

1 MS. FAHEY: Thank you. I have no
2 further questions.

3 MR. BRADLEY: I have no questions.

4 THE COURT: Thank you.

5 (The witness stepped down.)

6 MS. FAHEY: John Abbott, please?

7 JOHN ABBOTT was duly sworn and testified
8 as follows:

9 DIRECT EXAMINATION

10 Q (By Ms. Fahey) Would you identify yourself, please?

11 A John Cope Abbott.

12 Q Where do you work, sir?

13 A I'm employed by Serological Research Institute,
14 East Coast Office, Burlington, Massachusetts.

15 Q And what is the Serological Research Institute?

16 A It is a private organization dealing exclusively
17 with serology, which is the analysis of blood and
18 other body fluids, hairs and their comparisons in
19 forensic cases, principally.

20 Q And in what capacity do you work at the Serological
21 Research Institute?

22 A I am a forensic serologist and the east coast office
23 manager.

24 Q Where did you work before you worked for the Serological
25 Research Institute?

- 1 A Prior to being employed by Serological Research
2 Institute, I was employed by the Commonwealth of
3 Massachusetts, the Department of Public Safety
4 Chemical Laboratory, 1010 Commonwealth Avenue in
5 Boston.
- 6 Q When did you stop working at 1010?
- 7 A I became employed by Serological Research Institute
8 and ended my employment with the Commonwealth in
9 January, 1982.
- 10 Q And in what capacity did you work at the 1010
11 Commonwealth Avenue chemistry laboratory?
- 12 A I was an assistant chemist, specializing in forensic
13 serology.
- 14 Q How long a time were you an assistant chemist
15 specializing in forensic serology?
- 16 A I was employed by the Commonwealth from November, 1979,
17 until the beginning of January, 1982.
- 18 Q And where had you worked before then, please?
- 19 A Prior to that, beginning in January, 1978, through
20 November, 1979, I was employed by the Michigan
21 Department of State Police, Bridgeport Crime
22 Laboratory, Bridgeport, Michigan, as a forensic
23 serologist, attached to the Micro-chemical Unit.
- 24 Q And where did you work prior to working as a
25 laboratory scientist for the Michigan Department of

1 State Police?

2 A Prior to being employed by Michigan, I was, for
3 six years,, a senior laboratory instructor and
4 lecturer at Carnegie Institute here in Boston.
5 It was a school of medical technology.

6 Q And what is your educational background?

7 A I have a Bachelor of Arts degree in Pre-medical
8 and Professional Biology from Gordon College in
9 Wenham, Massachusetts.

10 I have a Master of Science degree in Forensic
11 Chemistry from Northeastern University in Boston.

12 I'm a registered medical technologist.

13 Q And are you a member of any professional societies?

14 A Yes, I am.

15 Q Which ones?

16 Q I am a member of the Northeast Association of
17 Forensic Scientists, the Midwestern Association
18 of Forensic Scientists, and a member of the American
19 Medical Technologists.

20 Q Have you testified as an expert in forensic science
21 in the courts of this Commonwealth?

22 A Yes, I have.

23 Q And on how many occasions, please?

24 A Approximately fifteen to twenty times in the Common-
25 wealth of Massachusetts.

1 Q On May 22nd of 1980, Mr. Abbott, were you working
2 as a chemist at the chemical laboratory, the State
3 Police, 1010 Commonwealth Avenue?

4 A Yes, I was.

5 Q Did you have occasion to receive on that date,
6 May 22, 1980, some items from Kathleen Higgins?

7 A Yes, I did.

8 Q And was she employed as a senior chemist at that
9 time in the chemical laboratory at 1010?

10 A Yes, she was.

11 Q And what, if anything, did you do with respect to
12 the items that you received?

13 A The items that I received I analyzed for their
14 blood groups.

15 Q What's involved in making an analysis as to blood
16 groups?

17 A It depends whether you're talking about a whole
18 blood sample or a fresh blood sample or a dried
19 stain.

20 Q What's the difference?

21 A The difference is the type of testing. The principle
22 is the same, but the technique varies.

23 Q What do you mean by a fresh blood or whole blood
24 sample?

25 A A whole blood or fresh blood sample would be one

1 such as you're probably familiar with having been
2 drawn from your arm by a medical technologist in
3 a hospital for blood testing.

4 Q And what was the other type that you referred to?

5 A The other type would be a dried blood sample, which
6 would be something either on clothing, after it has
7 been wet with blood, it will dry out, or if blood
8 is applied to a surface, it dries. Then it can be
9 collected or the surface can be analyzed, and the
10 blood at that point is dry.

11 Q I show you, Mr. Abbott, these items; and I ask if
12 you made a determination with respect to those
13 items as to blood group?

14 A Yes, I did.

15 Q And taking the items one at a time, would you tell
16 us what each item was -- strike that.

17 Are all those items, is it fair to say, items
18 you received from Kathleen Higgins on May 22nd, 1980?

19 A Yes, they are.

20 Q Taking the items one by one, can you tell us what
21 they are, and what your evaluation revealed?

22 A Item identified as #2 was a sample of blood stained
23 material, blood from the floor at the entrance to
24 left back bedroom.

25 Q Did you make an analysis of that?

1 A Yes, I did.

2 Q And what did that analysis reveal?

3 A The blood contained on that item was Blood Group O.

4 Q And with respect to the next item?

5 A Item #4 was blood from the front of the left closet
6 in the middle bedroom.

7 Q Did you make an analysis or an examination with
8 respect to that as to blood group?

9 A Yes, I did.

10 Q And what did that examination reveal?

11 A The blood on that item was Blood Group O.

12 MS. FAHEY: The Commonwealth would offer
13 these. Oh, I'm sorry.

14 Q (By Ms. Fahey) Is it fair to say, Mr. Abbott, that
15 each of these envelopes contains a slide on which
16 the blood was mounted for examination?

17 A There is a glass slide and a sample of blood-stained
18 material.

19 (Slide marked Exhibit #66, and slide
20 marked Exhibit #67.)

21 Q (By Ms. Fahey) With respect to the next item, can
22 you tell us what that is and whether or not you
23 examined that as to blood group?

24 A Item #4A is blood from a freezer in the hallway,
25 and the blood on that item was identified as being

1 Blood Group B.

2 Q With respect to Exhibits 10A through -- A, B, D, E
3 and F, do you have those items there?

4 A I have Items #10A, B, D, E and F, yes.

5 Q Did you examine those items?

6 A Yes, I did.

7 Q What were they?

8 A Those were as follows: 10A was blood from a light
9 green terry cloth; Item 10B was blood from a white
10 cotton cloth; Item 10D was blood from a pink, gold
11 and white floral print cotton cloth; Item 10E was
12 blood from a pink cotton cloth, and Item 10F was
13 blood from a white cotton cloth with a multi-colored
14 floral print.

15 Q Did you examine those items, Mr. Abbott, and determine
16 the blood group present on each?

17 A Yes, I did.

18 Q What did you determine the blood group on those
19 items to be?

20 A The blood on each of those items, 10A, 10B, 10D, 10E
21 and 10F, was Blood Group O.

22 MS. FAHEY: The Commonwealth offers these,
23 your Honor.

24 (Pieces of fabric marked Exhibit #68A;
25 pieces of fabric marked Exhibit #68B, and pieces of

1 fabric marked Exhibit #68C.)

2 Q This item, can you identify that, please?

3 A Item #21 was blood from carpeting from the living

4 room.

5 Q And did you examine that item with respect to blood

6 grouping?

7 A Yes, I did.

8 Q And what, if anything, did that examination reveal?

9 A The blood on that item was Blood Group O.

10 MS. FAHEY: The Commonwealth offers this.

11 (Carpeting marked Exhibit #69.)

12 Q (By Ms. Fahey) You said that was from carpeting in

13 the living room, Mr. Abbott?

14 A Yes.

15 Q And with respect to the next item, can you identify

16 that?

17 A Item #22 was blood from a curtain on the front door

18 window.

19 Q Did you make an examination, Mr. Abbott, with respect

20 to that item as to blood grouping?

21 A Yes, I did.

22 Q And what, if anything, did that examination reveal?

23 A The blood on that item was Blood Group O.

24 MS. FAHEY: The Commonwealth would offer

25 this item.

1 (Curtain fabric marked Exhibit #70.)

2 Q (By Ms. Fahey) And with respect to the last item,
3 Mr. Abbott, did you make an examination -- can you
4 tell us what it is first?

5 A Item #23 was blood from the inside, front door.

6 Q And did you make an examination with respect to
7 that item as to blood grouping?

8 A Yes, I did.

9 Q What, if anything, did that examination reveal?

10 A The blood contained within that item was Blood Group O.

11 MS. FAHEY: The Commonwealth would offer
12 this item, please.

13 THE COURT: It may be so marked.

14 (Slide marked Exhibit #71.)

15 Q (By Ms. Fahey) Did you also, Mr. Abbott, conduct
16 some blood grouping with respect to the blood from
17 the victim, [REDACTED]?

18 A Yes, I did.

19 Q And what, if anything, did you do with respect --
20 did you determine with respect to the blood of

21 [REDACTED]?

22 A I determined the blood groups within four blood
23 groupings systems.

24 Q What's a blood grouping system?

25 A A blood grouping system would be a group of related

1 proteins within the blood having characteristics
2 of a similar style or type.

3 Q Did you make an initial determination, Mr. Abbott,
4 as to what blood group [REDACTED] was?

5 A Referring to the -- commonly referred to A, B, O
6 blood group system, [REDACTED] would be identified
7 as Blood Group B.

8 Q That would be inconsistent with the type of blood,
9 the grouping of blood, that you found on the items
10 that you've just described?

11 A On all of the items except Item 4A.

12 Q And after you determined that [REDACTED]
13 blood grouping was B, did you further break down
14 the blood grouping?

15 A Yes, I did.

16 Q In four further ways?

17 A Yes, I did.

18 Q What else did you determine about [REDACTED]
19 blood group?

20 A The blood of [REDACTED] was also identified as
21 Type Ns, within the MNs System, RhD positive, C
22 positive, E Negative, c positive, e positive, within
23 the RHHR system, and was Lewis A positive, B negative.

24 Q For those of us who have no idea what you just
25 explained, would you just tell us briefly what that

1 all meant; what it is?

2 A What it is is to go back a second to the ABO system,
3 you're familiar with the four basic blood groups
4 within that, A, or B, or AB, or O. Well, each
5 person in each of those categories can be also
6 grouped in the other blood group systems; such as,
7 the MNs system, where a person could be Type M or
8 N or MN, and would also have either big S or little s
9 or both. That's within the MNs system. And in
10 that system, [REDACTED] was MNs.

11 Also, again being a little more familiar, the
12 RHHR system, or formerly RH. you are classified as
13 positive or negative. That has to do with what we
14 commonly refer to as big D. If you are positive
15 for big D, then you are termed, in lay terms, Rh
16 positive. If you are negative for big D, then you
17 are Rh negative.

18 However, the RHHR system contains more proteins
19 than that. There are at least four others. There is
20 big C, little c, big E and little e; and each of
21 those was classified in this case for [REDACTED].

22 Q And when you were making the examination of what
23 different blood groupings [REDACTED] blood
24 was, were you using dried blood or whole blood?

25 A I was using a whole blood sample provided from the

1 victim.

2 Q And with respect to the blood you determined to be
3 Type -- Blood Group O, the exhibits you previously
4 described, did you make a further determination of
5 those as to any of the other blood grouping systems?

6 A No, I did not.

7 Q Why not?

8 A The systems as described just previously, the MNs
9 system and RHHR system, on dried blood samples, there
10 are a number of discrepancies that can occur between
11 fresh blood or wet blood, whole blood, and dried
12 blood testing.

13 For instance, in the MNs system, it can be
14 tested in the whole blood with easy interpretation.
15 As with [REDACTED], she was Type Ns.

16 However, on dried blood, the N being a weaker
17 protein or weaker antigen can frequently be missed
18 on a dried blood sample. Also the M can be interfere
19 with, so that misinterpretations can occur.

20 With the RHHR system, the whole blood, again,
21 there are positives and negatives; and the negatives
22 are significant.

23 If a person is Rh negative in a hospital sense,
24 that person cannot receive Rh positive blood without
25 it being harmful. So that the positive or negative

1 is extremely important.

2 But in dried blood, the finding of a lack of a
3 protein, for instance, lacking big D, or the positive,
4 would not necessarily mean that person is truly
5 Rh negative, because the protein may have deteriorated.
6 There may have been insufficient quantity of blood
7 which would also account for the negative finding.
8 Therefore, lacking results does not truly mean that
9 a negative is, in fact; and therefore, again,
10 misinterpretation could be placed.

11 With those difficulties then in mind, it was
12 my determination that the using of the minimal blood
13 samples we had, in some of the cases, would not be
14 best applied to these particular systems.

15 Q When you say, minimal blood samples, what do you mean?

16 A Some of the items did not have large quantities of
17 blood; so that in order to perform the testing, I
18 tried to use as small a sample of blood as possible
19 to conserve it for other tests, if necessary, or
20 for other parties to perform testing, if required.

21 Q Is it fair to say, Mr. Abbott, that some of the
22 items you examined and determined to be Blood Group O
23 were just merely droplets of blood?

24 A They apparently had been. What I had received were
25 swabbings or wipings of those samples, and many of

1 them were very, very small amounts of blood.

2 Q Are you familiar -- strike that.

3 With regard to forensic science, is hair
4 comparison a part of forensic science?

5 A Yes, it is.

6 Q And what's involved, Mr. Abbott, in making hair
7 comparisons?

8 MR. BRADLEY: I pray your Honor's judgment.

9 THE COURT: I'm not sure I understand.

10 (BENCH CONFERENCE:

11 MR. BRADLEY: I didn't hear anything about
12 him being qualified in hair samples.

13 MS. FAHEY: His expertise is in forensic
14 science, and hair comparison is part of it.

15 MR. BRADLEY: I thought his expertise was
16 limited to blood.

17 THE COURT: I thought in the beginning
18 he said, hair. Are we not now being repetitive?

19 MS. FAHEY: It may well be, but I would
20 like to ask him these questions. It would probably
21 be another three to five minutes.

22 THE COURT: It would be my determination
23 that he's qualified enough to be able to answer
24 at least some of the basic questions. I don't know
25 how far you're going to go, and I'll rule on each

1 one as they come along.

2 END OF BENCH CONFERENCE)

3 Q (By Ms. Fahey) What's involved in making hair
4 comparisons?

5 A In making hair comparisons, basically two things are
6 required: A sample of questioned hair, and then
7 samples of known hairs. The known hairs have to
8 be collected from all the various areas of the
9 individual that are of suspect.

10 For instance, head hairs. If the questioned
11 hairs appear to be head hairs, then all various
12 areas of the scalp should be selected, not just a
13 clump of hairs taken from one part of the scalp.
14 For instance, take a handful of hairs or a small
15 portion of hairs and cut them off. That would be
16 insufficient.

17 What should be done is a few hairs from the
18 front of the head, from each side, from the back,
19 from the nape of the neck; a male, from the sideburns
20 and so forth. Those should all be collected, so that
21 a representative sample are obtained.

22 Q Why is that?

23 A Because the hairs of the various parts of the head
24 are not all the same. If you were to take a sample
25 of your own hair and look at it with a magnifying

1 lens even, you may see some differences.

2 If a forensic hair examiner looks at them, there
3 are more differences that are obvious; and so therefore,
4 for a representative sampling of hairs, numerous
5 areas need be sampled.

6 The hairs should be pulled hairs, because any
7 intact hair, meaning one with its root, will give
8 an adequate idea of the length of the hair, and the
9 root structure is very important in analyzing hairs.

10 Q You didn't have anything to do with analyzing hairs
11 in this particular case though?

12 A In this particular case, the previous witness,
13 Kathleen Higgins, did the hair examinations.

14 MS. FAHEY: Thank you, Mr. Abbott. I have
15 no further questions.

16 THE COURT: We'll take a short recess at
17 this time.

18 (Recess - 3:00 p.m. - 3:07 p.m.)

19 MS. FAHEY: Your Honor, if I might, I have
20 two more questions of this witness.

21 THE COURT: All right.

22 Q (By Ms. Fahey) Mr. Abbott, did you -- other than
23 what you have told us you examined and determined
24 to be Blood Group O, is it fair to say that every-
25 thing else you examined was Blood Group B?

1 A Yes, that is correct.

2 Q And did you examine Exhibit #64, this knife?

3 A If I may see it?

4 (Above-mentioned knife handed to the
5 witness.)

6 THE WITNESS: Yes, I did.

7 Q (By Ms. Fahey) And what, if any, blood group did
8 you determine to be present on that knife?

9 A The blood group on that knife was Blood Group B.

10 MS. FAHEY: Thank you. Your witness.

11 CROSS-EXAMINATION

12 Q (By Mr. Bradley) The general blood grouping, A, B,
13 AB, O, which of those groups is the most popular?

14 A I'm not sure what is the most popular.

15 Q What do most people have?

16 A Most people have Blood Group O.

17 Q And do you know the ratio?

18 A Approximately 48% of the Caucasian population.

19 Approximately 47% of the Black population.

20 Q From the amount of old blood in that apartment, some-
21 body did a lot of bleeding?

22 A Well, I'm not certain I would say a lot of bleeding.
23 Someone of Blood Group O did bleed.

24 MR. BRADLEY: Thank you.

25 MS. FAHEY: Nothing else. Thank you.