three glasses of wine in the three ounce glasses in her body at the time the blood sample is taken.

MR. KOTTMEIER: I have no further questions.

Thank you, doctor, for your patience.

THE COURT: All right. We will take the morning recess, and you can take over after recess, Mr. Negus.

Remember the admonition, please.

(Recess taken.)

THE COURT: Mr. Negus, please.

CROSS EXAMINATION

BY MR. NEGUS:

Q. Dr. Root, of the, of the Four hundred times that you've testified in a court of law, prior to today or to yesterday, an approximation, would it be fair to say that approximately ninety percent of those times were in cases involving San Bernardino County?

A. Yes.

Q. And of those, those particular cases, would it be a rough estimation that maybe ten percent of those cases are something like Mr. Kottmeier and Mr. Kochis and myself were somehow involved as one of the lawyers?

A. Oh, I don't think -- well, somehow indirectly involved through the office, if that's what you mean.

Q. I'm just talking about personal. For example, you probably testified with me maybe a dozen times?

A. Oh, I don't recall. I don't even recall that, I'm sorry.

Q. And several times?

A. Well, with the exception of the preliminary hearing, yes, I recall that, and Mr. Kottmeier has been a trial attorney on a few occasions that I have appeared; I think one or two cases where Mr. Kochis was a trial lawyer.

Q. Then also at the preliminarys you've perhaps had more cases?

A. Well, I don't have numbers involving the numbers of people, just approximations.

Q. Well, would it, suffice to say, just with the lawyers in this room, be maybe between two dozen and three dozen times?

A. I simply don't recall. I suppose that possibly so, yes.

Q. And each and every time, at least with the particular people in this particular room, you have always testified as a prosecution witness; is that correct?

A. Well, I think we ought to put that into perspective. If I may answer this way.

I have been subpoenaed by the prosecution. I don't consider myself to be a prosecution witness or defense witness. In the few occasions where I have been called as a consultant,

it has usually been by the Public Defender's office, not the District Attorney's office.

I have only have a recollection of having been called as a consultant by the District Attorney's office on perhaps two occasions. But I have been called by the Public Defender's office as a consultant on a dozen or more cases.

Q. That being the case, involving where you have testified for other lawyers in my office, about the acid phosphatase in a rape test in a rape case; is that correct?

A. Acid phosphatase, alcohol, a number of things.

On a case like this I have been -- I was subpoenaed by the District Attorney's office as a witness. I will submit my bill to the District Attorney's office for my time.

I am available on this case, as I have been on every single case that I have ever testified on as a witness, available to both sides, and I have have been called by your office, by attorneys in your office that come to my office or consulted with me prior to testimony.

Q. But the question I was just focusing in, I understand there's lots of different things. But as far as the lawyers in this particular case are concerned you've testified always for the prosecution; is that correct?

A. I rarely, if ever, testify for one side or the other. I have been subpoenaed by the prosecution most of the time, that is true, but I -- I refuse to accept the fact that I am testifying for the prosecution. I am testifying for the Courts.

Q. Well, in this particular case you were called as a

witness for the prosecution. Mr. Kottmeier called you as his witness.

A. I was subpoenaed by Mr. Kottmeier, that is correct, yes. I have been available for consultation to him, as I have been available to you. You have not called me, but I have been available.

Q. The -- you say that the prosecution is paying for your time. That is basically just the time of your being in court to testify, not the official functions that you had back on June 5th, 6th and 7th; is that correct?

A. That's correct.

Q. That particular time is a contractual arrangement that you have with Mr. McCormick's office to provide certain services to the County of San Bernardino Coroner's office; is that right?

A. Yes, that's correct.

Q. And either alone or in connection with other pathologists you have been providing those services from the mid-60's; is that approximately correct?

A. Yes, sir, that's about correct.

Q. During that period of time have you had a lot of stabbing cases?

A. I've had a number of stab cases. I have probably done as many autopsy examinations on victims of stab wounds as anybody in the United States.

Q. Okay. So, in the thousands?

A. No, no. Stab wounds? Oh, more or less on the order of hundreds, I would say, but I don't have numbers.

Q. So, you have seen essentially all different types of, well, not all different types, many, many different types of knives used in stab wounds.

A. Yes. I have seen a number of them, although it is a rare day that goes by that I don't see something that I have never seen before, too.

Q. Well, any of the, any of the particular wounds in this particular case something you have never seen before?

A. I don't believe so. Although, I must say I hadn't really -- there were two particular wounds that we spent a little time on on Chris,

Q. 8 and 24.

A. Yes, sir. And I -- I have addressed those somewhat differently than I did previously because I have thought more in the interim.

Q. So, with those two exceptions, though, basically the other general wounds are not so out of the ordinary that they would have been out of your experience.

A. That's correct.

Q. With respect to chopping-type injuries, in just the general autopsy practice, are those rarer than are say stabbings?

A. Yes, sir, they're much less common.

Q. Would you say, even as extensive experience as you have had, that you would be talking less than a hundred instances?

A. Hundred cases, yes. Less.

Q. In fact, what are commonly called axe or hatchet

murders are fairly rare; is that right?

A. In terms of other types of injuries, yes, they are not common at all.

Q. Other than hatchets and axes, that kind of injury, have you ever been involved in any cases where other types of chopping instruments were used other than a hatchet or an axe?

A. Yes, I have.

Q. Machetes?

A. Machete, I think; meat cleaver, I know.

Q. This particular case, was it particularly, I suppose, taxing and arduous because of the large number of wounds on a large number of victims that had to be done in a relatively short period of time?

A. Yes, I think so.

Q. When you, when you went out to the Ryen residence on the night of June the 5th, was that at the request of Mr. Hammock?

A. I believe so. I received the phone call from somebody. I don't have an absolute independent recollection, but my best recollection is it was at the request of Mr. Hammock and that would be the normal routine.

Q. David Hammock has been for a couple years, I guess, a deputy coroner working in the San Bernardino County Coroner's office.

A. Yes, that's correct.

Q. And he works for Brian Mccormick, who is the elected Coroner of the County of San Bernardino; is that right?

A. Yes.

Q. Mr. McCormick assumed office for the first time in January of 1983; is that correct?

A. I think so.

Q. He was elected in the most recent election?

A. Yes, the most reelection. I think that was the date.

Q. And Mr. McCormick is essentially the person that you negotiate your particular contractual relationship with?

A. Well, I guess so. Actually my contract is written with the Board of Supervisors. Certainly Mr. McCormick is the person I negotiate with, but the contract is signed by the Board of Supervisors, not by Mr. McCormick.

Q. When you got to the -- when you got to the Ryen residence, well, let's see, you say it was apparently somewhat after while you were eating supper that you got the call. You live about 20 minutes from the Ryen residence?

A. No, I would say it is a good 40 to 45 minute drive.

Q. So, would it be fair to say that it would be like an hour after you got the call that you actually arrived there at a minimum?

A. I think so, yes.

Q. Do you remember approximately what time you normally eat supper?

A. It was late afternoon, I don't have a recollection. I think it was probably twilight or getting sort of dark when I arrived, but I'm vague. I am not really sure about that.

Q. Were there people there present already from the transport service that contracts for the County to transport the

bodies of people who have been murdered to the morgue for the autopsies?

A. I don't recall. I made no record and I don't have an independent recollection.

Q. Do you recall anybody you did see at the scene?

A. By name I think Mr. Hammock was present. I'm fairly certain he was, but I don't recall. I have no independent recollection of who else was there. There were a number of people that I knew, but I really can't recall precisely who they were by name, no, sir. I'm quite certain Mr. Hammock was there.

Q. How many people would you say were in the house while you were there?

A. Oh, I could only give an estimate. A dozen, two dozen, possibly, but they were in varying parts of the house or outside. I don't know.

Q. Was the Sheriff there? Did you talk to the Sheriff, Mr. Tidwell?

A. I believe so, but I -- I'm not a hundred percent positive. I know I talked to several people who were not in the bedroom, they were I think in the living room. These were people who did not, to the best of my recollection, go into the bedroom where the bodies were found during the period of time that I was there.

I think Sheriff Tidwell was there, but that has been a long time and I simply I made no records of who was there. I don't have an independent recollection. There was a lot of people.

Q. While you were there were you essentially briefed by the various investigating officers whoever they were?

A. Yes, I was given information about what they had found and what was going on. What information they had, I believe.

Q. Did that include information about suspects?

A. Not to the best of my knowledge, no, sir. No. I think the information basically included information --

THE COURT: Doctor, I'd rather you not volunteer and answer the question. Unless you feel you must explain, then certainly you can volunteer and you can explain an answer.

BY MR. NEGUS:

Q. Well, the basic task that you're required, as it were, by law under the duties of the autopsy surgeon, are to come to a conclusion about is the cause of death; is that right?

A. That is one of the things that I do.

The circumstances surrounding the death, what role other factors might have played in the life and the death of this individual.

Q. As far as the -- that particular issue, that is, what instrumentality as opposed to suicide, poison, murder, murder by chopping and stabbing, that particular determination was not a difficult question to answer in this particular case; is that correct?

A. Not particularly difficult, no.

Q. In, this -- however, in your testimony from Mr. Kottmeier you have alluded to, to other issues such as type of weapons used, positions of the victims at various times that

they received the injuries, things of that nature.

Are some of those questions perhaps more complex and demand more analysis, more information than determining the cause of death?

A. Well, certainly they involve more information and other questions. They may or may not be more complex. They are issues that I am not infrequently asked about. Those are the kinds of things that I, as a forensic pathologist, will attempt to do. Those are certainly the kinds of things that I, as a forensic pathologist, and a teacher, try to impress upon my students, my residents.

Q. Well, I understand. You can be relatively sure if you come into court on a case like this that one lawyer or the other is going to ask you about the kinds of weapons, and the positions of victims, that sort of thing. Is that fair --

A. Yes, I think that is a reasonable assumption.

Q. But I suppose what I was getting at is not did you anticipate being asked those questions, but in the context of this particular case are questions about types of weapons, for example, more difficult to answer than questions about cause of death?

A. Well, as far as type of weapon, no, I think not.

As far as a specific weapon, I don't -- I don't think I can tell you a specific weapon in this case.

I have some difficulty weighing in my own mind the degree of complexity. Is it more difficult to tell the type of weapon than it is to tell the cause of death, I think it is probably about even.

Q. Okay. Let me just try and focus in on another aspect.

As far as what you were able to see at the scene is concerned, are those observations perhaps more important in the context of this particular case in analyzing, for example, questions about sequence of injuries, the types of weapons that were used, the position of the victims during the attack, than cause of death?

A. Well, that's a quantitative question and I really don't think I can quantitate it.

Let me put it this way. I have never really tried to separate those kinds of things in my mind. I find that if I can, and I rarely unfortunately have the opportunity to go to the scene, constraints of time, but if I can I find that I gain information -- every case where I have been to the scene has helped me in the final analysis of the case in different ways in perhaps reaching a conclusion as to the cause of death, perhaps in reaching a conclusion some was as to the instrumentality, a number of questions that I have felt were pertinent.

But I can't say that I can give you an approximation of the weight of each type of information.

Q. Is one type of question that often gets posed to you, um, the question of, for example, the number of assailants?

A. That question does come up from time to time.

Q. And within that particular context there is often even issues of trying to assess the varying degrees of responsibility of multiple assailants; is that correct?

A. That may be a question that has come up from time

to time, yes.

Q. In the context of this particular case, when you were at the crime scene, did you, were you looking for things that might help you on the issue of the number of assailants?

A. I am not quite sure how to answer that question. Certainly my initial impression was where, were, was more than one assailant involved.

Q. As you testify here today, and yesterday, are you aware that a subcategory of that question which has been debated in this particular case is the number of weapons that were used?

A. Yes, sir, I am aware of that.

Q. And are you aware that basically the way the argument is framed is the prosecutor is essentially arguing for fewer weapons and I am essentially suggesting more weapons?

A. Yes, I believe I understand that.

Q. The Ryen crime scene had a large number of varying types of blood spatter patterns on the walls, carpet, furniture, bed, bedding of that particular room; is that correct?

A. Yes, my recollection is that it did.

Q. Did you attempt to analyze any of those patterns at all while you were at the scene?

A. I think only in the sense of getting a general impression of what had happened. I don't recall trying to do a specific analysis of blood spatters, splatter patterns.

Q. Well, there are certain kinds of blood splatter patterns a pathologist perhaps is more able to lend his expertise to than others.

What I am thinking about is patterns of blood like

arterial spraying, which you need to know something about anatomy and the way the human body functions to figure out.

A. Well, let me answer it this way. I have looked at patterns, and I have been able to reach conclusions in some cases to some extent, based upon my knowledge of physiology.

But, on the other hand, there really is no particular field of study that I have taken, not taken specific courses, in pattern analysis. It's possible other people have, I have not.

Q. Well, let me -- I will try and be more specific.

When you were at the Ryen crime scene, I placed on the, on the wall Exhibit 223, I think it is, it may be hard to see all the way the across the room so I'm going to go get another picture of a detail of that, Exhibit 505.

Now, some -- when, when an artery is cut, um, an artery in some instances will spray blood, I think there is just a squirt of blood going out from the artery; is that correct?

A. Yes, that's correct.

Q. And when the -- when the artery does spray it's being essentially -- the force behind it is coming from the pumping action of the heart; is that right?

A. Yes.

Q. And the human heart will sort of -- pumps in pulses; that's what basically the way it works; is that right?

A. Yes.

Q. So when the artery, when an artery is spraying there will be differential patterns, you will have blood being sprayed with greater force, falling off, greater force, is that

basically correct?

A. That's correct, yes.

Q. From what you are able -- in your background and experience, do some of the spraying patterns on the wall there, south wall of the Ryen bedroom, appear to be at least consistent with that type of arterial spraying?

A. May I come up closer?

Q. Sure.

A. Yes, sir, I believe so.

I might comment that there are, well, for lack of a better word, vertical, more or less vertical lines mixed in with this spray pattern. I believe the vertical lines are to be drops of blood or streams of blood that have -- where the blood has hit an then has run down the wall.

Q. I'm not trying to suggest that everything in the pattern is a result of the arterial spraying, but just a part of the pattern does exhibit that particular characteristic?

A. Yes, I believe so.

Q. Now, at the time that you were at the scene you did not have the benefit of any like analysis of whose blood that was; is that right?

A. That's correct.

Q. Let's, for just discussion sake, assume that the blood, at least in most of that pattern probably came from Doug Ryen; are there any injuries to Douglas Ryen which you can say definitely could have produced that particular pattern?

A. Yes, sir. There is one I believe.

Q. Would that be No. 24?

A. Well, let me doublecheck that. I appreciate the help. Let me check myself.

Yes, sir. No. 24 is of the -- of all of the wounds that Douglas Ryen had, that one would be the most likely to have produced this pattern.

Q. That's because the artery that was dealt with in that particular -- in that particular -- in that particular wound, the carotid artery, is one of the major arteries of the human body; is that correct?

A. Yes, I think that's a fair statement.

Q. And in terms of volume of blood going through it, it's one of the larger ones -- especially one of the larger ones that's easily accessible to spraying outside?

A. Yes. Of course, the largest artery is the aorta which is vastly larger than this, but it is one of the largest major branches off of the aorta, yes.

Q. Was Douglas Ryen's aorta severed?

A. Yes -- Aorta? No, I don't think so. Let me doublecheck myself on that one. I don't believe his aorta was severed, no.

Q. So, of all the -- well, let's put it this way, of all the wounds to Douglas Ryen, was the carotid artery the largest artery that you can say was severed?

A. Yes.

Q. There are arteries in all parts of your body, or not all parts but throughout the extent, the length and breadth of the human body; is that correct?

A. Oh, yes, that's correct.

Q. Including, for example, the finger?
A. Yes.
Q. In terms of volume of all arterial spraying, is the pattern on the wall behind the bed here, does that involve a relatively -- can you tell if that's a relatively large artery as opposed to a smaller artery such as you might find in a severed finger?
A. If I have a choice between a carotid artery and a severed finger, I would say -- call -- say this is the carotid artery.
Q. Why is that?
A. Because of the volume of the blood, the size of the drops, the pattern.
Q. So, probably in all of the wounds that were inflicted on Douglas -- Douglas Ryen, there were -- many of them had injuries to one small artery or another; is that right?
A. There should have been, yes.
Q. But in terms of at least what you saw, the other arteries were not of the type that would be likely to produce that kind of high volume spraying pattern?
A. That's correct.
Q. When you were at the scene did you look around to see whether or not there was any -- any evidence in the -- in the Ryen house of meals having been consumed by those people?
A. I don't remember looking specifically, no, sir.
Q. When you -- when you were examining Peggy, just looking at the gravitational patterns of blood on her body, was it apparent that some of the wounds that she had received were

inflicted upon her when she was in an upright position?

A. Well, I think --

Q. If you want I'll get you the picture.

A. Thank you. That would help.

Q. We have one picture, Exhibit 217 here, and I think I can find you a couple better ones.

A. Well, I think I can answer your question from this photograph.

Q. Okay.

A. There are some drain patterns of blood on the abdomen. All right. She has one on the thigh, on the right thigh where the drain pattern is running -- where the blood is running down from the head to the foot direction. Now that blood could not have drained in that direction in the position that she is lying in this photograph.

Q. Okay. So she would have to be, at least her torso would have had to have been upright?

A. Yes.

Q. While you were there did you -- did you make any attempt to try and figure out, you know, where she may have been in the room at the time that she was -- was in fact in an upright position?

A. Not specifically, no. I think she was in an upright position, well, certainly based on that one drain pattern on her lung, but where, no.

Q. The injuries that you saw to Christopher Hughes, was there anything inconsistent in those injuries with Christopher having been attacked at essentially the spot on the

rug, leaving aside whether he is standing up or lying down or whatever, but essentially the spot on the rug that he was found in and then just fallen and received all his injuries in that particular spot?

A. May I review? Oh, wait a minute. No. Well, from my findings I don't know where he was when he sustained these injuries. Could it have occurred in the approximate location where he is in? From my point of view it could have. I can't answer that.

Q. Was there -- is your answer -- would your answer be the same essentially then for Jessica as well?

A. Well, I'm inclined to think that there is a difference with Jessica, I think.

Q. What's that?

A. Well, that sort of ties in, and I can't be positive about this at all, that ties in with something I found in Peggy or on Peggy that I have not testified to earlier.

Q. Well, I'm just talking about the injuries now. We will leave that issue -- I think that's perhaps not responsive to the question.

But the injuries that he has received, is there anything about the injuries that are inconsistent with having --

A. Oh, could they have occurred in the approximate -- all of them occurred in the approximate location although not necessarily in that exact position?

Q. Right.

A. From the injuries alone I don't think I can answer

one way or the other. I think they could have occurred there. I can't say they didn't.

Q. With Chris and Jessica --

Well, have you attempted, in coming to court or in consulting with Mr. Kottmeier, to sort of basically organize the different wounds to the different -- to the different victims in any fashion other than the -- the order in which you examined them at the autopsy?

A. I did not. I do know that Mr. Kottmeier had them organized in a fashion different than I did.

Q. Okay.

A. But I did not come up with that arrangement, no.

Q. Mr. Kottmeier's basically attempted to distinguish between incised wounds versus chop wounds versus stab wounds versus superficial wounds; is that how you understood his question?

A. Yes.

Q. So that particular organization, presentation then of the material was essentially based on Mr. Kottmeier's analysis rather than your own; is that correct?

A. Well, I will assume it was based on his analysis of my findings and in consultation with me, but it was not my idea to present it in that fashion. I was never consulted on that point at all.

Q. Okay. You didn't -- you didn't sort of put the wounds into the different categories?

A. I did not, no.

Q. Similarly with the -- with the color marks, red,

brown and green on the dolls, were you the one that chose the particular -- the particular classification of each wound by red, brown or green, or was that Mr. Kottmeier as well?

A. Well, I did not do it it. I assume Mr. Kottmeier.

Q. Were -- when Mr. Kottmeier was going over those with you -- I take it he did show them to you so that in order to preserve time before you actually got on the witness stand, am I --

A. Yes. Well, very precisely Mr. Kottmeier brought those dolls to my office. They were color-coded as they are now when I first saw them. I went over them with my photographs, my reports, and my diagrams to verify that the wounds, the lines, the markings, the color-coding on the dolls did correspond with my understanding and description of where the wounds were on the bodies.

Q. You checked them then for location?

A. Yes, I did.

Q. What about for classification, that is, the brown, red and green is I believe chop, knife, and post-mortem with your qualification of post-mortem?

A. Well, my recollection is that they were consistent. I simply don't recall whether I questioned all of them, but I think they all were consistent with my observations. I'm just not sure.

Certainly as Mr. Kottmeier asked those questions of me in Court today -- no, yesterday and today, and as I went back over my notes, I think there was really only one or two maybe where I had a question as to whether they had -- whether it

was -- the nature of the wound and whether it was ante-mortem or post-mortem, with or without bleeding rather.

Q. That was the wound to Jessica, No. 23, that you spoke about first thing this morning?

A. I think that was one of them, yes, sir.

Q. Just -- just taking -- just in attempting to get useful information out of -- well, is it -- is it -- is it a useful procedure in analyzing what happened during a death to try and place the various wounds in patterns such as Mr. Kottmeier did by the incised, stab, chop, superficial?

A. I can see some use to it, yes, although I didn't do that myself and I think I've reached conclusions -- well, I reached my conclusions without having done that.

Q. Okay. As far as the -- as some of the issues that we're concerned about, for example, number of weapons, number of assailants, those sort of issues, the patterning process can be perhaps even more useful than cause of death; is that correct?

A. I think that's reasonable, yes.

Q. Even though there's always a caveat about -- about dimensions of knives, there is many, many variables; is it useful to look at the patterns of dimensions of wounds?

A. There can be some use, yes.

Q. And is it also useful to try and form patterns of wounds by where on the body they were inflicted, as I take it that was the purpose behind the dolls?

A. Well, I don't -- I would rather avoid the last part of your sentence.

Q. Okay.

A. Your question, the purpose of the dolls, you will have to ask Mr. Kottmeier that.

Q. Okay. We will ask Mr. Kottmeier that.

But as far as that particular -- that particular enterprises like what we -- appear to have before us on the dolls, again trying to see -- to visualize this as best we can, you know, which areas of the body were attacked, by what kind of instrument is a useful forensic task; is that correct?

A. Certainly I think that's been done here, does tend to give one a visual image of what's happening here. I think that's helpful.

Q. Is it also helpful -- Mr. Kottmeier asked questions not necessarily in a systematic fashion, but he asked you some questions about attempting to get some idea of sequence of the wounds by the amount of bleeding that had taken place; is that also useful as far as trying to -- trying to visualize what happened is concerned, trying to get some sort of a rough, very rough time sequence in that fashion?

A. Yes, I think that is important.

Q. And obviously it's also important the type of -- trying to get questions as far as patterns is concerned, the type of questions that Mr. Kottmeier asked you about whether or not the wound could have been inflicted in the, for example, the position in which the victim had fallen or whether we know it had to have been inflicted in some other position, again as far as sequencing is concerned?

A. I think I lost your question. I'm sorry.

Q. Okay. I will try.

A. It was somewhat long. Could you --

Q. Is it also important to try and, in the sequencing process, to try and form patterns as to wounds that took -- that could have occurred in the final position as opposed to wounds which we know did not occur in the final position?

A. I can see some value to that, yes.

MR. NEGUS: Having given a preview of coming attractions, I think -- your Honor, I haven't finished integrating all the information that I got from Dr. Root yesterday and today. My next, I think stage in the proceedings is to do just that, try and form those patterns. Could we take an early --

THE COURT: Sure. All right. We will break it, ladies and gentlemen, for lunch. Remember the admonition. Don't talk about the case amongst yourselves. Don't permit others to discuss it with you. Don't express or form an opinion on the matter be back at 1:30 please.

(Noon recess taken.)

SAN DIEGO, CALIFORNIA, WEDNESDAY, NOVEMBER 28, 1984 1:35 P.M.

--oo0oo--

THE COURT: All right, counsel.

IRVING ROOT,

The witness on the stand at the noon recess, having been previously sworn, resumed the stand and testified further as follows:

CROSS EXAMINATION (Resumed)

BY MR. NEGUS:

Q. Let me -- Doctor, I think at one point in time we may have forgotten, or Mr. Kottmeier may have neglected getting the measurement, the measurements and weight on Peggy Ryen.

How tall was she?

A. Well, I -- I did give that but just -- I will give it again. Just a moment. One moment please. Peggy was 68 inches, 140 pounds.

Q. Okay, five foot eight, then 140 pounds?

A. Yes, sir.

Q. The 140 weight, that's her weight when she's on the -- in your -- at the morgue.

A. Yes.

Q. Is that -- is there some weight loss involved in bleeding to death the way that she did?

A. I am sure there is, yes.

Q. Can you estimate what her, what her weight might

have been in life just before she died?

A. Well, she couldn't have lost -- if she'd have lost as much as blood as she could have, she couldn't have lost over seven or eight pounds in blood loss.

Q. She was then a -- did you receive anything, any information about her, as far as history is concerned, evaluating her, for example, where you were told she could ride and shoot, was an athletic-type woman?

A. No, no, I don't have that information.

Q. Just looking at her, examining her as far as part of the autopsy, did she appear to have -- well, as a person 40 some-odd years, 41 years, 42 years, whatever her age was, did she have appear to have a fairly well-developed musculature?

A. She was well-proportioned. I don't think she was -- she certainly was not overweight. This weight is very close to -- I'm assuming the 140 pounds, but even so, very close to her ideal weight, and my recollection is that she was well-proportioned.

Q. What I'm asking is, was there anything inconsistent with what you saw, with the description you saw of her after, as being a vigorous, athletic woman?

A. No, not inconsistent at all.

Q. Doug Ryen was approximately six foot two, approximately the same height that I am.

A. Well, he was six foot two. seventy-four and a half inches, yes.

Q. But in terms of his frame, did he appear to be a thin man?

A. No. His weight was 176 pounds. He certainly was not thin. Very close to ideal weight, I would say.

Q. Did he also appear to be then a man who would be consistent with being somewhat athletic?

A. Certainly not inconsistent with that at all.

Q. And as as near as you could tell in examining them, there was nothing about either of those two individuals that suggested, before they were attacked, that they had any serious medical problems or other deformities?

A. Well -- just one moment. No, neither of them had any significant injury, disease process.

Q. Now, let's see. What I would attempt, like to try and do, is attempt for each of the victims to chart some of the different injuries that were received, and I think it might, if nobody has any great objection, might be easier if I wrote what you said better than having you have to stand up here at the board because I'm going to have you consult with your notes.

A. That's quite agreeable to me.

Q. Okay. As far as Douglas Ryen is concerned, in evaluating the wounds, you know, where the wounds were on him, whether they were consistent with being received in the position in which he died or at least in the position in which he was found, as opposed to some other position, first of all, that particular type of analysis makes most sense, does it not, for the portions of the body which are, like the trunk, the head, the neck, the shoulders, the thighs, that sort of area, as opposed to trying to think about the injuries to the arms. Is that correct?

In terms of trying to sequence what happened, one can assume that most of the injuries to the hands and arms are injuries that are what you called defensive wounds.

A. Oh, I think that's proper -- I think that's the better explanation. As a generalization, injuries to the hands and certainly forearms.

I am not sure about arms, but hands, forearms in an assault are not the primary target of the assailant, they get in the way. Somebody wants to hurt somebody they're not going to do -- I mean, they want to do serious injury, they're going to go for the head, the chest, maybe the abdomen.

The hands, the arms, get in the -- forearms get in the way and so they're not primary targets. They get in the way most commonly because they're put up to protect oneself. That is hence the name defensive injury.

Q. What I would propose to you then, as far as the wounds to the various victims, that we classify them under four divide categories.

First of all, the category that the wound was not, from evidence that you can determine, either from the bleeding patterns or just the position of the body, did not, was not inflicted in the position in which the victim came to rest.

Then ones where you can say definitely, there are some wounds that you indicated to Mr. Kottmeier it definitely appeared from all the evidence to be inflicted in a final position.

I believe you also testified as to some of the wounds that you couldn't tell.

A. Well, now, my understanding of the questions that Mr. Kottmeier asked me, certainly the way I answered them, was could they. When I addressed the question about was an injury inflicted in a given area, could this injury have been inflicted in this particular area. Or, I'm sorry, in the position where the individual is.

Now, with rare exceptions I have not attempted to address the issue, was the injury inflicted in this position, as a different matter entirely.

Now, in the case of Douglas I think I did address that on two wounds that are visible. I don't recall the numbers offhand, we can find them. But there are two wounds on -- one on his left arm and one on the left chest. Let me point to them, please.

Q. Okay.

A. In which the blood drains down from the wound by gravity in the position in which he is, in which the body is positioned.

Those wounds I think I addressed could have occurred -- well, they could have been present while he was alive in that position. That is a little stronger statement. But many of the others I simply was asked if -- it was my understanding I was asked, could they have occurred in this position; not did they.

I think there was a big difference and I don't think I can -- I'd have to spend a lot of time reviewing all of the photographs of the scene before I would even attempt to address the question did they occur in this position or did they

not occur in position.

Q. Let me do this. I have divided the yes's then into ones where you have made a strong statement. I will just label that "Strong". And then the other part of it is ones where from what you can see, from what were given here, are consistent with, and then there may be some you have no opinion on.

A. All right. That is easier.

Q. Okay. So, the two that you have strong feelings about or that the bleeding evidence strongly suggests that they were in that position when he was alive on Douglas, which numbers were they?

A. I think --

Q. We have other pictures of the --

A. Yes, but I'm -- I think, this is 28, we have some problems. I really haven't reviewed these photographs from that point of view.

I think -- this is 32. I think the patterns suggest the absence of bleeding from those two wounds in a different suggestion. They suggest that they may have well occurred in that position.

Q. Now, with respect to just -- I'm trying to move. Mr. Kottmeier didn't ask you as to each wound all these questions, but as to the ones that he did, you indicated that wounds 1, 2, 3, 4 and 24 were not, I believe, inflicted in the, in the final position.

A. I simply don't recall if -- I have to go back to my notes then. I am going to have to review the diagram, so -- I don't care. I mean, I won't -- if that is what I said, then I

am not going to argue that.

Q. Let's make sure about it then.

A. Give those numbers again.

Q. 1, 2, 3, 4 right in arow to begin with.

A. 1 and -- 1 and 2 could have occurred in that -- yes, they could have occurred in this position on the right side of the face.

Well, let's put it this way. I can't see the right side of the face. It is possible that somebody could have reached over but I don't -- well, I don't know whether his face is completely covered.

Q. Would it be fair to say 1 and 2, on all the evidence the best probability would be they did not occur in this particular position?

A. I think 1 and 2 is less likely.

Q. I will put them in parenthesis then.

A. Okay. I'm sorry, 3, was that your next question?

Q. 3 and --

A. 3 is in the position where it would be difficult to inflict --

Q. Put that in parenthesis.

A. -- in the position in which the body is.

4? Well, maybe. 4 is on the right side of the body and I'm -- I simply can't see it. I mean, it is possible. I mean, it is possible.

Q. 4 we should indicate, for the record, that we are referring to Exhibit 562.

I can offer you a couple of photographs that may

not be able to --

THE COURT: Counsel, is it your intent to go through each and every wound of each and every victim? Is it possible that you could do that perhaps for Doug and then have the witness work on it over the adjournment tonight or tomorrow morning?

MR. NEGUS: I'm willing to do it any way.

THE COURT: I'm just considering it. Go ahead.

MR. NEGUS: What, I -- some of these things I think that Dr. Root has already considered, because I at least hinted to Mr. Kottmeier that I was going to pursue that area. I don't know exactly -- I have charts based on his testimony, I believe most of it, so I hope I can do it relatively quickly. But I know of no way to expedite it.

THE COURT: Just considering that at the end of Doug's location on the chart, you might consider it.

MR. NEGUS: Well, I have three different main charts on this area I'm going to do. I'm willing to go on with Doug with the rest of them if you -- I have no feeling about order.

Q. Putting 190 and 298 on the board.

A. I would say in that position, of the facial wounds, 1 and 2 did not occur in the position in which the body was found.

3 probably did not, so that is fine.

4 probably not. Possible, but probably not.

Q. I believe also as far as 24, what I would call the fatal wound, the one that severed the carotid artery, you indicated that there was nothing inherently impossible about the position but the bleeding patterns led you to believe that it

was not inflicted in that final position.

A. Actually in his case, although the wound in the carotid artery was very significant, and certainly was a contributing factor, I did not list that one as the, as the cause of death. I listed the multiple injuries basically.

Q. Okay.

A. I'm sorry, let me go on to No. 5. No.

Q. Did not in the final position?

A. Not in the position in which he's in. Yeah.

6. 6 could have. Consistent with.

Q. 7 and 8 would be more -- 7, 8, 9 and 10, 11 through 18 would basically be defense wounds; is that correct?

A. Yes. All right. 7 and 8, defense wounds. You don't want them.

Q. I classify them separately then.

A. Right.

Q. And the same with 9 through 18. Would that be all be defensive wounds, basically?

A. Let's see. 9, 10 and 11 are defensive wounds. 12, 13, 14, 15, 16, 17, defensive hand wounds.

18, probably defense wound. Put it as defense wound.

Q. Okay. Now, getting back, then, to a series that you dealt with Mr. Kottmeier all together, the blows to, what appears to be chop blows to his head, those 19 through -- 19, 20, 22 and 23 would all be -- leaving out 21 for the moment -- would all be consistent with his final position; is that right?

A. 19 could occur here. Consistent. 20 is

consistent. 21 is inconsistent. Yes, 22 is. I'm sorry, with the one that you wanted to leave out.

Q. You just answered it so, that's what I did. 23 as well?

A. 23 is consistent.

Now, certainly in the position he's in 24 is consistent, but I think we have already addressed that and based on other evidence did not occur in this position.

Q. Okay. Now, with respect -- I don't believe that you were asked about 25 through 27, which I have.

A. 25, although technically 25 -- don't blurt it.

25, 26 might have been inflicted, I think because of the position of the body, I think it is less likely. I think you would have to reach over the body to do it. The nightstand is in the way from the right side. I think it is less likely.

Let's say 25, 26, 27 did not occur.

Q. I will put a little question mark to show a certain amount of hesitation.

A. Yes. All right. Sorry my -- I have different charts and that's what I'm looking for.

Okay. 28 certainly -- well, wait a minute. I have --

Q. So 29 and 30, 31 are the next.

A. Certainly 29 could have occurred in this position. Well, 30 and 31 could have occurred in this position.

I'm having trouble from the photograph. One of these wounds did occur in that position because of the drain pattern, but I can't identify the wound clearly enough to say

which one did.

Q. Well, let's see.

A. Oh, wait a minute. Maybe this one is a better angle. Let's say probably there is a good likelihood that 31 could have occurred there. I don't know about 30, whether it did or not. It could have.

Q. Well, "consistent with" for 30, and 31 "strong"?

A. Yes. The drain pattern of 31 suggests that it may have occurred where he is.

Q. Okay. We've done 32. What about 33 through 37?

A. Well, 33, 34, actually 33, 34, 35, 36 and 37 could have occurred in the position. I would rather put them as "consistent with" rather than "strong".

MR. NEGUS: I think, Judge, we're going reasonably fast through the chart. We've already finished up -- so perhaps we could just go ahead with whatever.

Q. Okay. Turning then on this chart, if you could, to Peggy Ryen. I don't think for the most part that you addressed that issue, and there's some complications I'd like to discuss just a minute before we start going through them.

Let me get you a couple other pictures to look at. Showing you first some small photographs. I think that she maybe the most complicated.

A. As I'm going through them here, I think we can go through this one pretty quick.

Q. Okay. I'm going to add a complication though.

A. Oh, well.

Q. I am going to add a complication which may make it

difficult, more difficult --

A. Okay.

Q. -- unfortunately.

Let me just put on the board for you to look at, 288, 290 and 273.

MR. KOTTMEIER: Your Honor, I object to the placing on the board of those particular photographs.

MR. NEGUS: It's of no -- I forgot. It's of no consequence.

Requesting you then to look at those particular photographs which are various views of Peggy Ryen lying on the rug.

Now when a person is -- even when a person is unconscious or even shortly after death they can involuntarily move; is that right?

A. Be -- Yes. Well, before death there can be some kind of a voluntary -- I'm sorry -- involuntary spasm, assuming near death; but, yes there can be some involuntary spasm.

Q. Okay. And even after death, bodies will sometimes twitch because of a muscle, some sort of strange thing happening with, I don't understand it, but there is a phenomenon that even dead bodies will sometimes twitch; is that right?

A. That is correct. But that is a -- for all practical purposes, this is a purposeless twitching of muscle, and unless the body is balanced in an extraordinary precarious position, because the muscles do not act in concert I would not expect to see any change in position of a body with that kind of twitching.

Q. Well, let's just stick then within voluntary spasm.

If Peggy Ryen had been laying on her side, and I'd like -- I will point at the large photograph that we have here, there's a red dot on the carpet that's just to the right of her head in the photograph.

A. Where -- Oh, to the right of the photograph on the left side.

Q. We always have a problem --

A. Yes.

Q. -- with photographs and bodies.

To the right of her on the photograph --

A. Right.

Q. -- there's what looks to be a pool of blood. And there's also a pool sort of going parallel to her torso, also to the right in the photograph, going back over where her leg is, and then you can't see it too well with the blackout, but there's some indication, at least that from everything you see in the -- in the picture, would it be -- was there anything inconsistent with her having been laying on her side on those drops of blood and either while she was still alive, still conscious, or after she had become unconscious, flopping over into the position in which she was found?

A. Well, I think if I can make an assumption, let me start off with the assumption before I reach a conclusion.

The spots of blood that you've referred to on the carpet, if those have been checked and found to be her blood, assumes --

Have they been?

Q. Well, let's assume that the sheriff's office didn't bother to pick them up.

A. Don't know whether they are hers are not?

Q. So we don't no whether they are her blood.

A. All right.

Q. But if we assume that they are because we have no other way of going at this particular proceeding.

MR. KOTTMEIER: Objection, your Honor. There is no foundation for making such an assumption, which defeats the hypothetical that he is offering.

THE COURT: He can ask hypothetical questions of a --

MR. KOTTMEIER: Assuming --

THE COURT: Proximity alone is sufficient, Mr. Kottmeier, without attaching any weight to it.

MR. KOTTMEIER: I object to the form of the question which said, "we have no other way to go".

THE COURT: That's a good objection.

Reframe your question. I will permit the assumption, however.

BY MR. NEGUS: Okay.

Q. Well, let's just -- let's just assume then that that is Peggy's blood.

A. All right. Assuming that those spots that you have talked about are in fact Peggy's blood, then one will have to go stronger and say that she had moved into those positions because those spots of blood could not get there draining from the body in the position the body is seen in this photograph.

Q. Okay. I guess one question I am asking is,

obviously then there is nothing that you can see that's inconsistent with somebody having turned her over and moved letter into that position, correct?

A. That's -- I see nothing inconsistent.

Q. Similarly, is there anything inconsistent at any time with her having invol -- having moved herself without somebody else there to help her?

A. No, there is nothing inconsistent with her having moved herself.

Q. Okay. Then I suppose the -- the complication that I wish to introduce is to have -- with respect to Peggy, to keep in mind two different positions, one of which would be Peggy lying with her side in this pool and her -- in the pool that's nearest to her left -- the left side of her body and her head in the position that's nearest to the left side of her head, and also the position in which she is lying here in the photograph.

A. Okay. I'm clear on the position that she is in the photograph.

Let me just restate the first hypothetical to make sure I understand it: The other position is that she would actually be lying on her left side?

Q. Right.

A. Left side down, not face down but left side down?

Q. Right.

A. That's correct.

Q. Yes. On -- on essentially the patterns of blood?

A. All right.

Q. So, I'd like to then -- obviously through just as

an example you cited, I believe, one of the -- with Mr. Kottmeier, you cited I think, this is 33, one of these wounds here where you can see like on her -- on her -- on her body?

A. 3 is in the back.

Q. Okay. Whatever this wound is here?

A. And it's on the left side. And it's possible. I don't really belief we can see 33 in that photograph. I'm not positive. I believe --

Q. Okay. Wait --

THE COURT: Just a moment, gentlemen. Make sure that you don't both talk at the same time.

MR. NEGUS: My apologies.

THE COURT: It's happening with both of you.

BY MR. NEGUS:

Q. The particular wound that I am pointing to -- I don't have my chart with me. The large gaping wound.

A. That's on the left side, and that one would be No. 17.

Q. Okay. No. 17. We can tell just by the way that the blood is flowing out of it, can we not, that -- that that occurred in neither of the two final positions?

A. No. I think it would be difficult for it to have occurred in either of the positions. I can't say it didn't.

Q. Somewhere though there is blood draining from that general area that's going --

A. Oh, I'm sorry. The problem is that there is a wiped area, an area clean of blood below Wound 17 and in the drain pattern. But I guess that drain, the vertical drain

pattern seems to be coming from Wound 17, yes. And in that situation then Wound 17 was not inflicted in either of the two positions.

Q. Okay. So we will start with that. Okay. Let's just see if we can then go as quick as we can through the wounds.

And for those which are consistent with the final position, could you try and specify between whether it's consistent with side, back -- lying on her side, lying on her back, or both?

A. Based on just the wounds alone?

Q. Well, the wounds and the drainage patterns and any other --

A. Well, --

Q. Physical evidence about her body?

A. The injuries on the face, the blood pattern is smeared in different directions and I can't make out much about drain pattern there. And so I'm -- for the moment I'm going to reach a conclusion based only on the wounds themselves, not other evidence.

Q. Okay.

A. Wounds 1 and 2 could have occurred in the position she's in, more likely than the side. 3 could have been in either position. 4 could have been in the position she's in. 5 could have been in the position she's in. Oh, I'm sorry, 6. 6 could have been in the position she's in.

I do hope that you understand that I am only saying that these are consistent based on some limited information,

limited observations.

Q. Right.

A. And there may be quite a bit of other information that I just have not evaluated, might say they were or were not, but I haven't gone that far.

7, just a moment. Oh, okay. On the right side, the group -- well, 7, 8, 9 and 11 could have occurred in either position.

Q. Back or side?

A. Back or side.

10 could have occurred in the position -- on her side. I don't think it could have occurred on her back. All right.

12 and 13 I don't know, I can't tell.

Okay. 14 -- 14 could have occurred on her back. 15 could have occurred on her back.

16 could have occurred on her back.

Let me go back, 14 could have occurred on her side also, either way.

17 could have occurred on her back not likely side.

Q. We decided I think on other evidence that that was "other"?

A. Oh, that's right; that's correct.

18 could have occurred on her back or side.

Q. Now again I want to --

A. Wait. 19 could have occurred either back or side.

There are some things here that because of the smearing of the blood that throw a complication in my

evaluation, but is it possible that they still occurred here and got smeared here accidental. That's an unknown I can't deal with. So when I'm dealing with smears, it causes me a great deal of uncertainty about saying anything other than consistent or inconsistent.

Q. So, I would take it then that what you're saying is that these last couple ones you have been talking about, 18 and 19. would be consistent with, but it's not -- it's certainly definitely not a strong yes?

A. That's correct. I can't -- Well, with the exception of 17, so far I cannot make a strong statement about any of these. Consistent with, yes.

19? Where are we.

Q. We are starting with 20, 20 next.

A. Well, let me -- No. No. Let's go to 20. Do it in that order.

Q. Any order that's more convenient.

A. Oh, 20 and 21, they could have occurred either back or side.

22. 23 and 24 are defensive.

25 and 26 are defensive 27. Let's put it down as defensive. It's -- it's on the arm not the forearm, but it's more likely to be a defensive wound.

28 and 29 could have occurred on her side. 28.

Well, let's go through this whole group real quick. 28, 29. 30, 31, 32 are on her back. Don't put it down yet. I'm sorry. They are on her back, so they could have not occurred in the position she is in, but all of them could have occurred on

her side.

Q. So, that's 30 through 33?

A. Well, 20 -- yeah, 30, 31, 32 and 33 could have occurred on her side.

Now do we have some more?

Q. 33 is what I remember as far as Peggy is concerned.

A. Go through that real fast.

A. That's as far as it goes, 33.

Q. Get you a couple other pictures. Bringing you also in addition to the large photograph, which is Exhibit 174 --

It's easier just to look at them.

A. Yeah, just as easy.

Q. Then I will give you 272, 274 and 305.

A. All right. Okay. Let me start off with a hesitation. Don't write anything down yet.

The injuries on her face, which I have labeled 1, 2, 3, 4, 5 and -- well, that's enough -- certainly could have occurred in this position; but, in this particular case there is such heavy blood smearing on her face and it's so difuse, just completely covers her face like a mask with the exception of her eyes, that those -- that pattern is -- that blood pattern is not consistent with that grouping of 1, 2, 3, 4 and 5 having been inflicted in the position she is in. Some of them might have been, but the pattern of smears just suggests they did not.

Q. I will then put parenthesis on the "did not" to indicate your qualification.

A. 1, 2, 3, 4, 5, under that "did not" parenthesis, that's better.

And 6? 6 could have. That's the one that was extremely -- that had a great deal of bleeding with it. And as far as the position, yes, it could have occurred.

Q. Well, would -- let's see, 6, does 6 appear right on the diagram approximately --

A. No.

Q. -- right back in there whether my finger is?

A. No. 6 is on the right side of her neck, and you are looking at the -- we are looking at the left side of her neck in this photograph.

Q. Okay.

A. Actually, none of the photographs that I have actually show it.

Grouping 7, that's the green grouping, could have occurred in this position.

Q. In fact, about that, you can -- could you even say stronger than that?

A. Yeah. I think it's more likely that it did occur in that position. Let's put that a strong yes.

6, 8, 9, 10, consistent with this position.

Okay. This next large grouping is on the right arm. There's a large group on the inside of the right arm. And although it could have occurred in that position with her arm there, I suppose we also could classify those as defensive wounds. That's a hesitation. It's the upper part of the arm.

Q. Those -- those particular wounds are also in fairly close proximity to wound No. 6; is that correct?

A. No. 6 is on the neck, on the right side of the

neck, upper part of the neck.

Q. Okay.

A. And the grouping on the arm are in the -- what I'm doing next are in the inside of the right arm, so that's not -- and are anatomically close. There is some possible close proximity to the grouping on the arm and wounds 8, 9 and 10, which are on the right side of the chest. That is possible.

Q. Okay. Where would you feel best putting then 11 through 14?

A. Well, actually it's 11 through 16.

Q. Okay. 11 through 16.

A. Well, let's put them as defensive.

Q. I have grouped 11, 12, 13, 14 together. Those are in fact the same wounds; --

A. Oh, yes.

Q. -- is that right?

A. I think that's correct, yes.

Certainly the next grouping should be classified as defensive wounds. These are on the outside of the arm and the forearm. 17, 18, 19, 20, 21 --

Q. All the way down to 27 in fact?

A. Well, wait a minute. 22, 23, 24, 25, yes, 26 and 27 are all defensive wounds.

28, 29 and 30 are on the right thigh or knee, and although it's possible, I would prefer to list those with a question mark.

Q. Over here with a question right here?

A. Yeah. Just say I don't know.

Q. Okay.

A. 31 is consistent. It's on the inside, front inside of the left three and that could have occurred in that position.

Next grouping are all -- Where are we, 31?

Q. Yes.

A. Okay. The rest of these are on the back. As I see the small photographs I don't think it's quite as clear in the large photograph. It is my impression that her back is actually down on the ground -- on the floor. I just don't think you can be -- that the large photograph sees it. Would you accept that interpretation?

Q. Yes.

I don't think there's any objection to showing these particular photographs, are there? We can put those up there.

A. Well, in that case then I would say this following group did not occur in this position because they are all in the back where her back is down, 32, 33, 34, 35, 36, 37, 38, and 39.

Q. Let me just -- for that particular group let me just again toss in a complication.

It would appear at some point in time that there was a fair amount of bleeding down on to Jessica's left upper arm area of her nightgown. Would that particular pattern likewise be suggestive that at some point in time after she was down, as it were, but before her death, that she was, as it were, flipped over so that her -- from a more classic fetal position she was flopped over on her back either by herself or some other agency?

A. I don't think I followed you, I'm sorry.

Q. Looking at the -- looking at her position, if you pulled her arm over she walk back into a more classic, I suppose what I would call fetal position, more classic, that is, folded up around herself?

A. All right.

Q. There's a fair amount of bleeding that comes down through this particular area. You can see it also on that.

Does that -- given the proximity of that massive amount of bleeding to the more hemorrhagic of her wounds, which are on the upper side of her neck there and I take it partly her face, but the most hemmorhagic would be on the upper part of her neck, right?

A. Well, no. Certainly wound No. 6 is the wound that would have been the most extensively -- that would have bled most massively as far as bleeding out.

But any of the wounds on the face could be -- they were bleeding. They occurred before death and they could bleed pretty extensively to cause a lot of that blood.

So on 6, the stab wound in the neck is the wound that was very significant as far as the blood loss, probably the major contributor to that blood, but the facial wounds could have contributed a significant amount of smearing to the face.

Q. Okay. So what I'm -- what I'm saying then is that 6, and the facial wounds --

A. All right.

Q. -- the most bloody wounds are not in the present position bleeding in that general -- in the direction of all

this blood over here on her upper left arm; is that right?

A. That's correct.

Q. Would that then be consistent with again either the -- one of the assailants or herself or some other person flipping her over from a position where she is more curled up over this area of blood back over on her back like that?

A. Some of that, a significant amount of that bleeding could have drained down on to the nightgown and the left sleeve if she were turned over, if her shoulders, her left -- if her right shoulder were up and over, followed the same position as her hips and legs are, yes, the fetal position.

Q. So, if she were in the fetal position then she could have received Wounds 32 through 39 lying in the fetal position as opposed to the position in which she actually is shown in the photograph?

A. Yes, yes.

Q. Okay. let's continue on with Wounds 40 through 46. But she -- the fetal position again would be -- would that be inconsistent with her having received the facial wounds though in the fetal position?

A. It would be difficult for her to have received the facial wounds in the fetal position; it would not have been difficult to have received the stab wound No. 6.

Q. So, essentially with respect to 1 through -- 1 threw 5 and 6, these, whichever position she's in, the answer as to 1 through 5 and 6 wouldn't change.

A. No, that's correct. Either position.

Q. But 7, she could not -- 7 would have been almost

impossible for her to have received in the fetal position.

A. 7 is the grouping, isn't it?

Q. Yes.

A. Yes. That would not be consistent with the fetal position.

Q. Then let's go on to 40 through 46.

A. The right side. Actually it is possible 40 through 46 could have occurred in the position she's in.

However, I think it is more likely that 44 -- well, most of them -- No, 44 would be more likely in a fetal position if those are the two choices; that she could have received that in the fetal position or the position she's in, I think it would be more likely the fetal position.

Q. Then let me --

A. But basically 40 through 46 it is possible to have received in the position she's in now.

Q. I have put a separate category, and I'm not quit sure how you spell "fetal", essentially the groupings of 32 through 46 would be consistent with the fetal position; is that right?

A. Yes. Yes.

Q. And so we have a separate category.

But with respect to 40 through 46, assuming that that, that those occurred in -- well, those are somewhat different type wounds. You can't really make any assumption about 40 through 46 being the same pattern of wounds; is that correct?

A. No. I think all I'm saying is a body is in such a

position where they could have been received in that position.

Q. Has wound No. 44, which was the -- which was something which was --

A. That one bothers me because it is kind of far back on the head and would be hard to get to in that position. But I think it would be possible.

Q. So, if I put a red "44" in the fetal position that would indicate, would be your preference?

A. Yes.

Q. Would be in a -- okay.

A. Yes. 45 only in the fetal position not in the position she's in.

46 could be either position.

I think that covers them, doesn't it?

Q. That does it.

A. For Jessica.

Q. We have some other pictures of this, too.

Handing you as well three little photographs: 275, 276 and 284, and I think we have another view, a larger photograph view of Chris which may overlap on the small.

A. No. 1 did not occur where he is.

Well, 2 and 3 could have. Consistent.

4? Let's see, consistent now. 4, consistent.

Okay. Now, the next grouping -- oh, let's list them as defensive, although it is possible they could have occurred in this position.

Q. 5 through 7?

A. Well, 5, 6, 7, 8, 9, 10 and 11, those are all on

the side or the back of the right arm and they could have occurred where he is, theoretically, but they also could be defensive wounds.

12 is definitely defensive.

13 and 14, defense wounds.

15, 16, let's see. Just a moment. The group to the head, I feel a little stronger. Yes, they are certainly consistent but I feel a little stronger towards the yes. I mean, towards -- I mean towards the strong yes.

Q Because of the strongly parallel nature of them?

A. Yes. There isn't that much bleeding. I obviously cannot state that they occurred in this position. I feel certainly they are consistent with having occurred in this position. I think there was a little better likelihood that they in fact did occur in this position.

So, why don't we list those under the strong yes, not absolutely.

Q. 16 through 21.

A. No.'s 15, 16, 17, 18, 19, 20 and 21, they're all on the side of the -- right side of the head and they are quite consistent with the position that he's in.

Q. Okay.

A. Again, I don't want to imply that they did occur, I just feel a little stronger that they did.

Q. There was more evidence pointing to that than --

A. Yes. Well, let's list 22. I just don't feel strong. Let's -- let's list 22 and 23 as consistent.

Does that cover those?

Q. 24, which I believe is a defensive wound, same as 8 more or less?

A. Let me make sure I've got it.

Well, yeah. Yes. No, no. 24 and 8, oh, probably in fact did occur in this position because I think they occurred -- those are the two that I felt fairly certain occurred after death.

Q. So that 8 is over to consistent with?

A. Yes.

Q. Let's put 8 and 24 in the consistent with.

A. Okay. Rather than leaving it defensive.

Q. 25 I think is the stab to the back.

A. 25 is the wound to the back, and it is -- oh, let's put it yes. Strong yes.

Q. Now, just as a simple example of one particular type of question that can be answered by, by doing this particular type of analysis, just using Christopher, the grouping of defensive wounds are essentially, in his particular case, I believe you said that they were with, they were all essentially to the right, to his right arm.

A. Yes. Let me just double-check myself. Right arm or forearm and hand. Yes. None on the left.

Q. Wrist. The -- and let's see. They would, would all of those wounds have been, possibly have been made by a chopping instrument, either a meat cleaver, machete, axe, hatchet?

THE COURT: Why don't you think about that over the recess, Doctor, and we take it up afterwards.

MR. NEGUS: Maybe I should --

THE COURT: Is that all right?

MR. NEGUS: That's fine.

THE COURT: We will take the afternoon recess, ladies and gentlemen. Remember the admonition.

MR. NEGUS: I am going to go back and do that question later so --

(Recess)

THE COURT: Mr. Negus.

CROSS EXAMINATION (Resumed)

BY MR. NEGUS:

Q. Turning your attention to Exhibit 563, which we have put on the board, a chart that lists "Chops", "Stabs", "Incision", "Superficial" wounds, and "Other".

First off, I think that this has been clarified before, but just to make sure, all stab wounds are basically incisions but not all incisions are stab wounds.

Is that more or less correct?

A. In this case I think that's true.

Q. Okay.

A. That is not completely true as a generalization, because you have a stab that is made by a sharpened piece of wood technically that would not produce an incision.

Certainly not all incisions are stab wounds.

Q. And as you and Mr. Kottmeier were using the terms, the "incisions" that you were talking about are called incised

wounds, which would be by definition an incised wound whose surface area is greater than its depth. Right?

A. Surface dimension greater than the depth, yes.

Q. And then the stab wounds would be the opposite, the depth greater than the surface dimension.

A. That's correct.

Q. And the "Chops", as you defined it in this particular case, I believe, that when you and Mr. Kottmeier were, were discussing chops, you were keeping in mind not only the technical definition of an incision accompanied by a fracture, but also other wounds that there was real -- there was sort of strong evidence was made by a chopping instrument. Is that basically --

A. Certain ones, yes, that would fit that.

Q. But either by proximity or by the way that the hair was cut, that sort of thing.

A. Yes.

Q. Okay. So, then there were some wounds that were just basically superficial injuries, and I'm not sure I got which -- I think you used, included some minor scratches, some minor abrasions, some not very deep incisions.

Is that basically how you were using that term?

A. Yes. Although I -- I think that particular term is not totally clear in my mind. There is going to be some cases that I'm just not sure whether -- how they were -- how we defined them.

Mr. Kottmeier, in using the term "superficial" defined -- used that term and said basically, "Could you

classify this as superficial"? And I said "yes" or "no", as the case may be. I did not, in my own classification, define it that way.

So, maybe I don't remember precisely on some of those how he asked the question.

Q. For our --

A. But other questions -- I'm sorry. Chops, stabs, incisions and other, I don't think I will have a problem with. It is this question of incision, I mean, superficial, that I might have a problem.

Q. Okay. Well, let's solve the problem by only putting in the superficial category -- those things like scratches, or things that don't fit clearly into one of these three catagories.

A. All right. All right, fine.

Q. So, if we could, would it be convenient just for you to just go through and then again tell me what, where to classify each of the wounds?

A. I think we can do that. And you -- to make sure I am understanding, you want a number?

Q. Just wound number.

A. Wound No. 1 is whatever.

Q. All right.

A. Start with Douglas.

Q. Okay.

A. We already run into a problem.

No. 1 I think probably is superficial. It is on the face. It is a slicing off of the superficial part of the

skin. Let's classify it as superficial.

No. 2, incision. Incision.

No. 3 stab.

No. 4 --

Q. Basically a laceration?

A. No. It was a -- I've got it listed as a stab, incision. I'm trying to narrow it down into which of those categories it ought to appear. I have got it listed -- let's call it a stab. I've used that term in a couple of areas.

5 is an incision. 6 is an incision.

7 is a chop. 8? 8 is a chop. 9 is a chop. 10 is a chop.

11? Let's classify that as in the "other", an abrasion, laceration, thing of that sort.

Okay. 12 is an incision. This grouping on the hands, an incision. 13, incision. 14, incision. Although -- now, wait a minute. Oh-oh, I'm sorry. Here, this is the problem. This grouping are a problem. They are all incisions, but some of them are superficial.

Again, I'm just not positive. The question was asked of me, and it is only an incision.

Q. Let's not try to be consistent with whatever your testimony was before, but if there is any doubt we will go towards the more precise term rather than the less precise which would be superficial, I take it.

A. All right. They may very well be superficial and this is not to imply this is a contradiction.

Q. I understand.

A. Let's continue to list these as incisions.

Where were we? 14, 15, 16 and 17, these are incisions, and most of them are in fact superficial in this grouping on the left hand.

No. 18. Now, this one is superficial, 18. I've used that word.

19 is a chop. 20 is a chop. 21, let's call that chop, question mark, because that's what I did. It may be an incision, it may be a chop. Let's classify it chop, question mark. 22 is a chop. 23 is a chop.

24 is a stab. 25, other. 25 is a laceration, contusion with an underlying fracture.

26 is a chop. 27 is other; laceration, contusion. 28 stab. 29, other; an abrasion.

30, incision. 31, incision.

Q. When you talked about that before with Mr. Kottmeier. I believe you sort of gave it a question mark, stab, this time you gave a --

A. Yes, I see that.

Q. -- because before you said "incision". The dimensions of the wound are two and a half centimeters on the surface, and, you know, it goes at least two centimeters in; you can't say whether it goes any further.

Is that the reason for sort of hesitation?

A. This particular one is one of those borderline ones. It could be either. It doesn't go deep enough to be positively stab. Why don't we put a question mark.

Q. I will put a parenthesis so we can tell.

A. That's one that could, one day it could classify as stab and one day as an incision.

32?

Q. Uh-huh.

A. That's a stab. 33 is a chop. 34 is a stab.

Q. That one penetrates fairly deep. That is ten centimeters but there is a surface slicing action.

A. Yeah. But I've got a note here. I can't read my own note. 34 to 35.

Q. Probably 34 connects to 35. 35 is separate.

A. This is one that is -- 34 and 35 are both stab wounds. Let's start with that. There is a conflict with 34, 35. There is a communication between 34 and 35 under the skin, shallow.

But in addition to that, 35 is a deep stab wound into the lung. The communication between 34 and 35 is quite a long distance, ten centimeters under the skin, so that's a stab.

So, it appears that 34 really is kind of intersected with 35, but they are two separate wounds and they are both stab wounds.

36 is an incision.

37, I have that as superficial. Incision but superficial.

Q. Superficial?

A. Put 37 superficial. It is an incision but it is superficial.

Q. Let's move onto Peggy. Okay?

A. Peggy, No. 1 -- just one moment, please. Let's

call 1 and 2 chop. Those appear to be the same blow, that was a V-shaped injury in the forehead and it is probably a chop. But 1 and 2 are probably the same wound.

3 -- whoops, that is a chop. 4 is a chop. 5 is a chop. 6 is a chop. 7 an incision.

8 is a chop. 9? Let's call that a chop, question mark. It has gone into the bone. It is one of those that could have been an incision cutting into bone, and the knife could have produced it or it could have been produced by the chopping action. So 9, question mark.

10 is a chop.

11? Well, let's call that an incision but question mark, because it is one that might be a superficial chop. I lean more toward the incision. But, again, it is a borderline call.

12 is a chop. 13? Let's call that other; laceration. Sharp-edged laceration.

Q. Sharp-edged?

A. Yeah. It is a laceration. 14 is an incision. Let's call that stab, question mark. I believe that is a stab wound. It is an incision but I believe it is a stab wound.

16 other, abrasion; other, abrasions.

17, incision. 18, stab. 19, stab. 20, stab. 21 is a stab.

22, that's an incision; might be superficial, in the hand now, but call under it incision. 23 is superficial. It's on the hand. This other, call it a laceration at least.

Q. Excuse me. Did you say, "laceration"?

A. Laceration, yes.

25. that is stab. 26 is stab. Well, 27 would be stab.

28, let's call that incision, question mark. This is one where hair was cut but it didn't go into the bone, so it's one of those that might be a chop.

29, incision. 30 is an incision. 31 is an incision. 32. I will have to classify that, 32, is an incision, question mark. That's possibly a chop. I'm inclined to call it, lean a little more towards incision, but it might be a chop.

33 is a stab.

Q. Okay.

A. Jessica. Well, let's classify 1 and 2 together as a chop. That's the inverted "V" in the forehead similar to what Peggy had, except that 3 goes through the middle of 1 and 2 and probably ought to be an incision, but it's possibly a chop. Let's call it incision, question mark,

No. 3 -- 4 -- 4 is a chop. 5 is a chop. 6 is a stab. Let's call 7, other. That's the grouping of puncture abrasions. 8, incision -- No. Wait a minute. Hold it. No, it isn't.

Q. 8, 9 and 10 are all stabs?

A. Why, definitely, yeah. 8, 9 and 10 are stabs, just got it listed in a different place. Yeah, that's right. That's the grouping, yes.

Q. Let's consider 11 and 14 and 12 and 13 as one wound. Would that make both of them technically then stab wounds?

A. Wait a minute. Yes, it would. 11 -- Wait a minute. Where did that go? 12 through 14, let's call that one as an stab.

Q. And 12 and 13, would also be --

A. Yep, a stab.

Where are we, 15? Other, abrasion.

Oh, boy, 16, I'm not quite sure how to classify it. This was a very tiny, insignificant, I've classified it as a punctate incision, 3 millimeters maybe.

Q. Other?

A. Other.

Q. Other?

A. Would be the best place to put that one.

Q. Okay. Let's put "punctate" to indicate --

A. Yeah.

17 is an incision.

Q. 18,

A. 18? Well, actually 17 and 18 are both incision with some abrasion, but let's classify those as incision, both.

Let's classify 19 as other.

Q. Both. Doesn't 19 have like a 12 millimeter surface and a 3.5 centimeter depth?

A. Yeah, but the problem was I wasn't sure whether this was a sharp-edged laceration or incision.

Q. Okay.

A. It is a sharp-edged laceration. Whether it is truly an incision is a question.

Q. It would be also -- it could also be classified as

a stab; is that right?

A. 19. Let me look at that one just a moment.

Q. Maybe my notes betray me.

A. I didn't put it down. Let me check. It's suggestive -- I didn't -- I did not measure the depth in my records here; however, my report suggests that it might be a stab also. Yes.

Q. Well, 20 --

A. I suppose the best way to classify -- Well, wait a minute. Let's call 20 superficial. I think that's the best place for that. It an incision but it's superficial.

Q. 21?

A. 21, incision. 22, incision. Where was I, 22?

Q. 23 is next.

A. 23, other, abrasion. 24, I will have to classify that as superficial. It's an incision, very small, six millimeters.

25 I guess is a stab. It's one of those borderline ones between a deep incision and a stab, but I think technically it's a stab.

Q. Shall I put a question mark after it or just make it --

A. No, leave it.

26 and 27, incision. They are superficial. They are on the hand, and I don't know.

28 is incision. 29 is an incision. 30 is an abrasion, other. Okay.

31 is incision, question mark, because this is

getting close to being a stab. 32, other, abrasion, linear abrasion. 33 also other, linear abrasion, incision, abrasion, but let's classify it as other nonetheless.

34 is incision. Let's classify 35 as stab, question mark, because it's a mix of either stab/incision or stab, but it's also got some abrasion with it on the edge. We listed this one as a stab, question mark. All right.

Q. Uh-huh.

A. 36, oh, list that as superficial. It's a shallow incision.

Q. 37 is -- you had it listed as 2.3 centimeters by at least two. I think last time you called that a stab, even though technically you didn't probe it looked more like a stab?

A. Let's call it a stab, question mark. It could be either.

38 is an incision -- No. Wait a minute. Hold it. Let's classify ~~28~~ 38 as an incision, question mark. I think that's an incision. There is a vague possibility it could be chop, but I think it's incision.

39, let's classify that as an abrasion but it is a mix. Classify it as other. It does contain a very superficial incision, but it's closer to abrasion, so we will classify it there.

No. 40 is a chop. 41, I think I will classify that as chop. There, that would be the best. It might be an incision, but I think it's better if it's a chop.

42 is an incision. 43 is an incision. 44 is an incision. 45 is an incision. 46 is an incision, quite shallow,

quite superficial.

Q. Okay. And let's classify Christopher.

A. Okay. Chris No. 1, chop. 30 -- that's right. 2 stab -- Well, let's see, 2, 3 -- 3, actually I think it's going in 3 and out 2, a stab.

4 is a stab. Oh, yes. 5 is an incision. I think 6 is an incision. 7, let's classify superficial. I will call 8 a stab. 9 is an incision. 10 an incision, yeah incision. 11, is an incision. It's also shallow, as is 10, but --

Q. 10 is incision?

A. Let's scratch 10, call it superficial. Let's call 11 superficial also.

Q. Okay.

A. 12 is a chop. Skip 13 for a moment.

14 is a chop, and because of that, because of the proximity of 13 on the other finger, let's classify it as a chop by the company it keeps. Certainly 13 is a superficial incision because of the, because of the company it keeps, it's in proximity to 14, I think it's probably the same injury. Classify, chop.

Q. I might just put it on the same line.

A. Okay. 15 is an incision -- No. Wait. Let's classify 15 as a chop. It's equivocal, but I think it's more likely a chop.

Q. Want me to put a question mark by that?

A. Yes, that would be better.

16 is a chop. 17 is a chop. 18 is a chop. 19 is a chop. 20 is a chop. 21 is a chop. 22 --

Q. That's three by seven?

A. That ought to be a stab.

Q. That's what you said before.

A. Yeah, but I keep using different terms on that one. That one confused me. I still think that the best definition -- Let me doublecheck my notes, please. I think --

Where am I, 22? 22 ought to be a stab. Let's call it stab, question mark, because there is some characteristics that suggest a chop.

23 is a chop. 24, well, that's a stab. 25, that's a stab. That's it.

Q. With respect to the next chart that we're going to do, which is getting close to being the last chart, I believe all parties are agreed that with respect to -- Dr. Root may need to consult some photographs of the autopsy in answering a few of the questions -- a few of the injuries as to this. Most of them he has definitive conclusions, but there's some he has question marks about.

As to those we would not be introducing the photographs into evidence, but I have copies of all the photographs that were taken of those particular wounds that I could show him to refresh his recollection, and I would identify them by laboratory number and by I.D. number from the previous hearings for the record when I showed it to him to refresh his recollection.

I think that everybody agrees -- there won't be very many of those, no putting on the board.

MR. KOTTMEIER: Your Honor, it was my understanding, and

I'm not trying to be difficult but, that these photographs are going to be shown to Dr. Root tonight, let him prepare the material without necessarily referring to the particular pictures in front of the jury.

MR. NEGUS: Whatever. You know, we are almost to the end, if you want to take a break now, we can perhaps even go quicker.

THE COURT: Does he know what you're going to be asking?

MR. NEGUS: Yes. I think I've explained it to him. I will show him the chart now just so there is no question about it.

THE COURT: We will break it then after you explain it.

MR. NEGUS: Okay.

Q. Basically in -- in going through the various wounds, there is a few wounds that you classified as having a whole lot of bleeding; is that right?

A. Yes.

Q. And then there was other wounds that you basically, the next distinction, you could tell that a person had been bleeding into the tissues; finally, there was some where there was minimal bleeding into the the tissues; a few where there was no bleeding into the tissues; evidence then there was some where because of the nature of the wound you couldn't tell.

Is that basically the five different categories that, you know, make sense as far as describing the amount of bleeding is concerned?

A. Yes.

THE COURT: All right. We will let you take the rest of

the day off, ladies and gentlemen.

Doctor, we've got to have you back tomorrow again.

THE WITNESS: Yes, I understood that.

THE COURT: Remember the admonition, please. Be mindful of it at all times. Resume tomorrow at 9:30. Thank you.

MR. KOTTMEIER: Your Honor, could we see the Court for just a second after the jury has left?

(The following proceedings were had in open court without the presence of the jury.)

THE COURT: All right. The jurors have departed.

Mr. Kottmeier.

MR. KOTTMEIER: Your Honor, I just wanted to readdress, for the purpose of the record, the difficulty that we are facing at this particular time due to the inability to introduce the photographs.

We are now getting into a variety of different classifications of some of these wounds, and all we're relying on is a verbal interpretation, whereas I have been prevented from showing these photographs to the jury.

Illustration: "Superficial" to Dr. Root is a particular general term. He is more precise. He talks in terms of incisions to Doug Ryen's fingers. You take a look at the pictures you can see that these, very clearly, that these are superficial, minor injuries of no significance, but yet when we discuss them, when we put them in charts, when we go through them in the repeated numbering system we have gone though, they assume a much different characterization in the mind of an

individual who has never seen the picture.

THE COURT: Mr. Kottmeier, this matter came up early on back in San Bernadino County when we went over the pictures that would be shown. Let's recall what happened at that time.

Now at that time you had a number of photographs that you desired to enter. I was concerned with the emotional impact upon the jury and, therefore, we tried to minimize that impact by cutting down on the number of photos that would be shown, and the photos that were selected were all relevant for various reasons, to depict the nature of the wounds.

Mr. Negus objected to large photographs. But as I recall your statement the last time this matter came up, Mr. Negus, you do not object to small photographs.

MR. NEGUS: Well, what my position was, was with respect to the crime scene photographs where there is a dispute as to what crime scene is about, that I didn't want any bigger than eight by tens. I was overruled on that. Okay.

With respect to the autopsies my position was and still is that I don't think there is a dispute as to the nature of these injuries. There is a dispute as to some of the -- as to what caused some of them, but you can't -- the photographs aren't going to tell you any more about what caused them than is the verbal description.

So my position was that as lots of jurors don't like to look at autopsy pictures and, in fact, they told us that on the voir dire, and -- that as long as there was no dispute about it there's no sense in introducing them, and I think that's still my position.

If we get to a position where Dr. Root and I or anybody else and Dr. Root disagree as to what the wounds look like, then -- then I think we can reconsider it. I don't think we've reached that point. It's just -- it's just a few problems of nomenclature. And for the most part I don't intend to make any -- I mean, I don't see that any of the things that Mr. Kottmeier is talking about and that Dr. Root apparently, you know, is concerned about in terms of making a decision between superficial and incisions makes much difference, and those are not the wounds that we are really going to be talking about very much anyway.

THE COURT: If you wish to pursue it, Mr. Kottmeier, let's be specific as opposed to general. And sometime between now and the next time you wish to bring it to up, let's have the specific photographs that you think have some probative value to outweigh the prejudicial, emotional impact that they may have, and then we will consider them specifically in that light.

In the meantime, right now we're just talking generalities and nothing that I can consider specifically.

MR. KOTTMEIER: I would request the opportunity then tomorrow at 9:20 to at least open the issue and offer those specific illustrations.

THE COURT: I'm here at 8:30. All right. See you tomorrow.

(Adjournment.

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IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN DIEGO

DEPARTMENT NO. 30 HON. RICHARD C. GARNER, JUDGE

THE PEOPLE OF THE STATE OF CALIFORNIA, Plaintiff, vs. KEVIN COOPER, Defendant.	NO. OCR-9319

REPORTER'S TRANSCRIPT
November 29, 1984

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Official Reporters

COMPUTERIZED TRANSCRIPT

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SAN DIEBO, CALIFORNIA, THURSDAY, NOVEMBER 29, 1984, 9:23 A.M.

--ooOoo--

(Chambers conference reported.)

THE COURT: All right. For the record we are in chambers, all attorneys and the defendant.

Mr. Kottmeier.

MR. KOTTMEIER: Your Honor, I have had marked four exhibits. These are the only four that I could find that do not show other injuries or things connected with the autopsy.

MR. NEGUS: To cut it short, your Honor, no problem.

THE COURT: You have no objection to those four pictures?

MR. NEGUS: No.

THE COURT: All right.

MR. KOTTMEIER: They are just illustrations of some of the types of minor superficial wounds that we talked about.

THE COURT: Very good. Hearing no objection they will be admitted on a proper foundation.

MR. KOTTMEIER: We have numbers I better indicate for the record. They are 565 through 568.

THE COURT: You're going to offer them outside I assume?

MR. KOTTMEIER: Yes. When we get to cross I will pick them back up and identify them.

MR. NEGUS: Cross?

MR. KOTTMEIER: I mean redirect, whatever my next turn at bat.

THE COURT: All right.

(Chambers conference concluded.)

THE COURT: Good morning.

Everybody is present.

Doctor, you are still under oath.

Mr. Negus, you have the witness.

IRVING ROOT,

called as a witness on behalf of the People, having been previously duly sworn, testified as follows:

CROSS EXAMINATION (Resumed)

BY MR. NEGUS:

Q. Let's see, doctor, before we get back to the next chart there was some stuff I meant to ask you about and forgot yesterday.

The actual autopsy examinations, I believe that you mentioned to Mr. Kottmeier that those were conducted on June the 6th and June the 7th of 1983 at the San Bernadino County Morgue; is that right?

A. Yes, that's correct.

Q. Now, with respect to those, you were not the only person present during those autopsies, correct?

A. That's correct.

Q. And with respect to the first day, there was present both Mr. Hammock and Mr. McCormick from the Coroner's Office; is that essentially correct?

A. Yes.

Q. There was an Ann ~~Potter~~ Bunter, who is an officer with the

Sheriff's Department Identification Division?

A. That's correct.

Q. She was taking photographs during the course of the autopsy; is that correct?

A. Yes.

Q. Then there was also a Mr. Peterson from Homicide?

A. Yes.

Q. And there was a criminalist from the Sheriff's Crime Lab named David Stockwell?

A. Yes.

Q. And then there were some people associated with your particular staff; is that right?

A. Yes, assistants.

Q. Do you recall who those people were?

A. No, I don't have them by name. There were two people that might have been there at that time, Mr. Roy Kinney and Cindy Ross.

Q. There is a picture that you were looking at earlier today of somebody holding Jessica's --

A. Yes.

Q. That was a young woman, would that have been --

A. Cindy Ross.

Q. And her -- amongst other things she was also taking photographs; is that correct?

A. She would have been. I -- the autopsy assistants would take photographs for me, and they above both could have done so. I don't recall which one.

Q. Okay. Okay. So they could have been one or both

of them there; is that right?

A. Oh, yes; yes.

Q. Then on the second day, the day that you did autopsies of -- of Douglas Ryen and -- and of Christopher Hughes, there was -- all those people with the exception of Mr. McCormick returned; is that right? Or put it another way, Mr. McCormick didn't come back the second day, but the other folks did.

A. Let me doublecheck just one moment, please.

Yes, that's correct.

Q. Other than those people that we've mentioned, were there -- was there anybody I left out?

A. Not to my recollection. These are the only people that I have on my record, though.

Q. And you do keep records while you're there of the people who are present, is that right, or at least the outsiders who are present?

A. Basically, yes. I don't list the assistants. And it is possible that people come and go. Various deputy coroners might come in and bring in information on another case, and there might be one of the other pathologists in the other room who might wander in and out. But basically the people that are involved there for the autopsy are listed on my report.

Q. Similarly, there could be Sheriff's Department people coming in to find out results from time to time, that is, homicides detectives coming in to report, to get information as well?

A. Things of that sort could occur. I wouldn't make

records of those.

Q. The manner in which your particular report is prepared, do you essentially dictate into a tape recorder as you are performing the autopsy, that is, the observations that are listed in the bulk -- in the main part of your report would be, the internal/external examination parts, are those dictated sort of live as you are doing the work?

A. Pretty much so, yes, sir.

Q. Then the -- then the way you have it structured is that there's -- you normally do microscopic analysis of some tissues after you get through performing the autopsy?

A. Yes.

Q. And then after -- after that you -- you come to a diagnosis and conclusions at the end; is that right?

A. Also the toxicology, that's done afterwards. That's done by my people in my lab. When I have the microscopic and the toxicology, then is when I reach the final conclusion.

Q. The toxicology is essentially submitted to you as a report from the -- from the lab rather than work that you actually perform yourself; is that right?

A. That's correct.

Q. But the microscopic examination is something that you yourself do in your laboratory?

A. Yes.

Q. The -- is there normally also evidence that's collected during the course of the autopsy examination, that is, anything that seems to be significant as physical evidence, is that passed on to the criminalist?

A. Yes, assuming, as it was in this case, that this is a case in which investigating officers are concerned and are present.

Q. Obviously many of the autopsies you do are not of necessarily concern to homicide?

A. That's correct.

Q. In this particular case then Mr. Stockwell collected numerous different items of evidence from the various -- the various victims; is that right?

A. Yes.

Q. Amongst those items of evidence that he collected, was there a portion of tissue which you cut off and handed to him from the area, I believe of Wound 2, on Peggy Ryen?

A. I think that was the wound. I do recall removing a portion of bone, I think it was from Peggy, that contained some black pigment on the bone. This was a bone in which there was a chop injury. And although -- Let me doublecheck.

No, my records don't specifically reflect that I actually gave that to Mr. Stockwell. It is my recollection that I did.

Q. There was -- anyway, on Peggy Ryen there was one of the chop injuries had something that looked like transferred paint on it and you passed that on to him for analysis?

A. My description was a little more evasive. I said black pigment. And yes, I did give that -- that's my recollection that I did give that to Mr. Stockwell.

Q. Okay. The significance of that was investigated to determine whether it was something that had been transferred

from the murder weapon, or one of the murder weapons, on to the body of the victim during the course of the chop?

A. Yes.

Q. During the course of the autopsy were you ever shown the hatchet that Mr. Kottmeier had in his hands the last couple days, Exhibit 42?

A. I don't recall whether I was actually shown the hatchet or a photograph of it. I know there was discussion about the hatchet during the course of the autopsy examinations.

Q. Is it possible that you were shown rather than the actual hatchet itself an eight by ten black and white glossy photograph of it?

A. That's quite possible. I know part of the discussion involved they didn't want to touch it for fear of fingerprints. It hadn't been fully examined. So there was that hesitation about letting me examine it at that time.

My recollection is I saw a photo rather than actually handling the hatchet, but I'm not positive.

Q. Were you shown any other weapons?

A. Not to my recollection, no, sir.

Q. Returning then to the what I have had marked as Exhibit 564, a butcher paper chart that we discussed a little bit yesterday.

The -- just -- just to go -- We had some discussion outside the presence of the jury about these categories a little bit this morning; is that correct?

A. Yes.

Q. And you wish to make a caveat that as far as

certain kinds of wounds are concerned, it's very difficult to tell whether or not there is any bleeding into the tissues; is that right?

A. There are problems with -- potential problems with that from my point of view as a pathologist.

Q. And what are those problems?

A. Well, first of all, when I see the victim, the body, they aren't bleeding. I can see evidence -- I may be able to see the evidence that bleeding has occurred. In the case of a clean incised wound, sharp-edged knife cut, the damage to the blood vessels is just at the surface where they are cut across, the blood loss is going to be out of the body. For me to tell whether there has been bleeding, the blood has to be retained in some way.

In some of these wounds there were stab wounds into body cavities, cavities. If there would be blood retained in the chest cavity associated with a wound, I can say yes, that there was bleeding from this wound.

In a couple of the wounds that I have described there were stab wounds into the neck area cutting across major blood vessels. Not all of the blood escaped from the surface of the wound, much of it accumulated in soft tissue remaining for me to see it.

Q. Those would be the wounds 6 to Jessica and 24 to Douglas?

A. I think those were the numbers.

Q. Those were the two that cut the carotid arteries?

A. That's right. But it's that kind of thing that

would enable me as a pathologist to tell whether bleeding has occurred or not.

With these clean cut wounds that bleed to the surface there's going to be very little blood retained in the tissues that I can tell as a pathologist had or had not bled, so I have to say in many cases I'm not sure.

We also have categories here of "Lots, Bleeding, and Minimal". And again I have the same problem. Certainly on a few of these wounds there is a large accumulation of blood, I can say there's a lot of blood. There is a qualitative or semiqualitative measurement at best. Whether this is a moderate amount of bleeding or minimal may depend to a large extent on how much blood escaped versus how much blood remained in the tissue. I simply cannot tell.

Then there may be some cases where there may be a little bit of blood remaining in the wound but I can't be sure where that blood got there, as it was smeared there from another wound or not.

In some cases also, for instance, chop wounds to the head, there is slight bleeding, minimal bleeding left under the scalp, but some of those wounds are so closely -- are so close to each other I can't tell whether the bleeding came from one wound or the other.

So those are some of the problems as a pathologist I have when I'm dealing with multiple wounds.

Q. One other, just one other thing. For example, with the wound that penetrated into Doug Ryen's heart, I think it was No. 3, that particular wound, in a position where the blood that

you saw accumulated in the body cavity could also have come from other parts of the body; is that correct?

A. That's also a possibility. Oh, let me go on.

The other problem along that nature, along that line, if bleeding does occur into a body cavity, that makes it possible for me to say that bleeding has occurred. But by the same token, blood can leak out of those body cavities after death as the body is moved around, or if the individual is lying in a position where the wound is down where gravity can allow the blood to flow out, so that even though there might have been more blood at the time of the original injury, the blood has escaped just draining out by gravity. And again, that creates a problem for me to evaluate, or may create a problem.

Q. Just one more related point which is not really on the amount of bleeding.

Along that -- along that particular -- along that particular line, -- in a situation -- the blood sample that you take from the victim is actually scooped out of the heart, is that correct, if there's enough left in there to scoop?

A. I try to take it from the heart. I believe in the case of Doug there was not enough left in the heart to actually get it from the heart itself.

Q. So, did you take it from surrounding area?

A. Well, I have a specific note on that. Just one moment.

In the case of Douglas I took the blood sample from the blood that had accumulated around the heart, the pericardial sac, and from blood that was present in the left chest cavity,

the left pleural cavity.

Q. Just -- you -- essentially discounted the blood alcohol result that you got from Douglas when you testified for the prosecution; but is the fact that in this particular case Douglas had a wound to both his stomach and you were not able to get sort of intact heart blood out to test another reason to distrust that blood alcohol result?

A. Yes.

Q. That's because contents of the stomach which contain alcohol can be absorbed up through those cavities and mix with the blood and throw off the results; is that essentially correct?

A. Just -- Just one moment.

Q. I think it's 4?

A. That is a possibility. I was trying to find one thing here. It is my --

Q. Wound 4 I think went into the --

A. Well, no. I don't think its actually -- in the chest cavity the esophagus was not perforated, and so there was no apparent contamination.

Q. What about the abdomen?

A. Well, certainly there could have been contamination through the abdomen. Those are possibilities.

I'm always concerned about a blood sample for alcohol purposes if I can't get it directly from the heart. There are all sorts of potential problems.

Q. Then with the caveats that you've mentioned then, can we go on and try and fill out this chart, 564?

A. All right. Let's see see, Douglas.

Wound No. 1, bleeding -- wait a minute, bleeding. 2, bleeding. 3, lots, that was a chest wound. 4, bleeding. 5, bleeding, 6, bleeding. 7, bleeding. 8, bleeding. 9, bleeding. 10, bleeding. 11, bleeding. 12, minimal. 13, bleeding. 14, bleeding. 15, bleeding. 16, bleeding. 17, bleeding. 18 minimal. 19, question mark, 19, question mark. 20, question mark. 21, question mark. 22, question mark. 23, bleeding. 24, lots. 25, bleeding. 26, bleeding. 27, bleeding. 28, bleeding. 29, bleeding. 30, bleeding. 31, question mark. 32,bleeding. 33, bleeding. Let's see, 34, bleeding. 35, bleeding. 36, bleeding. And 37 bleeding.

Q. Okay. And want to go on to Peggy?

A. 1, bleeding. 2, bleeding. 3, bleeding. 4, bleeding. 5, bleeding. 6, minimal. 7, question mark. 8, question. 9, question. 10, minimal.

No, minimal.

Q. Minimal.

A. Let's see, question mark, 11. 12, minimal. 13, minimal. 14, minimal. 15, bleeding. 16, minimal. 17, bleeding. 18, bleeding. Minimal, 19. 20, bleeding. 21, minimal. Question mark, 22. Bleeding, 23,. Minimal 24. Minimal, 25. Minimal, 26. Minimal, 27. Minimal, 28. Minimal, 29. Minimal 30. Bleeding, 31. Bleeding, 32. Minimal, 3

Q. Jessica?

A. Jessica. Bleeding, 1 and 2. Bleeding, 3. Bleeding, 4. Question mark, 5. Lots, 6. Let's see, --

Q. 7 is partly minimal, partly none?

A. Yeah, partly minimal, partly none.

Q. I will put them in both then.

A. All right. 8 is bleeding. Bleeding, 9. Bleeding, 10. Question mark, 11. Question mark, 12. Question mark, 13. Question mark, 14. Bleeding, 15. No, bleeding, 15. Question mark, 16. None, 17. Minimal, 18. None, 19. None, 20. Question mark, 21. Question mark, 22. Question mark, 23. Bleeding, 24. Bleeding, 25. Bleeding, 26. Bleeding, 27. None, 28. Minimal, 29. Bleeding, 30. Minimal, 31. Question mark, 32. Question mark, 33. Question mark, 34. Bleeding 35. None, 36. Question mark, 37. Minimal, 38. Bleeding, 39.

Q. You said minimal for 29?

A. 39? No, I'm sorry. 39 is bleeding. 39 is bleeding. Okay, 40. Bleeding, 41. The rest of them question mark. Question mark, 42. Question mark, 43. 44, 45, 46, question marks.

Chris.

Q. Yes.

A. Bleeding No. 1. Question mark 2 and 3. They're actually a continuation wound, but between 1 and 2 -- I'm sorry, between 3 and 2, that is all right, they're question mark for this purpose.

Bleeding, No. 4. Bleeding, No. 5. Question mark, No. 6. Bleeding, No. 7. None, 8. Minimal, 9. Question mark, 10.

Bleeding, 11. Minimal, 12. Bleeding, 13. Bleeding, 14. Question mark, 15. Question mark, 16. Question mark, 17. Question mark 18,

Question mark, 19. Question mark, 20. Question mark, 21. Question mark, 22. Still back to question marks. Question mark, 23. None, 24. Bleeding 25.

Q. Now, let me ask a few questions about, about what significance as far as time we can draw from this.

Basically one time dimension that one can put on wounds is the length of time that it will take from receiving wounds until one has no apparent blood pressure, so that there will be no bleeding. Is that essentially correct?

A. Under some circumstances that can be done.

Q. Okay. Well, you gave, for example, for some of the wounds you gave some time estimates to Mr. Kottmeier yesterday if a person stopped bleeding a person would essentially be so you couldn't distinguish him from death, like one to three minutes; two to three minutes. That is the kind of thing that you are talking about.

Are you talking about the actual moment that the person --

A. No. When I talked about time, maybe I'm -- I certainly recall talking about time in terms of death when I gave the cause of death. I then followed that up by saying a time factor, minutes. That time frame, minutes, meant that they lived the, individual lived perhaps one to three, possibly five minutes after the first significant injury was inflicted.

I can't really do that with any one injury because I don't know the sequence of events in which they occurred.

Now, some of these wounds I can state clearly occurred after death. There was no bleeding at all.

On the other hand, some of them, with minimal bleeding, suggest that they were in shock. How long this might have been going on, again, I can't answer.

Q. Well, can you, can you in any of the victims -- let's see. The width with Douglas, for example, he has two wounds with lots of bleeding, No.'s 3 and 24.

There's -- at least one can make an inference from what we discussed yesterday that Douglas received No. -- the No. 24 wound when he was on the far side of the bed from where he was found, that appears to be --

A. 24.

Q. Is the carotid artery.

A. The wound on the neck with the carotid artery neck injury. Yes. Well, let's put it this way --

Q. He was bleeding.

A. -- he was not where -- No. 24 was not inflicted where his body was found based upon the spray pattern on the wall.

Q. Far side of the bed?

A. From where he is, I don't know. I certainly I can say not where he was found.

Q. Putting up Exhibit 223 again. At least one could make the inference that at some point in time, at least Douglas probably was bleeding from No. 24 on the far side of the, on the far side of the bed.

A. My hesitation is was he actually in the bed or sitting on the bed when he had -- when Wound No. 24 was bleeding.

All I can really say is the bleeding from 24, and I'm assuming that the spray pattern on the wall would have come from 24, did not come in the position in which his body is pictured in this picture, it would have been closer to the other side. But whether it was in bed, whether he was on the side of the bed, that is the question I can't answer.

Q. Okay. Let's also add another hypothetical fact, that these large masses of blood on the far side of the bed, on the, what look to be the bottom sheet there, at least the large masses are likewise Douglas Ryen's blood as opposed to any of the other, at least as opposed to any of the other victims; at least that we could distinguish it from all the other victims.

Would that large amount of bleeding there be consistent with having been received with Wound 3 and 4, the body stabs to Douglas, the one that went through the heart and the one that went to the abdomen?

A. Well, let me just double-check one thing, please.

All right. My hesitation about answering that with No. 3, No. 3 went into the heart, that bled quite a bit. But, No. 3 went through the chest wall and it went through the sternum, the bone, first, so that you don't really in this case have a large wound that communicates with the outside world. Therefore, the likelihood of a great deal of blood being lost to the outside world, if you will, from No. 3, is not great.

What bleeding there was from No. 3 would tend to be confined inside the body cavity. Some of it he could drain out as he moves around. One would expect the really large amounts of blood that you see on the bed clothes to be from this No. 3.

Q. Would you have any other likely candidates? I think I can give you a few pictures that might give you a little more information.

A. Certainly 24 could bleed into that area. 24 the blood loss from 24 need not be a spray pattern. 24 can cause a spray pattern but it doesn't have to. And I am sure there are many other wounds I have indicated, certainly that a number of the wounds he sustained were bleeding wounds. How many, I don't know.

Q. Let me just show you -- first off, there is -- showing you a small picture, 436, there appears to be, there is some -- that's the best I can find right off the top -- there's also a picture of 282 which is kind of hard to see but shows that there is some pooled blood up in the left-hand corner of the bed, which I'd like you to assume is consistent with that being the blood of Douglas Ryen.

A. All right.

Q. And just also another photograph just to show you, if I put it on the board, I guess, the -- a folded out, as it were, photograph of the bottom sheet with the explanation that what we're doing is looking at the sheet from the bottom and that the blood concentrations which are found on the left side of the bed, as you look at it, from the foot, are actually on the right side of the photograph.

A. All right.

Q. So you are seeing that formations, the quantity of blood and the locations of the blood on that side of the bed would all be consistent with having just only come from that one

wound, 24.

A. Oh, yes. Although, again, I don't want to be -- I am not going to make an absolute statement that it has to be confined to be that.

Q. I understand. What I am trying to do is establish, I suppose, limits.

A. It could have. Certainly No. 24 could have bled all of that blood.

Q. Could No. 24 have likewise caused the bleeding that is in the -- more in the center of the bed and also the bleeding that was in fact previously identified as a pillow, No. A-11?

A. Well, I'm going to assume in your questions that all of that blood is Douglas' blood.

Q. Well, some of it. The A-11, we don't know.

A. All right.

Q. But the other, the other large concentrations of blood appears to be consistent at least with Douglas Ryen's amongst the five victims.

A. All right. Well, yes it can.

Let me clarify one point about Wound 24. All -- this is a stab wound through the carotid artery. Actually it is from above down, and it goes down at quite an angle before it actually gets to the carotid artery, so the carotid artery is not directly exposed to the surface of the body to the air.

So, bleeding occurs from that wound if the head is -- well, let's see. Wait a minute. If the head is turned to the left side you could actually, or in many positions you could actually cause a flap to dampen the spurting effect. If you

turn the head in one fashion or another, you can open it so that the spurting can get out. That is why you can have either a spurting pattern or just a draping pattern from that same wound.

Q. Just to clarify then, the fact that there may be spraying on one side of the bed, and Douglas is found on the other side and there is no spraying in between doesn't necessarily mean that he had become so weakened from bleeding between here and here that he was incapable of spraying.

A. That's correct.

Q. Assuming that between the -- that the -- that he took the shortest distance between the two points to get from wherever he was when there was the spraying to where he, to the final position in which he ended up, is there any sort of time limit that you could -- either maximum or minimum -- that you could put on, given the amount of bleeding that you see there, how long that could have, how long it could have spurted?

Could that have been seconds, the amount of bleeding required, or could it have taken a longer period of time?

A. Well, I'm not sure I can answer your question.

The particular Wound No. 24, given that alone, there is no other wound, he ought to have lost consciousness from that wound alone in a period of two to three minutes at the most, because of the blood loss and also because of interruption of not only the blood loss, but interuptions of blood flow to the brain cut-off almost half of the blood flow to the brain.

But, I have got the additional factor that he's bleeding. I know he's bleeding from many other wounds. He's

continuing to lose blood. No. 3, he's continuing to bleed from.

Those things are variables that I can't deal with as far as answering your question.

Q. Well, let me just -- let's -- if we could turn to one of yesterday's charts.

Can you see this chart from where you are sitting, Doctor, if I put it on this board?

A. Yes.

Q. Again, just to try and get some idea of limits, I think it is fair to say that the six wounds that you felt most strongly about that he did not receive in his final position were 1, 2, 3, 4, 5 and 24 -- 25, 26 and 27 were question marks -- and all of those wounds were wounds where there was either lots of bleeding or bleeding, according to your analysis.

If he were to have received all of those wounds then, say, while he's on the bed at some spot, can you -- and we would assume then that the patterns of blood that we can see on the bed, which couldn't have gotten from where his final position was from, were from these six wounds, can you put any sort of time limits on how long he would have been bleeding there on the bed in order to produce that proximal quantity of blood?

A. Again, I'm limited -- no, because he could have lost a considerable amount of bleed -- blood from the bleeding wounds. Not the loss, the bleeding wounds. Let me assume some of those listed under bleeding occurred much earlier.

Q. I am asking you to assume that the ones that we can, that we can, that we can isolate under the -- as having

occurred, the bleeding wounds having occurred on the bed were 1, 2, 4 and 5. Those are the ones, at least there, where there is the strongest evidence that they did not occur in the final position.

A. Well, okay. But, again, let's talk about 1, 2, 4 and 5. Let's assume they occurred on the bed.

Q. Okay.

A. Those are not ones that bled the most massively. Assuming they occurred first, he could have bled from those for a number of minutes.

Q. Okay. On the other hand, if 3 or 24 occurred very early in the sequence --

A. Again, I can't tell that, then his time in which he's going to be able to bleed is going to be considerably shorter because his bleeding is going to be much heavier.

Q. Okay. Then, let's -- can we -- could you assume it both ways, as it were.

THE COURT: Let me interrupt just a moment, please.

Yesterday I started to instruct the jurors but I never got around to it because the situation didn't seem to be right for it. But before you ask more hypotheticals, may I simply inform the jurors what we're doing here.

In examining an expert witness, counsel may propound to him a type of question known in the law as a hypothetical question. By such a question the witness is asked to assume to be true a set of facts and to give an opinion based upon that assumption.

Many such questions have been asked this morning

and in permitting such a question the Court does not rule and does not necessarily find that all of the assumed facts have been proved, it only determines that those assumed facts are within the probable or possible range of the evidence.

It is for you, the jury, to find from all the evidence whether or not the facts assumed in a hypothetical question have been proved, and if you should find that any assumption in such question has not been proved, you are to determine the effect of that failure of proof on the value and weight of the expert opinion based on the assumed facts.

Thank you. Go ahead.

MR. NEGUS: Could I just request one additional caviat, amend that, that the order of proof doesn't necessarily -- don't have to be facts that are proved up to this point.

THE COURT: That is true. There have been some things that, perhaps the identity of some of the blood on the bed that I expect will be in evidence later on. Certainly.

BY MR. NEGUS:

Q. Where was I. Okay.

Let me just ask you -- well, is it -- are you capable of -- I mean, just based on what pathologists can or can't do given the inherent limits of any scientific discipline, are you capable of sort of segmenting it so we have the different combinations?

First of all, 3 and 24 being received for example prior to 1, 2, 4 and 5?

A. No, I cannot do that, particularly in this case. There is just -- there are so many that my mind cannot

comprehend and put together all of these possibilities.

I can do that to some extent when I'm looking at one or two or maybe three wounds, but when I have this large number I really can't. I don't think it is within our capability to do it, to sequence them.

Q. Did you -- can you put limits, though, on, for example, how long, just taking the combination of 3 and 24 together, how long an individual would be able to maintain consciousness after having received those wounds, the two of them? I think you said two to three minutes for 24.

How about adding in the combination of No. 3?

A. It would reduce it somewhat, and it could reduce it down to one minute, maybe one to two minutes. Those are variables, again.

Q. Well, just based on the pattern of bleeding alone -- let me go the other way.

Is there anything inconsistent with what you saw in the various facts I have asked you to assume about the state of the blood patterns, is there anything inconsistent with all of the damage that was done to Douglas having been done in 15 to 30 seconds?

A. Oh, no, no. There is nothing inconsistent with that at all, no.

Q. With Jessica, there are, I believe it would be fair to say, five wounds that did not appear to be likely to have been produced in either the position which she was found, or the fetal position in which, in which we assumed that she might have been in on the floor. That would be 1, 2, 3 4 and 5.

A. All right. I just don't remember exactly what the -- what the parenthesis meant on that chart.

Q. Let me just -- I believe that that was -- you had, and I don't -- let's see if I can find it for sure.

I believe it was a feeling that it was unlikely that it was -- just a minute. The reason that you put parenthesis indicates that although it is physically possible for them to have occurred in that particular position, the smearing patterns of the blood made you feel it was unlikely.

A. Oh, okay. Yes.

Q. So, if we're -- if those are the -- if Jessica essentially was at some point in time in an upright position, and the wounds that she received were the five wounds to the head, I take it then as far as Jessica is concerned is it safe to say that it is not only consistent but likely that she would have lost consciousness almost immediately?

A. No, I'm sorry, I don't think I followed your question. I think I lost you.

Q. Let's assume that Jessica, of the various wounds to Jessica that she received, leaving aside some perhaps superficial scratches on her superficial defensive wounds, but of the major wounds to Jessica, she received the first five in rapid succesion.

There is nothing consistent with her having received those injuries to her face, all of which could have been done with a chopping instrument very quickly; is that right?

A. That's correct.

Q. And if she had received those, those were the first serious injuries that Jessica received, those injuries could have caused her almost immediately to lose consciousness upon receiving those, the chop injuries to her face.

A. Oh, they could have, yes.

Q. In fact, is that a probability?

A. Well, assuming your hypothetical, it is a good likelihood. Certainly No. 4, No. 5, too, indicate a considerable amount of force into the bone, and equivalent to being hit in the face with a fist, massive blow to the face, certainly a person can lose consciousness with that kind of blow. Itself quite possible.

Q. When you have five of them --

A. 1, 2 and 3 are more slicing injuries, and they're not as likely to have the force, the impact was not directly to the, straight on into the head, they're a little less likely to have caused loss of consciousness. But 4 and 5 are very likely to have caused unconsciousness quickly.

Q. How long would Jessica, if -- just assuming that that's the hypothetical, that she received those wounds, I guess it's actually four wounds, in rapid succession, and they were the first major wounds that she -- that she had, how long would she be able to still bleed lots of blood after having received them?

A. Theoretically if those were the only injuries, they could bleed for quite an extensive period of time. Well, they could bleed 20, 30 minutes or more, but there's -- that would be assuming nothing else took place. There is another distinct

probability that would occur after a period of a very few minutes.

Q. What's that?

A. Particularly with 4 and 25, that having been inflicted, high degree of probability she could be unconscious, high degree of probability she is going to bleed into her nose and mouth and therefore,, asphyxia, obstruction of the airway, and that in itself might cause death. That's a variable that I can't deal with.

Q. Well, there was -- Was there any evidence that that actually occurred in this particular case?

A. There was so much blood all over the place I just couldn't see.

No. The answer is I did not find distinct evidence. I'm assuming -- I'm going beyond your hypothetical.

Q. So, what -- I guess the inference I wanted to ask you about then was the fact that if we assume still, if we still keep the assumption that numbers 1 through 5 were inflicted -- were inflicted first, is it therefore reasonable to assume that, for example, 6 was inflicted within a relatively short time after 1 through 5?

A. Just doublecheck myself.

Q. 6.

A. 6.

Q. Of the carotid.

A. 6 is the stab wound into the carotid. Yes, it would have to be -- in that sequence, it would have to be inflicted quite soon.

Q. Is there any evidence that you -- that you can see just from what you know that would be inconsistent with that being inflicted just in the time it took Jessica to slump to the floor? She slumps to the floor and and assailant comes in with a knife and stabs her in the neck?

A. Not from my findings. There is nothing inconsistent with the hypothetical.

Q. As far as Jessica is concerned -- and let's just showing you the general grouping of injuries -- the overwhelming majority of the -- of the injuries in all of the -- of the injuries that essentially did the most -- most bleeding, are the they all on the right side of the bead?

A. Yes. Well, the majority are. There -- Yeah, the majority, yes.

Q. Okay. The majority of the injuries by far, I mean, there's only what, a few defense wounds, and --

A. There are a couple of injuries on the left side of the back, the left chest area on the back that should have been bleeding wounds, and, oh, a couple of the upper shoulder area that are plus/minus, midline, but it is, yes, most of the injuries she has sustained are to the right side of her body.

Q. Again then, with the exception of the face injuries, which are I guess either on the right side of her body or in the center, they would have been all consistent with her -- most of the serious wounds would be consistent with her having been in the fetal position when she got them?

A. They would be consistent with that, yes.

Q. The first wound -- Well, excuse me. Take it back.

The wound that Christopher did not receive in the position in which he was -- which he was found on the floor, No. 1, is that -- that's a slicing wound, right, I mean it's a chop that slices?

A. Let me refer back to my notes real quickly, please.

Yes.

Q. Is that the kind of wound that that was likely to have -- likely to have knocked him out, caused unconsciousness?

A. It could. It -- No. 1 reflects a considerable amount of force. I would have to say -- I can't be -- I don't feel strongly one way or the other about this facial wound on Christopher as I did the facial wounds on Jessica simply because there is not as much bone damaged with Christopher.

So a slicing injury through soft tissue could be inflicted without necessarily being one that would transmit a great deal of force to the brain and concussion therefore.

Q. Would No. -- No. 1, was there a lot of bleeding that was -- could you quantify in any way, ignoring my word "lot", but can you quantify in any way -- let's see if I can find a picture for you -- the amount of bleeding that Christopher would have received from that wound?

This is actually upside down, but I think it's easier to see it, 175.

A. Well, no, because I can't tell. There is certainly a considerable amount of blood that's been lost, but I cannot tell where that bleeding came from. Certainly No. 1 is a wound that bled and should have bled considerable, but how much, how many -- how much blood came from other wounds I don't know. I

simply cannot tell you.

Q. Well, the -- this other series of wounds you have to the head you have essentially question marks

A. Yes.

Q. Is that the problem you can't tell from these other wounds how much they bled just because of the nature of the wound, that is, 18 through 23 I guess it is, maybe more, 16 through 23?

A. Would you let me see my numbers?

Q. Excuse me.

A. All right. For instance, the wound -- the defense wound to the hand, 13 and 14, there could have been a moderate amount of bleeding from that. Certainly it was a bleeding wound. That's a wound that could have -- it's in a position where he might well have had that up on his face --

Q. Okay.

A. -- transmitting -- transferring from that -- transferring the blood from that. There is a lot of blood. He should have lost a considerable amount of blood from that facial wound, No. 1. I'm just not in a position to quantify it.

Q. The wound 25, that was likewise an extremely serious wound; is that right? It went all the way --

A. Yes.

Q. Does there -- Without the other injuries, other serious injuries to Chris, is there the kind of bleeding from that wound that you would normally expect if that wound were one of the earlier wonds to be inflicted? Do you follow me? No?

A. Let me doublecheck myself on that.

Well, there is the one. I have -- there are two wounds that go into his -- into Chris's right chest. Certainly No. 25 --

Is that one on the back?

Q. Yes.

A. Yes. -- bled a moderate amount. But also No. 4 went into his right lung and would have bled considerably, and, therefore, I can't tell you how much bleeding, relatively speaking, came from either of those two wounds. Both 4 and 25 were bleeding wounds. They bled.

I found about 200 cc's of blood in the right chest cavity. There may well have been considerably more and some of it drained out during -- as the body lay there or moved around, but both both of them bled. How much each one bled I don't know, so I have some difficulty answering that specific question.

Q. Okay. I guess -- the reason I'm asking it is can we say one way or the other that -- that say 1 came before 4 and 25, or is it consistent with your findings that 4 and 25 would have come first and then 1 afterwards?

A. I can't give you a sequence as far as 1, 4 or 25.

THE COURT: Counsel, would it be convenient at this time?

MR. NEGUS: Yes, as a matter of fact, because I was about to change charts.

THE COURT: We are going to take the morning recess.

If we have students in the audience that would like to come to chambers, the bailiff will escort you back during the recess.

Remember the admonition, ladies and gentlemen.

(Recess taken.)

THE COURT: We seem to be missing defense counsel.

MR. FORBUSH: He will be here in just a moment, your Honor.

THE COURT: We just finished cross-examination.

I noted your absence and said we just concluded cross-examination.

MR. NEGUS: Dismiss the case and we will be happy.

THE COURT: Go ahead.

BY MR. NEGUS:

Q. Let's -- I want to use the dolls first and establish with the measurement of the depth of stab wounds.

You indicated that there were a fair amount of variables that you have to take into -- into account as far as those kind of measurements are concerned; is that right?

A. Well, as far as interpretation is concerned. My measurement is one thing, the interpretation is another.

Q. That's the more precise way of saying what I was thinking about. Okay.

Now, just as an example, one of the things -- one of the variables that you have to -- you have to take into account is the amount of give on the surface; is that right?

A. Yes.

Q. That is, if you were to take a stab wound that went directly into the upper chest area that I'm pointing to here, considerably less give there than there would be if it's going

into the stomach, right?

A. That's correct.

Q. In fact, with a few of the -- with a few of the wounds to the stomachs of the victims in this particular -- this particular case, you didn't even -- didn't even measure the actual depth of the penetration into the stomach because there are so many different variables that were involved in trying to get depth of stomach wounds; is that right?

A. Well, there were a number of wounds which I could not measure the depth of penetration. Some of those into the stomach I was unable to measure a depth simply because there was no end point, it had not gone through the stomach abdominal wall into the -- let's say, from front to back. It ended up inside someplace, but it did not strike an object once it went through the abdominal wall. So there was no ending point, therefore, nothing to measure to.

Q. That would be even a second variable with the stomach? The stomach has two?

A. The abdomen is a better term there. Yes.

Q. Okay. The abdomen has sort of two unknowns, unknown going in, unknown coming out, I suppose is a way to put it?

A. Yes.

Q. Then, there's -- as far as the surface dimension measurement, there is, like, variables as to whether the instrument is coming in at an angle versus where it's going straight in. Can that cause a variation in the surface or not?

A. If -- That's a possibility. That's not as much a

problem as far as variation as slicing movement against the skin, some rotational movement.

If a knife, the cutting edge is drawn down across the skin, that's what I mean by slicing, and that can expand and enlarge the surface dimension considerably.

Q. Then there's also another one. On the surface of the skin would be what I think you -- tautness of the skin in any particular place.

That is, certainly with my stomach there is not very much taut skin in that particular area, whereas other parts, the forehead, there may be considerably more?

A. That's correct.

Q. With respect to the depth, is there also in some instances variables as far as the like with certain organs, the lung expands and contracts, sort of -- so you're -- I guess the problem could be conceptualized as not -- the organ doesn't have a fixed structure to it, it varies?

A. That's correct.

Q. Giving aside -- even giving all those caveats though, as far as the exercise of trying to determine the nature of the instrument within those caveats, do pathologists attempt to put limits on the -- on the size of a stabbing instrument?

A. Yes.

Q. And is it possible in some instances even to begin to get some idea of the, at least the shape of the instrument as you look down on it without trying to get it -- the smallest not smallest, but the two larger measurements of a knife, can you try and get some idea as to how they're shaped?

A. That becomes more difficult but it's within the realm of possibility, and there may be some information along that line, yes.

Q. In a particular case like this where the number of stab wounds that are clearly stab wounds and can be measured as 20 or 30 -- Well, let me just back up.

First off, there's nothing inconsistent with anatomical findings with a different knife having caused each one of those different wounds? I mean, there's nothing you can tell -- you can't sort of put a maximum limit on how many weapons were used other than just the number of stab wounds you have, is that basically true?

A. That's correct.

Q. So going from sort of absolute knowledge one can then sort of go down to -- from consistent with to probabilities based on patterns?

A. Possibly, but certainly -- Well, probabilities, it would depend on given circumstances. You will have to give me some specifies.

Q. Well, obviously if -- just in the course of the -- of the investigation you could make inferences that there weren't 25 knives but some smaller number. When you have more than one wound you could start looking, grouping the wounds by -- by depth and other characteristics of knife wounds in order to try and get at least a probability of which -- which wound came from which particular type of knife; is that right?

A. That's a possibility. If I have a limited number I can make certain assumptions or conclusions as to this could

have caused this wound, this one could not have caused this wound.

Q. Just -- just to clarify again before we get into this next area.

On the witness stand you have for each of the victims copies of the -- of the reports that you prepared, plus notes that you have derived from looking at photographs of the autopsy and from combining information from your reports with looking at the photographs; is that basically what you have?

A. Yes, that's correct.

Q. And is that the -- is that the -- is that the information that you were -- that you were relying on in your testimony here today?

A. Yes.

Q. I take it you probably have some memory of this particular autopsy, but because of the volume of work you do you basically have to rely upon the records that you you keep; is that a fair statement?

A. Yes.

Q. During the time that you're actually performing an autopsy when you can actually observe the actual wounds themselves and -- and -- and experiment I suppose or, you know, check out different hypotheses with the victims there, is it possibly normally for you to -- to like get more information than it is going back and reconstructing later?

A. There are different types of information that I can get from either of those two situations. Certainly in retrospect I can look at the whole pattern and get some

information that I couldn't get from a single injury.

I try at the time of the examination to get as much of a description as I feel is necessary for my purposes, and to try to answer questions in particular also that might come up in the future.

However, I can't anticipate all the questions that might come up. So it's only sometime down the line as the questions come up that I can go back and hopefully answer those questions from my observations at the time. So I need both things.

Q. In this particular case the -- the investigating officers at the time of the autopsy were asking you questions about what type and how many weapons were involved; is that correct?

A. That was a question.

Q. So at that point at least, as far as that question is concerned you were focused in on that, not just in retrospect but actually while you had the bodies of the victims before you on the table?

A. Yes.

Q. I'm taking chart 563, and I don't have room to put the whole thing up but I'm just folding it so that we have plenty of reference.

And what I particularly would like to talk about now is the stab wounds to the various victims. I will just put that up there so we can have the reference from what we did before to refer to.

And I think I'd like to start with Douglas. And

I'm going to ask you to do several things at once as far as the stab wounds is concerned. I have both a black and a purple Sharpie, and as far as the different stab wounds are concerned I'm going to be asking you to label them on the diagram in black with the -- with the wound number or label them on the model, excuse me, which would be Exhibit 525, in black with the number, and then using the purple marker -- Let me back up a minute.

As far as knife stabbing wounds are concerned, there are so -- in going through the processes, it's -- unless you in your example have the knife sticking out of the stomach, it's rarely possible to -- to actually identify the weapon that caused the particular injury, is that true? I mean, you can't -- normally can't say that weapon and that weapon alone is the --

A. Well, if I have to pick a weapon out of a range of 50 or a hundred or more weapons, then it would be extremely difficult, assuming they are very similar type things. But on the other hand, if I'm given two weapons, two knives, that are really quite dissimilar in appearance, then I have a much better opportunity. So it depends on the circumstances.

I will give you an example. Assuming I have a pen knife, as an example, that has a blade that is four centimeters in maximum length, and I have a knife, butcher knife or a hunting knife that is 15 centimeters or more in length, and I have wounds that are seven, eight, nine or 15 centimeters, I can rule out the pen knife. The blade not long enough. It could not have done it. And of the two knives, the 15 centimeter knife has to be the one, so it depends on the circumstance.

Q. Some things -- but -- Okay.

One of the -- one of the ways you can eliminate for some wounds is the -- is the length of the blade. As far as the different styles of blades, some blades are serrated, that is, they have teeth in them. Some hunting knives and steak knives and things of that nature have serrations.

And in this particular case for at least almost all, if not all of the stab wounds, you can eliminate a serrated knife; is that correct?

A. I believe so. Certainly there's nothing to suggest a serrated knife.

Q. And similarly do you have -- there are what the law calls dirks and daggers, that is, two-edged stabbing instruments, which have two sharp edges.

As to some of the wounds in this particular case you can eliminate that kind of instrument; is that correct?

A. Occasionally, not consistently. And the reason for that is that there can be, with a stab wound, an initial or -- an initial incision first, initial slicing.

For instance, the knife can be drawn down across the skin to cause an incision before the blade is actually inserted. At that point I now have what appears to be two sharp edges and I can no longer say whether the blade that caused this had a single cutting edge or a double cutting edge.

Q. But as far as at least some of the wounds are concerned, although there's never -- like you can't positively say there's a double-edged, you can eliminate some of those as being made by a double edge because there is only one cutting

edge?

A. Yes, that's correct.

Q. Okay. Now, that leads me to the other thing.

What I would request then as to the stab wounds where you can determine that there is only one cutting edge, I would request that during the course of the examination that you mark on the model, with the purple marker, a line that is perpendicular to the, to the diagram of the wound on the model at the blunt end so that the perpendicular line at the blunt end would indicate that is not the edge away from the cutting edge.

A. Remind me as we get to it.

Q. I will.

A. I think I know what you are saying.

Q. Let's draw on the exhibit. I'm just going to mark here for stab wounds, No. 561, up in the -- and the purple line would indicate the blunt end.

Now, starting with Douglas Ryen, I would like to ask that the first wound that we have mentioned is Wound No. 3. Could you label that with the black pen, No. "3".

A. (Witness complied). All right.

Q. And were you able to tell how, whether or not that was a single cutting edge or a double cutting edge, or are you unable to tell?

A. Unable to tell.

Q. Okay. What was the depth of that particular wound?

A. Ten centimeters.

Q. The record should reflect then on this diagram, 561, that I have chosen purple to represent Douglas Ryen, and

A. Yes. However, that description implies there was a description in fact that this is caused by a knife. It doesn't tell me anything about how sharp the knife is. Simply -- I mean, the relative sharpness of the knife, but simply that it is a knife and not some object other than a knife; some instrument other than a knife.

Q. Now, this particular wound, you indicated that it penetrated the sternum.

A. No. 3?

Q. Yeah.

A. All right. Do -- as far as holding the dimension of a knife, in this case the width of the knife as it passes through the sternum, are some parts of the body better than others?

A. Yes.

Q. Bone would be, or especially soft bone, relative soft bone such as the sternum would be one particular --

A. Yes.

Q. Similarly, certain kinds of musculature tissue will hold an impression better than fat; is that true?

A. Some kinds, yes.

Q. The linings of some of the organs will also -- the outside of some of the organs will also hold an impression better than other kinds of positions.

A. That's correct.

Q. When you find that a wound has, has cut through such surface, do you normally take measurements from those particular kinds of surfaces?

I'm going to -- I have on the left-hand side of the diagram listed centimeters from 0 to 1, 1 to 2, 2 to 3 and so on down to 13 plus.

When Dr. Root indicates ten centimeters I will put it at the lower of the two numbers. Like in this case, 9 to 10, I am going to just write in the number and the appropriate color of the wound. So, I'm putting Wound No. 3 in the 9 to 10 spot.

Now, was that -- some wounds on the edges of the wound have sort of scrapes on the edges; is that correct?

A. Yes, that's correct.

Q. Amongst other things, is one of the things that a scrape on the edge can indicate the relative sharpness of the knife, that is, a razor-sharp knife would be less likely to have those abraded edges than a dull, duller knife?

A. Oh, I did -- no, no, I don't think I can reach that conclusion.

Q. Are some knives more likely to produce abraded edges than others?

A. I can't, I can't answer that question. A serrated edge, not very sharp, a saw edge will certainly, brought across the skin, can certainly cause abrasion. Beyond that I don't know.

An edge that is not sharp simply will not cut, but may not even cause abrasion. A butter knife will not cause abrasion, as an example.

Q. Well, Wound No. 3 on Douglas Ryen, that particular wound, you indicated, I believe, was what might be called razor sharp, or it was -- there was an extremely sharp cutting edge.

A. I frequently do, though not always.

Q. Did you with this particular wound sequence?

A. In No. 3 I measured through the dimension through the sternum, through the bone. I did measure a couple of other dimensions.

Q. Did you also, did you also measure -- what other dimensions did you do?

A. Oh, I measured a dimension through the pericardial sac.

Q. That's one of these membranes around the heart that will hold an impression fairly well?

A. Yes.

Q. Okay. And what else?

A. Then the dimension in the heart itself, where it entered the heart. I have that measurement.

Q. Okay. Now, in interpreting these particular measurements one has to take a certain amount of care to try and distinguish whether or not the cutting instrument was coming in at a 90 degree angle or a 45 degree angle; is that true?

A. Let me put it -- No, I'm not following that.

Q. The same knife going through the pericardial sac at a 90 degree angle would normally leave a smaller incision into the pericardial sac than that knife entering a 45 degree angle. Is that true?

A. You are probably assuming there is no motion other than that direct stab. There probably would be comparatively little difference in the pericardial sac itself because that's an extremely thin membrane.

The width of that, the thickness of the membrane is maybe a tenth of a millimeter. So, whether you cut that at straight on 90 degrees or at a diagonal 45 degrees probably wouldn't make that much difference.

What could make a tremendous amount of difference is if there is some slicing movement as the blade goes through the membrane, then that can make a tremendous amount of difference. But it is not so much the angle that's important.

Q. Well, when a knife goes through the pericardial sac, does the, does the pericardial sac bend in any way, or does -- is it just right up flush against the heart so that it immediately goes into the organ of the heart?

A. Well, generally you are going to push -- there's a potential space, but if it goes through the pericardial sac into the heart the pericardial sac will be pushed up against the heart when it goes through.

Q. I guess what I was asking you is, that taking, if I could, let's see -- just -- if -- let's assume that the ruler is what the knife is going into. If it goes in like this, in this particular example, the knife would penetrate through the ruler at approximately, approximately three quarters of an inch; whereas, if it was going through like this it may cut up to an inch and a half of ruler.

A. May I see that?

Q. Uh-huh.

A. There is a potential for slight difference. There is a potential for a slight difference.

Q. And in making your measurements in this particular,

in this particular instance, did you try and determine if that was possible by the direction of the, of the probe into the wounds, in which direction the knife was entering each of the different surfaces?

A. No.

Q. What was the, what was the measurement that you got on the sternum?

A. Four centimeters.

Q. What about the pericardial sac?

A. 3.5 centimeters long.

Q. And what was the other surface that you measured?

A. The incision into the heart, the right atrium, the wall of the right atrium was two centimeters; the incision.

Q. Okay. The knife just barely -- well, the knife did not -- if I can interrupt, my coaching staff has indicated to me that I should identify that the knife that we were discussing was Exhibit 537.

A. All right.

Q. How much distance is there from the spot where you measured the incision into the atrium to another surface that you would have expected the knife to be penetrated through if it had kept going?

A. Anywhere from a half centimeter to five centimeters.

Q. That is depending upon what portion of the heart it went in?

A. It depends upon whether the heart is empty or full, whether it is diastole or systole contracting. It depends upon

where it might strike the other surface of the heart, which direction the angle of the heart is; a whole variable, a number of potential things.

Q. Then were you able to determine then how far into the atrium that that particular knife penetrated?

A. No. It did not strike any other surface of the atrium of the heart, it went, simply went through the outer wall and did not strike another surface.

Q. Does that indicate that the knife could have been from one half centimeter in length past the spot of its deepest penetration into the atrium to five centimeters?

A. I think I lost you on that one.

Q. Assuming that the knife, that my fingers are the wall of the atrium, are what you telling us is that the amount that the knife could go through that wall is anywhere from a half centimeter to five centimeters?

A. Yes. Although there is another variable. It is also possible that the knife blade could actually go through the opening between the right atrium, right ventricle, into the opening at the right ventricle without striking any object, there going an additional three to four centimeters. There are a whole host of unknowns.

Q. So in this particular situation then it could have gone anywhere from a half centimeter past that wall of the atrium to eight centimeters?

A. Conceivably.

Q. Is the space in those atriums such that if, say, a knife of two centimeters in width were to go all that distance

it would cause an incision along one of the inner walls?

A. It is conceivable.

Q. Going from consistent with to probabilities, is there any probability that you can assign to approximately how far the knife would have penetrated past the wall of the atrium?

A. Probably not much more than five centimeters, but it might be quite a bit less.

Q. So basically between half and five you can't really assign a probability.

A. No.

Q. How far was it in distance, approximately, from the wall of the atrium to the entry spot for Wound No. 3?

A. I estimated the depth of penetration of Wound No. 3 to be approximately ten centimeters, give or take several centimeters on either side. That's the best I can do.

Q. So, what you are saying then is that the ten centimeters that we're talking about is the distance to the atrium and not the distance the knife may have penetrated past the wall of the atrium into the chamber.

A. I believe the ten centimeters would be about an average figure. But there's so many variables here that I'm not able to deal with. I'm giving you -- when I say ten centimeters it is an approximation. It could possibly be eight centimeters, it could be twelve to fourteen centimeters, I don't know. There are too many variables.

Q. Wound No. 4 on Douglas Ryen. Could you put No. "4" on the doll.

A. (Witness complied). All right.

Q. And that -- the cutting edge on that particular wound was to the -- towards the --

A. That would be to the left side of the wound.

Q. Could you then indicate with the purple right there that No. 4 was one of those wounds.

A. Just a moment. Let me make sure the blunt -- the purple line would be the blunt end, so I will make that on the right side of No. 4; the bottom.

Q. Returning to No. 3. Do you recall at the preliminary telling me that the sharp end of it was up?

A. I don't recall. I don't have anything in my report. It is possible, however, that I do recall vividly at the preliminary that I had the photographs on each one of those cases, and I may have referred, been referring to the photograph when I made that statement.

Q. Oh, you were? If I showed you the photograph then would that help you to refresh your recollection?

A. It might.

Q. Showing you the photograph that has previously been identified at the preliminary at H-49.

A. Yes. The photograph does indicate that the cutting edge is up and to the left in No. 3.

Q. So could you put the purple mark at the opposite.

A. (Witness complied).

A. Yes, sir.

Q. And as far as number -- getting back now to 4 again. No. 4 was one of those wounds again that was knife sharp.

A. Yes.
Q. That is the term were going to use.
A. Yes.
Q. The nature of No. 4 was such that you were unable to have measured its depth; is that correct?
A. My estimate, based upon review of the photograph the other day, last -- today, yesterday, was maybe between three to four centimeters in depth. That's an estimate based on the photograph just now. I did not measure it at the time.
Q. Okay. Is that -- what is the basis for that? I mean, is that from where, to where it entered the abdomen?
A. No. 4 did not actually enter the abdominal wall, I'm sorry, the abdominal cavity, and I'm estimating that depth based upon the photograph that I saw of No. 4 about how deep it might have penetrated to the wall, but not through the wall of the abdominal cavity.
Q. So three to four centimeters, you said?
A. Yes. That is my best estimate now. And I did that -- well, I've looked at these photographs last night and this morning, so I don't know whether it was last night or this morning.
Q. Okay. Could I put a parenthesis around it to indicate that estimates a temporary measurement?
A. That's correct.
Q. The next stab wound would be No. 24 on Douglas, the wound that cut his carotid artery.
Could you, on the doll, label that particular wound.

A. (Witness complied).

Q. And that wound penetrated a depth of approximately eight to nine centimeters; is that correct?

A. 24? Yes, that's correct.

Q. And that estimate was actually done at the time of the autopsy and is incorporated in your report; is that correct?

A. Yes, it is.

Q. Did -- could you tell which was the -- which, if any, was the cutting edge of that particular, of that particular wound?

A. My report does not reflect it. It is possible again by looking at the photograph.

Q. Help yourself.

A. I might answer that. I would ask if you would help me to make sure that -- you may be able to find it faster than I can.

Q. The -- showing you actually the photograph that was shown at the preliminary hearing, H-63. There's a couple of others that are also on that page.

A. No, I don't -- I cannot distinguish the cutting edge in the photographs for 24. My records don't reflect it.

Q. That particular wound in your report you described as relatively sharp-edged. Do you recall that?

A. Yes.

Q. What did you mean by that?

A. Well, it is a cutting edge caused by a knife, but one margin, the upper margin was slightly dried, a little bruised or contused. This modifies the appearance very

slightly.

Q. Does that indicate generally that there's more friction associated with the patches in the knife over the skin with that particular wound than some of the others?

A. That's a possibility.

Q. That would be -- would an abraded edge have a similar type of interpretation?

A. That is possible. In this particular situation certainly a very distinct possibility. No. 24 is -- 24 went from above down. The knife penetrated from above down the tissue. There is some give of the tissue at this point.

So, as the knife went in it may have pushed the tissue ahead of it, the skin, before it actually penetrated. But it also rubbed more against the upper margin than the lower margin, so that it could cause that drying of contused appearance on the upper margin through friction.

Q. Could a knife as sharp as the knife in Exhibit 537, you know, would there -- would there be anything inconsistent with that particular type of -- that particular knife, that particular sharpness having caused that particular wound?

A. This knife could very easily have caused No. 24.

Q. The next stab wound we have is No. 28. That -- could you in black identify that on the model?

A. I'm not sure. Make sure of exact location again.

(Witness complied.)

Q. And were you able to determine, either by looking at photographs that were previously identified as H-66 or laboratory AP-111, or by your notes, which edge was the cutting

edge on that?

A. Okay. From my notes, no. The photographs, 28, no. I see a cutting edge -- actually -- well, wait a minute, make sure here.

Yes, I see in the photograph cutting edge on both sides.

Q. So, that is consistent either with a dirk or dagger type thing or with again a knife such as we have in 537 making a cutting action as it's being withdrawn, is that --

A. Or inserted, either way.

Q. Excuse me. Right. Okay. So you just can't tell about that?

A. I can't tell.

Q. That -- that wound is ten to eleven centimeters in depth, is that correct, from the autopsy report?

A. Yes, ten to eleven centimeters in depth.

Q. And you took two measurements in connection with that -- with that particular wound as it penetrated, one of the pleural surface, which was approximately 3.5 centimeters, and another one of 5 -- of the --

A. Wait a minute.

28, no.

Q. Excuse me. I'm looking at the wrong wound. Never mind.

A. I don't think that one went through the pleura.

Q. No. I was getting ahead of myself.

A. I've got enough troubles. Don't scare me.

Q. Okay. The next wound then is -- is No. 32, which

did go through the pleural surface. Could you identify that on the diagram?

A. (Witness complied.)

Q. And as to that particular wound, that's another one of the double-edged ones that you can't tell?

A. No. I think I can. Just a moment. Part of your question, yes, it is a double-edged injury, that is, two sharp edges. However, there is a tailing of wound 32 towards the left side that would tend to suggest a cutting action towards the left. Now that doesn't mean this couldn't be a double-edged instrument, but it does suggest that there is a slicing action, and that the slicing is from right to left.

Q. Okay. So that if it were the single-edged instrument, the blunt edge would be towards the center of the -- of the -- of Douglas's back?

A. Yes, that's correct.

Q. Okay. Let's leave that as ambiguous at the moment. And that was between nine and eleven centimeters in depth?

A. Which one? Where are we, 32?

Q. 32.

A. Nine to eleven centimeters deep.

Q. And that one you did take a measurement of the pleural surface; it was approximately 3.5 centimeters.

A. Just a moment.

Yes.

Q. And also of the intercostal muscle which was approximately four centimeters?

A. That's correct.

Q. Do you recall whether or not the wound was going in a 90 degree angle through the intercostal muscle?

A. No.

Q. How about through the pleural surface?

A. Well, that would apply, the same would apply to the pleural surface. I couldn't tell.

Q. They are very close together?

A. The pleural surface is right on the intercostal muscle. It's attached to it.

Q. Okay.

THE COURT: Again, counsel, if you can expedite by any marking during the recess, try and do so.

MR. NEGUS: Unfortunately I don't think this part --

THE COURT: Let's return at 1:30.

Be mindful of the admonition at all times. Thank you.

(Noon recess taken.)

SAN DIEGO, CALIFORNIA, THURSDAY, NOVEMBER 29, 1984 1:35 P.M.

--oo0oo--

THE COURT: Mr. Negus.

IRVING ROOT,

The witness on the stand at the noon recess, having been previously sworn, resumed the stand and testified further as follows:

CROSS EXAMINATION (Resumed)

BY MR. NEGUS:

Q. Dr. Root, getting back just a second to Wound 24. I can't remember if I asked this question or not. If I did, I apologize.

But in your report you describe the cut, or the incision, excuse me, into, on the surface in Wound 24, as a relatively sharp cut as opposed to other wounds where you describe them as sharp or knife sharp, whatever.

What distinction were you trying to draw in using that word as opposed to the other ones where you didn't use it?

A. Yeah, I think I did answer that. But the margin, upper margin of this Wound 24 was slightly dried, slightly bruised or contused, and although it was sharply edged this modified the drying contusion of the -- it did modify it very slightly.

Q. Just on the diagram. This one, Wound 24, was one of the wounds that did have some marks that could have been

caused by friction on the edges; is that right?

A. Yes.

Q. I am going to use -- I marked in pink, with a circle around those numbers, to indicate those wounds on the chart.

Now, back on Douglas to 34. That particular stab wound, could you locate that on the model? And I think it is next to 35 there, connects to 35. So, maybe you could mark 34 and 35 together on the doll.

A. Just one moment, please, I'm still orienting myself here. (Witness complied). Okay.

Q. As to 34, can you tell from that wound whether or not there was a cutting edge in either of the directions?

A. It appears that 34 does -- well, the cutting edge appears to be towards the upper part. Let's see if, however, how I've described that. Just a moment. If I have -- no, I did not describe it in my report. But from the photograph it appears that the upper margin is slightly more, is slightly sharper than the lower margin. I believe that indicates more likely a single blade and the blade going, pointing up.

Q. Could you mark then in purple on the lower end to indicate that's the blunt end.

A. (Witness complied). Yes, sir.

Q. And that wound sort of went along the surface area or just under the surface, I should say, approximately ten centimeters; is that right?

A. Yes. I was able to trace that. Let me check myself on that one. I believe about ten centimeters. Yes, sir.

Q. So that would be the approximate, that would account then for the depth of that particular wound as ten centimeters.

A. Yes, sir.

Q. And were the edges of that wound abraded or contused in any way, or were they sharply incised?

A. I think they're both sharply incised. There is no contusion or drying.

Q. How about No. 35. Did you probe that approximately twelve to thirteen centimeters into the body?

A. Well, 35, 34 and 35 are a little confusing in that again there is a communication between 34 and 35. But 35 also is a stab wound into the chest itself, so it appears that possibly 34 intersects to 35. But, at any rate, 35 did stab into the chest and twelve to thirteen centimeters deep.

Q. And were there any -- what about the edges of that particular wound. Were there any -- was that also -- was that a sharply incised wound?

A. Again, yes, with a slight beveling of the wound.

Q. Beveling, does that have to do with the angle with which the knife enters rather than friction?

A. Yes. Yes. Actually it appears with 35. 35 had gone up towards 34 -- 35 being the lower of the two, 34 being upper -- and it appeared as if from the angle of beveling on 35 that the communication, the apparent communication between 34, 35 had originated at 35, but 35 also did stab into the chest, and so that may be the change in direction with 35.

Q. So, what you are saying is that sort of like a

double stab wound which goes in one way and then goes in another way as the body is moving?

A. That's one possible explanation. I don't have an absolute, but that is certainly a possible explanation, yes.

Q. So, the entry then for both of the wounds would be 35, but 34 would then be the exit wound.

A. No, I think -- No. 34 did sort of come back towards 35. It wasn't a definite stab wound of its own, but it is not an exit, not as best I can tell. I just cannot tell you precisely how they do relate because there is a second angle path to 35, which confuses it.

Q. Can you tell which of the ends of 35 was the sharp one?

A. From the photograph it appears that the sharp edge is to the right, so the dull, the non-cutting edge, this -- well to the left and upward.

Q. Okay. With that particular wound, when you, when you dissect away you measure the incision in the pleura of 4.5 centimeters, and and then another incision in the intercostal muscle approximately four centimeters; is that right?

A. Well, the 4.5 centimeters length was at the point of entrance, 35, which did angle to the right and did come out of the right chest, not out of the skin but out of the right chest, on the side, the mid-axillary line, producing the incision in the intercostal muscle. Between the two ribs, in other words, on the side of the chest. That was four centimeters.

Q. What about the last measurement you took before,

inside before the, before you were unable to probe it any further.

A. It went an additional about one centimeter into the overlying muscle on the right side. Towards the front.

Q. Unless you had a very blunt knife, would that indicate that there was slicing action going on inside the wound?

A. That would -- well, yes, I think so.

Q. Turning then to --

A. I am -- yes, sir.

Q. That is, turning to Peggy Ryen, whose model is No. 526. And let me switch this for you.

A. Thank you.

Q. The the first wound that you have mentioned as a possible stab wound is No. 15. Could you just identify that on the doll with the black --

A. Let me double-check.

Q. -- marker.

A. I think I'll use the other one. Where's the -- let me find the tip, black. On the left breast. (Witness complied).

Q. Now, the -- this particular -- well, the breast would be one of those areas of the body where the depth of the wound would be much less likely to be informative than some of the others; is that correct? That's because of the give.

A. Yeah. Certainly there's a tremendous amount of give here, and -- yes.

Q. And this particular wound didn't actually have --

did it have great depth to it?

A. I can only give you an estimate, I can't give you an approximation. I mean, I did not measure it. Not from the photograph can I give you a precise -- I would say several centimeters. One, two, three, four.

Q. I will put on the column, on the right-hand column of this particular diagram that we have been dealing with, No. 561, and put an orange "15" orange being the color designated on the chart for Peggy over there on the end, basically to reflect that it is not going to be terribly informative as far as the depth of the knife wound is concerned. So, we're leaving that one out.

A. Okay.

Q. Now, going on to Wound 18. Could you locate that for us.

A. (Witness complied).

Q. And is the sharp edge of that toward the -- pointing towards the right side of the body?

A. Yes, but let me double-check one more time, please.

No. The sharp edge points towards the midline, or to the left side, I guess. Just based upon my report here.

Q. Have you looked at the photograph?

A. Well, I think it fits with that, also. But I'm basing that on -- the photograph really isn't that clean, and all I can tell you is that my written report does say it is -- the sharp edge is towards the midline.

Q. All right. Okay. Could you so indicate on the diagram, or the figurine, which I should identify as Exhibit

526, if I didn't.

A. (Witness complied).

Q. Then this wound is sharply incised?

A. Yes.

Q. And its minimal depth is thirteen centimeters; is that right? That is, it could have gone further, but it went at least 13 centimeters.

A. I think so. Let me go back and -- I'm sorry, yes. At least 13 centimeters.

Q. I will put that under the 13 spot.

And you took no internal measurements on that particular wound; is that right?

A. It didn't go through any structure other than muscle and fatty tissue. It didn't go into the peritoneal cavity. So, whatever there was, that closed.

No, I did not take any other measurements.

Q. Now, as to Wound 19 on Peggy. Could you locate that again on the the diagram, or on the -- excuse me -- on the model.

A. (Witness complied).

Q. Is that particular wound sharply incised with the cutting edge towards the navel on Peggy?

A. Yes, that's correct.

Q. And you indicated, I believe, with Mr. Kottmeier, that the minimal depth on that was five centimeters, but that it essentially entered the stomach and --

A. I lost it.

Q. -- you lost it. So, that could have been even as

much as 13 centimeters in penetration; is that correct?

A. It could have been. There is no -- I can measure five centimeters. I know it goes beyond that, I don't know how much beyond that.

Q. I am going to then put "19" again over here on the right as one where it would not tell us much about its depth.

Could you then locate Wound No. 20.

A. (Witness complied).

Q. And was that a sharply-edged wound with the cutting edge towards her, Peggy's back?

A. I 'm sorry, just -- it keeps falling apart.

That was No. 20? Yes, cutting edge, posterior.

(Witness complied).

Q. That particular wound penetrated approximately ten centimeters; is that right?

A. Just let me double-check myself here.

A minimum of ten centimeters, yes.

Q. Can you say a maximum to it? Would it be just a centimeter or so beyond that?

A. Could be a couple of centimeters more.

Q. But it is not a real -- it couldn't be like five centimeters.

A. I think not.

Q. I am going to put that -- so, I'll put that in the 10 to 11, perhaps more.

That particular wound was -- you managed to take several measurements as that particular wound penetrated through the various tissues and organs; is that correct?

A. Yes.

Q. The first measurement you took was 3.5 centimeters in the muscle between the skin and the lung.

A. Yes.

Q. And then a 2.5 centimeter measurement in the middle on lobe?

A. In the lunge, yes.

Q. And then another 1.5 centimeter incision as to a knife cut into the right lower lobe; is that right?

A. Yes.

Q. The distance between the middle lobe and the right lower lobe varies from approximately three to six centimeters in the human body, is that accurate? More or less?

A. There's a lot of variation. I don't know. Yes, three to six centimeters. But it could be more. That is an estimate.

Q. And approximately how far from just, again an approximation, how far from the surface of the skin was the incision into the right lower lobe?

A. An estimate on No. 20?

Q. Yes.

A. I would say a minimum depth of penetration -- I'm sorry -- ten centimeters, and I just can't tell you beyond that. When the lung collapses, it is not necessarily in the same position when the stab wound is inflicted as when I see it.

Q. Wound 21 is in reasonably close proximity to Wound 20; is that right?

A. Yes. 21 is also on the right chest, just below 20.

Q. Is that likewise a sharply-edged incision oriented in the same general manner as 21?

A. (Witness complied). That is 20?

Q. Excuse me as 20, yes.

A. Yes.

Q. And the depth of penetration of that particular wound was something like nine to ten centimeters?

A. Yes.

Q. Could you then indicate the -- oh, you already indicated it. I will put "21" right there.

Could you locate wound 25.

A. (Witness complied).

Q. That's a defense wound, defense-type wound to the left arm of Peggy Ryen; is that correct?

A. Well, forearm, properly. Actually near the wrist. But the forearm properly, and, yes, defense wound.

Q. Can you tell anything about the number of sharp edges of the instrument that caused that particular wound?

A. No, I cannot tell on 25, either from the photograph or from my notes.

Q. While we're there. 26 is another injury in the same general area as 25.

Could you locate that on the diagram -- well, or on the, excuse me, on the figurine.

A. (Witness complied). I don't see --

Q. 27 is also on her, isn't it?

A. Yes, 27 is up on --

A. Why we don't we do that one, too, because it is

also in the same general area.

A. (Witness complied). 26 is on the forearm, 27 is on the arm technically, properly.

Q. Both -- 25 and 26 both penetrated approximately two centimeters, that is, a little bit less, somewhat less than an inch, and with .7 centimeters or seven millimeters, around three-eighth's of an inch, or a little less, on the surface; is that right?

A. That's correct.

Q. And did both of those wounds have abrasions, other signs that could be friction around the margins?

A. Well, certainly 25 does.

Let me -- I -- Let me check 26. Very slightly on 26 also.

Q. In examining those -- those particular wounds, did you note the same sharp knife-like incisions that you described on the other -- on the other wounds you talked to previously?

A. I did not comment on the sharpness of the penetrating margin of 25. I did comment about the abrasion, both on either side, but not the edge itself.

On the -- On 26 I did indicate that there was very -- although it was sharp-edged, it was very slightly irregular and perhaps a little abrasion adjacent to the penetrating part of 26 and not quite as cleanly edged as some of the others.

Q. Wound 27, what were the dimensions of that particular wound?

A. It's 16 millimeters long on the surface.

Q. On the surface?
A. I'm sorry. Did you want the penetrating distance?
Q. Both, yes.
A. About two to three centimeters penetrating.
Q. Did that -- was -- did that have the same type of -- was that a -- a -- a sharply incised incision?
A. Yes, it was.
Q. Did that have any -- any areas of abrasion around it?
A. No, sir.
Q. The -- as far as the depth, you have that as two to three centimeters, and then wounds 25 and 26 as two centimters.
Was there -- just based on the way you described it, could you be sure that the Wound No. 27, like penetrated deeper than 25 and 26, or are those more --
A. This is too close. My estimate is it's perhaps a little deeper, but there's -- I'm not absolutely positive. I think 27 is penetrated a little deeper.
Q. And were you able to orient which was the cutting edge, if either, of 27?
A. No. No, I can't be sure on 27.
Q. The last stab wound that we have on Peggy Ryen is No. 33. Can you locate that particular wound?
A. 33? 33?
A. Yes, sir.
Q. Now, 33 is -- is sharply incised; is that right?
A. Yes, sir.
Q. And what was the -- what was the depth of

penetration of that particular -- that particular wound?

A. I would say about ten centimeters. That went into the body cavity, and that makes it -- into the abdominal cavity, makes it a little less certain, but 33 -- I'm sorry -- about ten.

Q. About ten centimeters. Okay.

On the -- going back over just for a second to diagram 564, the bleeding chart, that particular wound is one of the many wounds on Peggy Ryen that you described as having minimal bleeding.

As far as that particular wound is concerned, is that -- is the bleeding, the minimal bleeding connected with it any more minimal than any of the other wounds that you have described under minimal bleeding on that particular chart?

A. I really can't quantify it that fine. It's minimal.

Q. So again -- which -- which ones of these particular wounds on Peggy to classify as green is basically more Mr. Kottmeier's choice than your choice; is that accurate?

A. Yes.

Q. If I could hand you the doll for Jessica.

A. Let me go back to that.

Q. Sure.

A. You did not mark a cutting edge.

Q. I'm sorry. Yes, glad you reminded me. Can you determine one?

A. Well, I can't.

Q. Okay.

A. Because this is a long incision. The surface dimension of it is nine centimeters. This one seems to be a slicing as well as stabbing, and it does seem that the cutting edge is downward because there's a tailing incision at the base, but the upper margin is also sharp. My feeling is that that's a slice and stab.

Q. So, probably down, but you can't say for sure?

A. Well, I know it's down. I simply can't say that there isn't another edge, another cutting edge is what I'm saying.

Q. Okay. Okay. Well then, if it's a single-edged instrument then it's going down, but --

A. Right.

Q. Okay. Well, I gave you the model I believe for Jessica.

The first stab wound to her would be?

A. Just a moment.

Q. The worst one, No. 6.

A. No. 6.

Q. That particular wound, does that -- can you orient that, the cutting edge on that particular wound --

A. Do you have a --

Q. -- on that?

A. Can you find a photograph on that?

Well, actually I do have it.

Q. Here it is.

A. Here. Anyway. Actually there are sharp edges on either side.

Q. So, that's one of those ones it's hard to tell?
A. That's correct.
Q. Okay. How deep did that particular wound go?
A. Six centimeters.
Q. I'm using blue to indicate Jessica. That shows different than purple.
Did that have abraded or contused margins to it?
A. The margins appear to be fairly clean, fairly sharply edged.
Q. As that -- the six centimeter depth, was that something where you could see where the path of the knife ended?
A. Pretty much so.
Q. Was there any bone or other hard tissue at the spot where the knife ended that would have blocked it?
A. No. Well, wait a minute. You mean -- Certainly it could have been run across bone in that location. I did not find an incision in the bone. But where it went is, the carotid artery/upper pharynx is right up against bone. That is very irregular on the surface dimension, very difficult to be sure. We are looking at the cervical vertebrae in that area, and they are very irregular contour.
Q. Are those particularly big bones or are they smaller?
A. Well, the neck bone, cervical vertebrae, they are quite irregular.
Q. The next wound we have with Jessica would be Wound No. 8 I, believe, and perhaps just for convenience and quickness you could locate 8, 9 and 10 all together. I believe they

are --

It's difficult to show their exact location on the diagram because of the arm?

A. I will do what I can. (Witness complied.)

Q. Did all three of those wounds penetrate approximately nine to ten centimeters?

A. Yes. That's my best estimate.

Q. Did -- were they all sharply incised?

A. Yes. Let me go through them one at a time.

8, sharply incised, cutting edge up.

Q. By "up," do you mean toward the front of Jessica?

A. No. This is an up/down.

Q. Oh, I see.

A. Towards the top, towards the head, cutting edge. Noncutting edge towards the foot.

9, also same orientation; sharp-edged, sharply incised wound, sharp edge, upper or cutting edge up, noncutting edge down towards the foot.

10, the same orientation the -- whoops. No, wait a minute. That's not right. Oh dear,

Q. I think 8 is the one at the top, 9 and 10 --

A. No, 10's not quite -- on the doll is just not quite vertical enough.

Q. Actually it was sort of slice, it was more --

A. It was a slope.

Q. -- from back to front?

A. Yeah.

Q. The back --

A. Yes.

Q. -- being the higher part of the wound and the front being the lower part?

A. Yes. The orientation is similar, but the -- the diagram -- the mark on the doll is not quite up and down enough.

Q. Now,. When when you -- when Mr. Kottmeier was asking you questions about those particular wounds, I believe that there was at least the possibility mentioned that they all could have been in rapid succession.

The orientation of the -- of the single-edged cutting knife on those particular wounds sort of changes around, does it not, sort of rotates as they go into her body?

A. Well, there is a rotation -- 8 and 9 are oriented the same general direction.

10 is oriented at a different direction.

Q. Okay. But the -- Okay.

The rotational aspect of that, is that great enough that one would want to change your answer about they could all have been in rapid, 1, 2, 3 in succession?

A. No.

Q. I mean, it's possible just to rotate a knife in one's hand as one's --

A. Well, it's not a matter of rotating a knife as twisting the wrist. And if I were to cock my wrist, say to the right, I could do two of them real fast and cock my wrist to the left and change the orientation by this amount and still have just this pattern.

Q. Okay. That's not --

A. That doesn't change that possibility.

Q. And when you see three such wounds right together like that with consistently -- that kind of orientation which is consistent and the same general size and shape, does that suggest in fact it was sort of a rapid succession pattern or is that something that at least increases the probability of that?

A. I think so, type pattern, yes.

Q. Did any of those wounds bump up against bone only?

A. I did not note them going into bone.

Q. If we could then turn -- I think I asked this, but none of those had abrasions on the margins; is that correct?

A. No, I think I did note an abrasion.

Q. There is an abrasion nearby, was there not?

A. I've got to check my notes, please. Okay. There is an abrasion adjacent.

Q. But that's --

A. But not on the the margin itself. That's with 8. My note says there is some abrasion basically adjacent to the wound.

Q. Okay.

A. Not the wound itself.

Q. All right. Right. There's a -- a little dot-type --

A. Yes.

Q. -- abrasion, and there is, in fact there's a series of little dot-type abrasions in that area not associated with any of the wounds; is that right?

A. That's correct. Well, this particular one I think

is a linear abrasion. It's different than the dot. It's this thing very much adjacent to the -- quite adjacent. There are a couple of dot-like abrasions also.

Q. Is it such that one would assume that the same instrument that made Wound 8 I guess it was also made that?

A. It's possible it could have.

Q. Could that be the kind of mark that would be made by the hilt of a knife?

A. No; no.

Q. Going then to Wounds 11 and 14, that is the single wound that goes in and out?

A. No. I don't know. I don't --

Q. Am I wrong?

A. No. I'm just looking at that. I don't think that we can show those on this model. I don't think they were -- Yeah. We can't show 11, 12 and 13, and I don't think even 14 for sure.

Q. Okay. Let's then just try and describe them.

The -- First of all did -- can you give a -- because an entrance and an exit wound, I take it that that would make both of those difficult to -- to try and gauge depth by; is that correct?

A. Well, no. I measured, or have an approximation, let's put it that way, --

Q. Okay.

A. -- of the distance between entrance and exit.

Q. Okay.

A. If you want to use that as a depth.

Q. But let's -- let's just consider that for a moment. The --

Are the sizes of the entrance and exit wounds fairly close together on those -- on those two wounds, on 11 and 14 and on 12 and on 13, the other one that comes out?

A. Well, they -- No. 11 is 3.1 centimeters. No. 14 is three centimeters in length on the surface. Those two are joining entries.

12 and 13 are rather different. 13 is 1.6 centimeters long and 12 is four millimeters long.

Q. What's the difference -- what is the distance between 12 and 13?

A. About one-and-a-half centimeters.

Q. From the fact that one is bigger than the other, does one make an inference that at least this is -- there is a probability that the bigger one is the entry and the little one is the exit?

A. In that case I think 13 would be the entry and 12 the exit. It didn't come all the way out.

Q. Let me -- so that -- you are getting -- four millimeters is not -- is not really very -- is not really very big, so one could -- am I correct in putting that particular wound in the one to two centimeter range?

A. Well, the depth is correct. The four millimeter was the surface dimension.

Q. Right.

A. But it is one to two centimeters as far as what it penetrates in the tissue, yes.

Q. From the four centimeters can one make an inference that probably the knife didn't protrude two much?

A. Four millimeters.

Q. Four millimeter. Probably the knife didn't protrude too much?

A. That's a reasonable inference, assumption.

Q. Was that particular wound, did that particular wound involve abraded margins or any sort of signs that might be friction?

A. Wait a minute.

Q. Let me reask it.

No. 13, the entry wound that was not cleanly incised, there were some irregularities to it?

A. That's correct. 13, slight irregularity, yes.

Q. Put a circle around that.

The -- what's the -- what's the distance that you have on the -- on the 11, 14, on 11, 14?

A. The distance between the two?

Q. Yeah.

A. Or the surface dimension?

Q. We have already got the surface dimension between the two.

A. The distance between the two is based upon my estimate looking at the photographs with the ruler is someplace between four to five centimeters.

Q. The fact that -- you couldn't tell which one of those was the exit and which was the entrance?

A. I could not.

Q. And the fact that there is -- that the two wounds are more or less the same, that's not going to tell us very much about the length of the instrument that made it, is that correct, it could be anywhere from --

A. That's --

Q. -- just over what the dimension was to considerably longer?

A. Well, --

Q. Or am I wrong?

A. As far as that's concerned it could even be a little shorter if you compress the tissue between the two, and it's quite compressible at this point. The bottom line is I don't think we can tell much about the length of the blade.

Q. Was that -- did that involve abraded margins?

A. No.

Q. The next stab wound that we have to Jessica is Wound 25. What was -- Could you locate that on the doll?

A. 25?

Q. Yes.

A. (Witness complied.)

Q. Can you orient that as to which way the -- the cutting edge was or whether there was a cutting edge?

A. Yes. The cutting edge would be towards the little finger side of the forearm.

Q. The surface dimension of that particular wound was approximately 2.3 centimeters. It stuck in approximately --

A. Just a moment.

Q. -- three centimeters.

A. I'm sorry, just -- 25? The surface 2.3 centimeters, 23 millimeters, same difference. Three centimeters penetration.

Q. And would that type of wound be consistent with a knife, such as the one I have in my hand, Exhibit 537, poking into the wrist area of the young girl, sort of a defensive wound?

A. It could, yes.

Q. The next wound I think we have is 35.

Now, that one you had listed as a question mark, I believe.

A. Okay, just a moment. 35.

Q. And we will also be doing 37.

A. Okay. All right.

Q. Are both of those wounds sharply edged?

A. Yes.

Q. And are you able to determine an orientation?

A. It would appear that the cutting edge is to the left -- whoops. Oh well, I'll redo it.

Q. On 35 you made the mark in black.

A. Yes. Rather than purple. Sorry about that. (Witness complied).

Q. And can you tell the orientation of 37?

A. No. Let's see. I don't think my notes reflect that. No.

Q. What is the depth -- what are both the dimensions of 35 and then 37?

A. The depth of them?

Q. Well, both surface and depth.

A. 35 is -- whoops. No. 35, the cutting, incising part, was two centimeters in length, and I didn't measure the depth of penetration. Let's see. Or did I.

Q. Well --

A. Just a moment. No.

Q. At the preliminary did you have an estimate that it was, the depth was perhaps two to three centimeters?

A. Well, I don't recall that I did, but I -- that would certainly fit.

Q. I will write it down.

A. We will estimate that now as two to three centimeters.

Q. Okay. And --

A. 37?

Q. Is again in that range, a minimum of two centimeters?

A. Yes. The surface dimension, 2.3 centimeters long, but a minimum depth of penetration, two centimeters.

Q. But you felt that at least looked to be a stab wound?

A. It looked more like a stab wound. Equivocal one, but --

Q. Now, at the time that you were doing the autopsy, you were able to -- not for the two adults, but for the two kids -- examine the clothes that they were wearing at the time that they were murdered. Is that right?

A. To some extent, yes.

Q. Does -- as far as trying to figure out the width of a knife injury, is cloth a more accurate medium than human skin?

A. Well, certainly I wouldn't expect cloth to contract, but you can certainly incise through cloth and make a much longer injury than you can -- than might be the, actually the actual width of the knife. So, it doesn't -- the incision through the cloth, I would say it can't be wider than this. It could be quite a bit less.

Q. When you were doing the autopsy?

A. This kind of cloth -- let me put -- is not elastic cloth.

Q. She had a flannel type of nightgown.

A. Yes.

Q. I think Chris had sweat pants and a T-shirt on.

A. I believe so.

Q. Did you in fact examine the various knife wounds in Jessica's nightgown at the time that you were doing the autopsy?

A. Not in any detail, no. There's a photograph of them here, but I didn't examine them in any detail, no.

Q. Do you ever recall whether you measured them, any of them or not?

A. I don't recall having done that. I don't recall. I don't think I -- I don't think it is in my report any place. I certainly don't recall it.

Q. If we could then go to young Chris, and providing you with the figurine, that is No. -- Exhibit No. 528.

The first stab wound that you had listed was the stab wound that entered at 3 and came out at what you had 2.

Could you locate that on the --

A. (Witness complied). On the right front chest.

Q. Yes.

A. Yes, sir.

Q. Okay. And was that a sharply incised wound?

A. Well, relatively sharply incised. Let me double-check myself, please.

Certainly Wound No. 3 did show some drying of the margin. I didn't see that on Wound No. 2.

Q. In some cases can you have drying of the margin which are attributable to the hilt of the knife banging up against the body?

A. Yes. I think that is true in this case.

Q. That doesn't occur everytime that the hilt bangs up against the body, but on some occasions it might.

A. Yes.

Q. On this particular occasion, because of the shallow angle at which the, at which the knife was penetrating, did that sort of increase the chances of getting that particular type of mark; those particular abrasions?

A. Certainly a possibility, yes.

Q. Is that type of an abrasion distinguishable in its pattern from the type that is caused by other types of friction?

A. Not as -- not in this case. Sometimes it does if it hits square on. It's actually hard. You can actually see a pattern that says this is the hilt. That is not the case here.

Q. Then the depth of that particular wound was at least thirteen centimeters?

A. Yes.
Q. And it could have been somewhat more?
A. Well, possibly slightly more.
Q. I will put it twelve to thirteen then.
Well, you indicated somewhere --
A. I have my measurements that indicates an approximate distance between 2 and 3 is thirteen centimeters.
Q. And, let's see, I'm using green for Chris. And I will put parenthesis in pink to indicate that there was what looks to be a hilt mark around that.
A. No. Let's see. If I may, the cutting edge is posterior, the noncutting edge anterior on No. 3, if I might mark that, and I didn't indicate on No. 2 since No. 3 is the entrance.
Q. They're all the same, aren't they?
A. Should be similar, yes.
Q. Okay. Then let's see. Wound 4 on Chris. Could you locate that for us.
A. (Witness complied).
MR. NEGUS: Wound 4 is in fact two different wounds; is that right?
Perhaps we could take a break at this point in time. I think --
THE COURT: All right. Take the afternoon recess.
(Recess)

THE COURT: Okay, counsel.

BY MR. NEGUS:

Q. To clarify a couple points: Yesterday you testified that the surface dimension of Wound 34 was five centimeters.

A. Wait a minute. For Doug?

Q. That would be on -- Excuse me. Yeah, on --

A. Douglas.

Q. -- Douglas Ryen.

A. Just excuse me one second.

34, surface dimension on 34 was --

Q. Five centimeters?

A. Yes, sir.

Q. And on 35 was 3.5 centimeters?

A. Yes, sir.

Q. We had a discussion with Mr. Kottmeier at the break in which he believes that we may have mixed up those dimensions, but the five centimeters is for 34, and the 3.5 centimeters for 35, would be the accurate ones?

A. That's according to my records, yes, sir.

Q. Also on Peggy I -- when we were going through Peggy I inadvertently wrote down "13" as a -- as the wound which was at least 13 centimeters or greater.

In fact, there was no stab Wound 13; and 18, wound 18 was in fact 13 centimeters or greater; is that true?

A. 18 is at least 13 centimeters in depth.

13 is a very shallow injury.

Q. Okay. So I've corrected the "13" to "18" in orange on the diagram.

A. All right. That's correct.
Q. Now, let's return to Wound 4, which is I believe two different wounds; is that right?
A. We are back to Chris?
Q. Yes, Chris Hughes.
A. Yes. My hesitation is how do you define that, but, yes, 4 does seem to probe in two different directions.
Q. Okay. One probe that's along the -- one probe tends to go along the surface of the skin and the other one goes deep into the -- deep into the body; is that correct?
A. That's correct.
Q. As to the -- the one that went deep into the body, does -- did that probe -- did that go approximately 12 to 13 centimeters?
A. Yes, it did.
Q. And the -- the orient -- let's see, have we located that on yet on the doll?
A. I'm not sure. Let me see where that is. 4. All right, yes. 4 is shown on the right chest.
Q. Okay. The -- the sharp part of that -- excuse me -- the cutting edge of the -- of the wound is -- can you determine that?
A. I can't from my notes. Let's see, I think --
Q. We are on wound --
A. Is this No. 4?
Q. It looks like it.
A. No, it -- No, it is not. That's 3 or 2.
Q. So, this would be Wound 4?

A. That should be 4, shouldn't it? Thank you. That's 4, yes, that's 4.

I can't, no.

Q. Okay. That particular -- that particular wound has what -- has an abrasion around the outside of it which is possibly but not for sure a hilt mark?

A. Yes, that's correct.

THE COURT: Mrs. Loftis, I'd rather you not communicate with Mr. Sawyer about notes or anything relating to the testimony.

There seemed to be something, I think she was pointing out something to him.

No communication at all in that regard, please. Thank you.

BY MR. NEGUS:

Q. Did -- and I put pink parenthesis pink to indicate possible hilt marks.

Were you able to determine the depth of the path of penetration that went went off in the shallow direction?

A. Yes. Approximately eight centimeters.

Q. Would that have been -- would most probably that have been made by the same knife?

A. Yes.

Q. I mean, there is just two different motions, one deeper an one more shallow?

A. Yes. The knife blade was partially withdrawn and reinserted but did not come out all the way through the skin.

Q. So far as -- as far as making a chart of the depth

of the knife, the 12 to 13 would be the more formative?

A. Probably.

Q. Going on to -- Let's skip Wound 8 for a moment and go to Wound 22.

This -- this particular -- this particular wound is to the back of Chris's head; is that right?

A. Yes.

Q. Now we had a question mark after that on the stab wounds. The question mark was because it was in the general area where there were other wounds that looked like the axe, what was the -- do you recall what we were -- what we were --

A. My impression is that we are looking at a stab wound, but there was some peculiarity about it that raised a question in my mind could it have been cause indeed some way as a chopping wound. I am inclined to think by the dimensions and everything else is that it was a stab, but there was that one hesitation.

Q. What were its dimensions?

A. It's three centimeters on the surface and it penetrates seven centimeters deep.

Q. Did you want me to mark that here?

A. Yes. Would you, please.

Q. And as to that particular wound, you were unable to determine which -- which edge of either was a cutting edge; is that correct?

A. Yes.

Q. The Wound 20 -- skipping again 24 for the moment.

Wound 25 was the wound to Chris's back; is that

right?

A. Yes, sir.

Q. And could you locate that on the diagram?

A. (Witness complied.)

Q. Did that appear to be sharply incised?

A. Yes.

Q. And again you were unable to determine the sharp edge of that particular wound?

A. I could not from my record. Let's see, and I think that's it here. I can't -- Here it is.

Q. And that particular wound went almost all the way through the body, approximately 13 centimeters; is that right?

A. Yes, that's correct.

Q. And, in fact, you could even see a little bit of bleeding on the -- or a bruise, excuse me, a bruise under the skin, bleeding on the chest of Christopher indicating the approximate spot where that came to rest beneath the surface of the skin?

A. Yes.

Q. Now wounds 8 and 24 in the -- you described in your autopsy report as -- as unlike any other wounds on the body I believe; is that correct?

A. Something to that effect, yes.

Q. Were they -- were they unlike any other wounds on any of the other victims?

A. Somewhat different. I don't recall all of the wounds, but I think they were a bit -- I don't recall offhand that they were like any other wounds in any of the other

victims. There may have been some similarities. I just don't recall.

Q. These particular -- these particular wounds were tearing wounds; is that correct?

A. Well, they are stab wounds. No, not tearing in that they are sharply incised wounds. There is an abrasion at the margin. They are unusual abrasion. I've described it perhaps as a penetrating lacerative incision, tail of abrasion extending outward.

Q. Well, lacerative that means tearing, right?

A. Well, wait a minute. 8, I've described more as a laceration. Yes, I have used that terminology before although they are sharp-edged wounds in one case, I've used them -- in 24 I've said lacerative incision. Well, let's see. Yeah, I used the word "lacerative incision" on 24.

And on -- No, I'm sorry on 8. Isn't that it? I've used the word "irregular laceration with a tail of abrasion," and then I used the term, the description after -- in the paragraph on 24 that 24 and 8 are very similar in nature.

Q. At the prelim do you recall describing No. 8 as a tearing wound?

A. I don't recall, but I won't -- that's entirely possible.

MR. NEGUS: Could I read, your Honor, just -- just to refresh doctor's memory, LInes -- Volume XXVII, Page 114 Line 23 through 115 Line 6.

MR. KOTTMEIER: I believe, your Honor, the witness has testified that he could have said that, and I don't see what is

added buy --

THE COURT: He could fresh his memory.

MR. KOTTMEIER: Are you sure that is XXVII or VII?

MR. NEGUS: Did I say XXVII? I meant VII.

MR. KOTTMEIER: What page?

MR. NEGUS: 114.

MR. KOTTMEIER: I have the location, your Honor.

MR. NEGUS:

"Question: With respect to Photograph -- or to Wound No. 8, what caused that?

"Answer: No. 8. All right. Well, that's a tearing wound. It's more of a tear, stab tear. It's my description, irregular laceration. The surface dimension of that penetrating portion, one centimeter, and I can probe into the tissue a centimeter, maybe a little more, and I lose the track."

Is that still an accurate description?

A. Probably so.

Q. And would that description essentially apply to both of those two wounds?

A. Well, I've modified the description slightly in my report where I've called it a penetrating lacerative incision. These two are unusual wounds. Laceration possibly, very sharp-edged instrument, possibly. I have a margin of abrasion.

Q. Okay. They are both -- one, approximately one centimeter; is that right?

A. Yes.

Q. Oops. And I'd like to circle those in a blue to

indicate their unusual nature.

A. All right.

Q. 8.

Now there is one exhibit I need to locate if I could, your Honor. I was looking for it at the break and couldn't find it.

THE COURT: While you're looking for that.

Mrs. Loftis, I didn't mean to embarrass you a moment ago, but let me remind all of you that if you miss some testimony, if you have a question on something that came out and you have a burning question in your mind, I would prefer you write it on a piece of paper, give it to the bailiff at the next recess or something and we can go back and have the transcript reread to you or, something like that. But don't -- don't ask your fellow jurors to tell you what it was or to look in his notes or anything along that line. We will be happy to read it back for the benefit of everybody if you think it is important.

Later on, of course, you will retire to deliberate. At that time you can of course discuss it. But you remember that I told you before with reference to juror note pads and notes that those are for your exclusive use. Thank you.

It's so easy to do. It's hard for us to remember, but this admonition that I keep talking to you about, I can't impresss upon you enough how important it is. I've had cases over the years, fortunately only with me one time, where I had to mistry a case and start all over again. Heaven protect us. I don't want to do it in this case.

BY MR. NEGUS:

Q. Okay. Let's see if we can clear off some working area. Did we lose a tag?

A. No.

Q. First off -- wait a minute.

Let me show you again Exhibit 537, just a hunting type knife. This particular knife, is the length of that sufficient -- there's your ruler -- to have caused all the stabs? Was it long enough to have caused all the different stabbing wounds involved in this particular case?

A. This knife, the cutting edge is a little over twelve centimeters. The entire shaft, the blade, is thirteen centimeters. It is borderline. It could cause some of those wounds at thirteen centimeters, because they're -- most of those there is sufficient compression of the skin, even of the chest, that you could compress for a centimeter. My answer is a qualified yes.

Q. Showing you -- famous last words, my apologies, your Honor, I thought this -- I thought I had this better organized.

Showing you Exhibit 555, a photograph of a hunting type knife. Would that, would there be anything inconsistent with that particular knife producing the injuries that are generally of this depth, nine to ten, perhaps a little longer, centimeters?

A. Probably not.

Q. And just judging the width as best you can from the photograph, anything inconsistent with it in terms of the dimensions of the width of the blade?

A. Not that I recall, no. I would say it would be consistent.

Q. The sturdiness of the blade. Was some of these injuries, like No. 3 went through the sternum, would that type of knife that's depicted in the photograph, No. 555, have been of the kind of blade which would be sturdy enough to produce that kind of injury?

A. Yes, I believe so.

Q. Similarly, the longer knife that we have on the counsel table likewise would be of sufficient sturdiness?

A. Yes, it would.

Q. Now, I have in Exhibit 538 portions of a knife catalog which has on the first page, the page that's numbered, in other words, B No. 1, down at the bottom there, a series of blade shapes, all of which have names to them.

Are there any of those shapes that you could eliminate as the shape which caused -- let's just take any of the wounds that were greater than eight centimeters to these particular victims?

A. Do you want me to read the names?

Q. the ones -- yes, the ones you can eliminate.

A. The screwdriver, wire scraper is not likely. The pruner is note likely. Razor is not likely. Coping is not likely. Screwdriver, cap lifter, not likely. File, probably not.

Now, the next group, part of the problem here is not the -- I'm not sure about length.

Q. I'm just asking you about shape right at the

moment. In terms of shape.

A. Cuticle is not good. Can opener, maybe. Of the others potentially that could be, I suppose sheep foot is not good, but possible.

Q. Let me show you a rough sketch of a knife blade, which is listed with a dimension of approximately five and a half inches long and one and a half inch wide. That would be a blade that would go parallel for most -- the two edges would be parallel for most of its length and it would taper rapidly at the end.

A. Yes.

Q. When you did that, when you did the autopsies on Peggy Ryen and on Jessica Ryen, did you attempt to reconstruct the blade of the knife that caused some of the injuries?

A. I remember some discussion suggesting possible types of weapons, yes. Yes, sir.

Q. And is that particular sketch that I have there, the little sketch with a particular blade configuration, the configuration of the knife blade that, for example, would have caused Wounds 21, 33, 20 to Peggy, Wounds 8, 9 and 10 to Jessica?

A. I think it could have, yes.

Q. Is that the -- is that the reconstruction that you gave on June the 6th for that particular blade?

A. Well, I don't have an independent recollection of the specific -- I won't say I didn't give this as a possible type but I really don't have an independent recollection and I made no notes of it.

Q. Well, would you have any recollection as to what thought process, assuming that you did make that reconstructed knife, was it in such a way that would have led you from the examination of the wounds of Jessica and Peggy to come up with that particular shape?

A. I don't at this moment. I don't recall why I would have -- if I suggested this particular one, why I would have suggested it. I won't say I didn't, I just don't have a recollection.

Q. That particular, that particular shape and dimension of a knife, would that knife that was put before you, to you in this Exhibit 497, that could not have caused, for example, Wounds 25 and 26 to Peggy Ryen; is that right? The .7 centimeters by two centimeter wounds on her forearm?

A. Oh, are those the ones -- no, I think it is unlikely that particular shape would have accounted for -- let me get -- let me have the numbers again.

Q. 25 and 26 to Peggy.

A. No. No. That is not consistent with wounds 25 and 26 to Peggy.

Q. In fact, at the preliminary hearing when we discussed wounds 25 and 26 to Peggy, did you in fact write on the notes that you had before you at that time, "Different Knife" when you got to 25 and 26?

A. I think I may have.

Q. Is there any particular knife that you have been shown either a photograph of or actually handled that was consistent with all of the wounds, all of the stab wounds to --

leaving aside the 8 and 24 to Christopher -- but all the other stab wounds that you have described on the chart there behind you?

A. Well, I've certainly seen knives that could do it. I have several that I use that would come close to it, not quite stout enough, but the shape and the length is quite suitable to produce --

Q. I am talking about stoutness as well. The ones that produced some of the deeper injuries had to be reasonably sturdy in order not to break off, right?

A. Yes, sir, that's correct. Just that I am aware of the fact that there are hundreds of thousands of knives in different shapes and I haven't paid attention to all of them.

Q. At the -- I'm just asking you about the ones that like photographs or actual knives have been presented to you that would have been consistent with all of those different ones.

A. Well, the one you've shown me here is close to it.

Q. Okay. A little --

A. I would prefer one that was perhaps a centimeter longer than this. But certainly this is very close to the kind of thing that could cause all of the wounds. I'm sorry, the cutting and stabbing, not the chopping.

Q. Well, these -- these wounds 25 and 26, um, the thing that struck you at the preliminary about those particular wounds was, was it not, was the fact that they were very, very narrow on the surface, yet penetrated almost an inch into the skin, and most knives that would be sturdy enough to like go

through a sternum and into that would be considerably, have a considerably thicker point to them than the one that would fit the dimension of wounds 25 and 26.

A. Well, again, though --

Q. I noticed you -- let me back up -- you just measured the knife before you on the witness stand. That knife has a dimension of over a centimeter, when it is two centimeters.

A. Oh, yes. I have seen knives that are scalloped out towards the end. But what I'm going, was going to say, and that I have said this before on the stand, as I have thought about these wounds, one of the possibilities is, if the knife squeezes or compresses tissue ahead of it, the blade may only penetrate a short, comparatively short distance and yet leave a wound that is quite long.

For instance, I can take my skin on my forearm and double it up, and penetrate through that skin. The wound would be perhaps less than a half a centimeter. But when the skin stretches out back to its normal shape, that skin would be a centimeter and a half to two centimeters, that wound path.

So, there are variables. Whether that happened with 25, 26, I don't know. I can't say that it did, I can't say that it didn't. I can't rule out the possibilities.

I've tried to indicate that there are so many variations in what can happen with knife wounds that sometimes I can rule out things, sometimes I can't.

Q. Well, when you rule out the same knife having caused all the stab wounds at the preliminary hearing, after

doing that you had a conference with Mr. Kottmeier or Mr. Kottmeier asked you some questions, is that right, at the break?

A. Yes.

Q. Then after we had a break, and you had talked to Mr. Kottmeier -- well, Mr. Kottmeier showed you a photograph during that particular break; is that right?

A. I believe so, yes.

Q. And that photograph would be Exhibit J from the preliminary, Exhibit 532 now, a photograph of five folding type knives of the type that are either Buck knives or immitations thereof.

A. Yes, sir.

Q. If I could, when you are through.

None of the knives that appear in that particular photograph could have produced all of the wounds to all of the victims in this particular case; is that right?

A. I think that's correct. Those particular knives are -- the blades are too short to produce some of the wounds that exist.

Q. When you came back, and sometime during the course of the testimony, indicated that you changed your mind about whether or not one knife could have produced all the wounds at the preliminary, did you give as your explanation that you had never thought of or never considered the particular knife shape that is, that is displayed in those photos?

A. That -- I think I did. I think I said that. And what I was referring to was what appears to be a scalloped, scooped out appearance of the knife, of several of those knives,

towards the tip.

Q. That is a reasonably common shape for a hunting type knife is it not?

A. Well, I'm not an expert on hunting knives, I don't use them. I don't -- I don't have a knife in my cuttlery, in my autopsy kit or at home that has that shape.

Q. Those -- the particular ruler that is depicted in this particular photograph, that was the same type of ruler that you were using during the course of your autopsies on the Ryen people; is that correct? Same brand?

A. Yes, that's correct.

Q. And outside of the place where you actually performed the autopsy surgery there is a table, I believe, with a typewriter or something on it in the next little room outside that would be at least consistent with that particular, that particular surface shown in the photograph.

A. Probably.

Q. Did you ever reject those particular knives as possible murder weapons in this particular case?

A. I can't say that I did. I certainly think that right now I think those knives are too short to have caused all of the wounds.

I have no idea from the examination, the autopsy examination, whether one knife caused all of the wounds or did not.

I will repeat, I have looked at shapes and I have looked at knives I feel that could have caused -- one knife could have caused all of the injuries. Whether they did or

whether they did not, I have no idea.

Q. At the preliminary, at least for a time you had testified that there was no knife that you'd ever seen that could have produced all those injuries; is that correct?

MR. KOTTMEIER: Objection, that misstates the preliminary hearing, calls for a conclusion, it is not supported, and unless we're going to introduce all of the testimony from the preliminary hearing, which would require another procedure --

THE COURT: Would you care to reframe, Mr. Negus?

BY MR. NEGUS:

Q. At the preliminary hearing did you testify that you, at least one point in time, that you could determine that there was at least two different knives used in the assaults?

A. I -- I may well have, I don't recall. I certainly think that the two wounds that were on Chris, 8 and 24, is that where they were? The -- anyway, the two unusual -- yes, 8 and 24 on Chris -- at the time of the preliminary I thought that those were unusual. I still think they are unusual.

But I have rethought about those since that time in the intervening year and I can conceive of how those also could be used by one knife. I can conceive today how one knife could cause, what is it, 25 and 26, on Peggy? Are those the two --

Q. Yes.

A. Yes. -- that we're talking about?

I'm sorry, I have lost track of numbers here. In the interim I have conceived of other thoughts that I'm sure my ideas have changed over the time that I have thought about the case, the injuries, I am sure my thoughts have changed since the

day I did the autopsy, to some extent.

Q. At the autopsy, just going back to Wounds 8 and 24, at the autopsy you actually attributed those wounds to an ice pick; is that right?

A. I wondered about it. I don't think they were today. I don't recall. I just simply don't know whether I said ice pick. I wondered about ice pick on other things.

I certainly would discount ice pick today for 8 and 24.

Q. Let me just -- no organization.

I'm going to -- let's see, on this Exhibit 538, one of the knife catalogs which I have produced, I am going to ask you a couple of questions.

On -- there is a page I'm going to label in brown "cleavers" that appear to depict a series of meat cleavers.

Would these meat cleavers have been consistent with any of the chops you saw with any of the victims?

A. With any of them? I am sure they could have caused some of them, yes.

Q. Could they cause every one of them?

A. I would be reluctant to answer that because I don't really know how thick or stout the cutting blade is. I can't tell from this one dimensional photograph.

Q. Have you seen meat cleavers that were in fact stout enough to have caused all those?

A. I believe so.

Q. Showing you a picture, Exhibit 557, of a machete with a ruler there to give you some sort of scale.

Would that machete have been consistent with all of the -- excuse me -- to some of the chop wounds that you saw on the victim?

A. Some of them, yes.

Q. With the exception of the one wound to the skull of Peggy Ryen, where there was a triangular imprint, would it have been, would that have been consistent with all the other wounds besides that particular one?

A. Well, again, I have the same hesitation. I don't know the thickness. I see a two dimensional view of this blade.

I need to know, for instance, in the hatchet that's shown, the cutting edge flares out rather quickly to a fairly thick blade. I see the meat cleaver and the machete as being more on the width, thickness of a Buck or Case knife; the Case knife you've shown me. I simply don't know how thick it is.

Q. Well, assume that the machete is perhaps a tad thicker than the Case knife but is about a foot and a half long, or 15 inches, I guess it was, long.

Would there be enough mass in that type of instrument when swung to have caused the wounds to --

A. There could be. Again, I have got some problems with the masses. But assuming it is moderately heavy, yes.

Q. Have you seen machete-type instruments which would have done, leaving aside whether you can't tell from this particular photograph, machetes, instruments that could have caused all the wounds except on the one I have singled out?

A. I just haven't seen that many machetes, so I would have to say no. I won't say that there aren't some, I have seen

very, very few.

Q. Well, is there any -- with the exception of the one wound to Peggy Ryen that I've excluded, is there any particular shape that you can ascribe to the chopping weapon, other than it had a sharp, relatively straight cutting edge?

A. With the exception that you've referred to, that is, at least one edge for one knife, I'm sorry, one chopping instrument had to have a right angle to it.

I don't think the chop wound that I have described necessarily defines a particular single instrument. There could be a whole range of instruments that could cause -- a whole range of chopping instruments that could cause those chop wounds.

Q. So for the different wounds, the one, there's the imprint you say that you have to have a squared-off edge, but otherwise, anything with sufficient mass will do it, and a straight edge.

A. Well, I'm not sure again about that straight edge, because the hatchet cutting surface was somewhat curved. That is quite sufficient to have caused the chopping injuries I found.

Q. Okay. So, then, either slightly curved, I take it, wouldn't, round probably wouldn't, you would be able to tell if you had something that was really curved.

A. Yes, I think that's correct.

Q. So either relatively straight, slight curve to it, but not -- but you couldn't distinguish between any of those as far as you what you saw at the autopsy.

A. I don't think so.

MR. NEGUS: I was hoping to finish in about 20 minutes more. I am sure there's going to be redirect at this point.

THE COURT: Will your calendar permit you to return on Monday, Doctor?

THE WITNESS: I don't think I have much choice. I can be here Monday.

THE COURT: All right, ladies and gentlemen. Before we break I want to compliment all of you. You have been prompt, and seemingly attentive and seemingly patient with us so far. I certainly appreciate that. It's going to be a long trial and we need all of those attributes from you. Stay with us.

Be particularly mindful of the admonition at all times. Don't talk about the case, or any part of the case, don't let anybody discuss it amongst yourselves or with strangers or family or other people at all.

Certainly don't form or express any opinion on it until it is submitted. Take tomorrow off, go back to your regular jobs and come back on Monday, the 3rd of December. Okay?

Thank you very much. We will in recess.

--ooOoo--

(Adjournment)