

1 International Criminal Court
2 Trial Chamber IX
3 Situation: Republic of Uganda
4 In the case of The Prosecutor v. Dominic Ongwen - ICC-02/04-01/15
5 Presiding Judge Bertram Schmitt, Judge Péter Kovács and Judge Raul Pangalangan
6 Trial Hearing - Courtroom 3
7 Thursday, 5 October 2017
8 (The hearing starts in open session at 9.32 a.m.)
9 THE COURT USHER: [9:32:20] All rise.
10 The International Criminal Court is now in session.
11 PRESIDING JUDGE SCHMITT: [9:32:42] Good morning, everyone.
12 Could the court officer please call the case.
13 THE COURT OFFICER: [9:32:46] Good morning, Mr President, your Honours.
14 The situation in the Republic of Uganda, in the case of the Prosecutor versus Dominic
15 Ongwen, case reference ICC-02/04-01/15.
16 And for the record, we're in open session.
17 PRESIDING JUDGE SCHMITT: [9:32:59] Thank you.
18 The appearances of the parties. Mr Elderfield.
19 MR ELDERFIELD: [9:33:03] Thank you, your Honour. It's a pleasure to
20 appearing before you again. My name is Julian Elderfield, with me Colleen Gilg,
21 Benjamin Gumpert, Hai Do Duc, Colin Black, Pubudu Sachithanandan, Shahriar
22 Yeasin Khan and Ramu Fatima Bittaye.
23 PRESIDING JUDGE SCHMITT: [9:33:21] Thank you.
24 And for the Legal Representatives of the Victims, Mr Narantsetseg.
25 MR NARANTSETSEG: [9:33:26] Good morning, Mr President, your Honours.

1 With me Ms Caroline Walter, Ms Hyuree Kim, and my name is Orchlon Narantsetseg.

2 Thank you.

3 PRESIDING JUDGE SCHMITT: [9:33:36] Mr Manoba.

4 MR MANOBA: [9:33:38] Good morning, Mr President, your Honours.

5 Joseph Manoba and James Mawira.

6 PRESIDING JUDGE SCHMITT: [9:33:44] Thank you.

7 And finally for the Defence, Mr Rowse.

8 MR ROWSE: [9:33:48] Good morning, your Honours. Present in the courtroom

9 today is Thomas Obhof, co-counsel Chief Charles Achaleke Taku, Abigail Bridgman,

10 Tibor Bajnovic, and our client Mr Dominic Ongwen.

11 PRESIDING JUDGE SCHMITT: [9:33:55] Thank you very much.

12 I understand that the Defence wants to make an object, and I give Mr Obhof

13 obviously the floor.

14 MR OBHOF: [9:34:04] Thank you, your Honour.

15 The Defence makes this objection pursuant to Rules 76(1), Rule 76(3) and Rule 77 of

16 the Rules of Procedure and Evidence at the ICC. It came to the attention of the

17 Defence last night that this witness did indeed testify in the Gbagbo and Blé Goudé

18 case. The material in which he discussed is directly relevant to the material which

19 the witness will discuss today.

20 Pursuant to these rules, these statements should have been disclosed and notified to

21 the Defence, which they were not. And as these are official sworn testimony before

22 the Court they should have been translated into Acholi for Mr Ongwen to read.

23 Thank you, your Honour.

24 PRESIDING JUDGE SCHMITT: [9:34:45] Thank you.

25 I assume that Mr Gumpert wants at least to respond to that.

1 MR GUMPERT: [9:34:52] Sorry, just getting myself sorted there.

2 PRESIDING JUDGE SCHMITT: [9:35:02] No problem.

3 MR GUMPERT: [9:35:03] Your Honours, it's absolutely correct what my learned
4 friend says, that this witness or the witness who is about to appear has testified in
5 previous proceedings. He is a technical officer, I'm not absolutely sure of his precise
6 title, in the Forensic Science Section of the Office of the Prosecutor. As a result of his
7 position he performs a number of varied tasks, all of them related to technical aspects
8 of the presentation of evidence. For example, he was the gentleman who put
9 together the video presentations which form part of the opening presentation by
10 Madam Prosecutor and myself; your Honours will recall they were a mixture of
11 satellite images, drone photography, with a commentary. I'm quite sure, I confess
12 I'm taken by surprise and haven't actually looked at his job description, but I'm quite
13 sure that he carries out a large number of different technical functions.
14 I would respectfully reply to my learned friend, without having had more than a
15 couple of minutes to think about the point that he makes, that it's to be expected that
16 an officer of the Prosecution, and that fact at least was well known to the Defence, will
17 be undertaking a large number of different technical activities.
18 The fact that he's given evidence in public, I think I'm right in saying, in previous
19 proceedings doesn't invest those utterances with some magical quality, in my
20 respectful submission. If that account of his activities is disclosable and if there is a
21 breach by the Prosecution in not disclosing it, the argument must run, ad absurdum
22 I would add in parenthesis, that all of his activities, whether they be the subject of
23 testimony or reports or indeed all the work that he has done, should be disclosed to
24 the Defence so that they can comb through it to see whether there is some comparison
25 to be made or some material which is arguably material to the presentation of the

1 Defence.

2 I would respectfully submit that this isn't a realistic objection. If there was some
3 substance in it, and I don't mean to be insulting in any way but I feel I must make this
4 observation, if there were really some substance to it then the Defence would have
5 asked inter partes some time ago and expressed their concern and we would, I am
6 sure, have replied both courteously and informatively. And if we couldn't come to
7 an agreement, and we mostly do when these issues arise, we could have brought it
8 before the Court in a timely fashion rather than at the 59th minute of the 11th hour.
9 Those are my submissions.

10 PRESIDING JUDGE SCHMITT: [9:38:52] Thank you.

11 Mr Obhof, I have a question. If I have understood you correctly, then your objection
12 is mainly that you did not have time to really look into that material. I think what
13 seems to be relatively clear, that a person with the functions of the upcoming witness
14 will take part in not only one case, not only one investigation. But have I understood
15 you that you mainly object for the Defence that it came only to your knowledge that
16 he testified in this other case and you do not know what this testimony was about; is
17 this correct?

18 MR OBHOF: [9:39:34] Your Honour, yes. In part. We came about the
19 knowledge last night. We had done a search of the gentleman a few months ago.
20 This testimony was at the beginning of September. If you do just a general Google
21 search on his name with the word ICC, approximately the fifth or sixth document
22 down shows the document which is from 4 September 2017 in the Gbagbo and
23 Blé Goudé case. On page 12 of that transcript is where it appears that the witness is
24 discussing about the exact same technology in which he will be discussing about
25 today and that is the major issue with our objection, your Honour. It's not that there

1 are internal reports created by the Prosecution or that he created some type of work
2 product, it's that this is a sworn statement, this is a testimony before the International
3 Criminal Court. And that is the main issue there.

4 If he was talking about ballistics in the Gbagbo and Blé Goudé case we would not
5 have made this objection. It is the dealing with the specific type of technical details
6 which he will be discussing about today, your Honour. Which is why we claim that
7 this does fall underneath Rule 76(1), Rule 76(3) and Rule 77, which we feel that this is
8 highly pertinent, it's not a minor small technicality. This is an actual --

9 THE INTERPRETER: Your Honour, the Acholi booth is requesting counsel to slow
10 down a bit.

11 PRESIDING JUDGE SCHMITT: [9:41:04] No, I think we got the point and I also
12 think we should deliberate on that as a Chamber shortly. So please stay in the room
13 and we come back in a couple of minutes I would say.

14 THE COURT USHER: [9:41:18] All rise.

15 (Recess taken at 9.41 a.m.)

16 (Upon resuming in open session at 9.54 a.m.)

17 THE COURT USHER: [9:54:11] All rise.

18 PRESIDING JUDGE SCHMITT: [9:54:22]

19 MR GUMPERT: [9:54:24] Your Honours.

20 PRESIDING JUDGE SCHMITT: [9:54:26] Yes, Mr Gumpert.

21 MR GUMPERT: [9:54:28] Just before any decision or utterance from the Bench, I
22 should say that Mr Lucio Garcia is now also appearing in the Prosecution ranks.

23 PRESIDING JUDGE SCHMITT: [9:54:40] Yes, I see.

24 MR GUMPERT: [9:54:41] The reason he is here is because he is a member of the
25 Prosecution team in the trial in which this witness testified, and if your Honours wish

1 to hear a five-minute précis of what it was that the witness testified about, he'd be in
2 the best position to do it.

3 PRESIDING JUDGE SCHMITT: [9:54:59] No, I don't think it will be necessary, but,
4 of course, you are welcome in the courtroom and you can stay here. I think we can
5 deliver our ruling without further inquiries. Thank you.

6 So the ruling is as follows:

7 The Chamber does not consider that the testimony of Mr Laroche in the Gbagbo case
8 falls under Rule 76 of the Rules. As held by Trial Chamber VII and elsewhere,
9 Rule 76 statements are only those taken by a witness about his knowledge of the case
10 before the Bench in the course of its investigation, decision 1227 in Bemba et al.

11 Mr Laroche's statements in Gbagbo, which are publicly available, are not discussing
12 his knowledge of this case. He's questioned about his knowledge of another case.

13 For this reason, Rule 76 does not apply.

14 The Defence is free to review Mr Laroche's transcripts before Trial Chamber I and ask
15 him questions today. Should the Defence after that study have a substantiated
16 concern that, on reflection, P-256 requires further examination, they may request that
17 he be exceptionally recalled. This is out of fairness to the Defence.

18 So if something arises of the study of these transcripts, we will be -- I don't -- of course,
19 I will not say today now and at the moment now how we will decide on such a
20 request, but we will take note of it, as I said here, and as the Chamber says, it will be
21 considered.

22 Now bring in the witness. And perhaps also for information, the Chamber had also
23 a quick look on what has been testified in the Gbagbo case, and this is, of course, also
24 a factual background, so to speak, of the decision.

25 (The witness enters the courtroom)

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 PRESIDING JUDGE SCHMITT: [9:57:47] Good morning, Mr Laroche. On behalf
2 of the Chamber, I would like to welcome you in the courtroom. There should be a
3 card in front of you with the solemn undertaking to tell the truth, and I would ask
4 you to read out this undertaking aloud.

5 WITNESS: UGA-OTP-P-0256

6 (The witness speaks English)

7 THE WITNESS: [9:58:08] I solemnly declare that I will speak the truth, the whole
8 truth and nothing but the truth.

9 PRESIDING JUDGE SCHMITT: [9:58:14] Thank you. You are sworn in now.
10 And you know, as we have recently come to know, you know the procedure here in
11 the courtroom, and though the practical matters that I explain to you are very short,
12 you know that everything is interpreted and you have to speak clearly and at a slow
13 pace. And I think that should be enough, as an information that you already know.
14 We can then start with your testimony, and I give Mr Elderfield the floor.

15 MR ELDERFIELD: [9:58:40] Thank you, your Honour. This witness will be
16 testifying pursuant to 68(3), so as usual this examination will be very brief, just the
17 procedure and then a few supplementary questions.

18 QUESTIONED BY MR ELDERFIELD:

19 Q. [9:59:00] Good morning, Mr Laroche. Can you tell the Court your full name.

20 A. [9:59:06] My name is Xavier Laroche.

21 Q. [9:59:10] And your birth date and nationality?

22 A. [9:59:15] I was born on 26 January 1972 and I'm French.

23 Q. [9:59:23] You work for the Office of the Prosecutor of the International
24 Criminal Court; is that correct?

25 A. [9:59:30] This is correct. I work within the Forensic Science Section of the

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

- 1 OTP at the ICC.
- 2 Q. [9:59:42] And what's your job title?
- 3 A. [9:59:45] My title is Forensic Officer.
- 4 Q. [9:59:48] And when did you start to perform that role?
- 5 A. [9:59:55] I started working at the ICC on 2 February 2015.
- 6 Q. [10:00:03] Mr Laroche, before you is a blue binder, a blue folder. Can you
- 7 please open that to tab 1.
- 8 For the record, the ERN of tab 1 is 0269-0015.
- 9 Mr Laroche, do you recognise this document?
- 10 A. [10:00:54] Yes, I do. This is a witness statement that I signed on
- 11 10 August 2016.
- 12 Q. [10:01:07] Can you please turn to the second last page of this statement. Can
- 13 you confirm that under the heading "Witness Acknowledgement" you've signed,
- 14 you've signed there and it's dated 10 August 2016?
- 15 A. [10:01:40] This is correct.
- 16 MR ELDERFIELD: [10:01:42] Your Honours, you may have noticed in the binder
- 17 the several tabs.
- 18 PRESIDING JUDGE SCHMITT: [10:01:48] Yes, of course.
- 19 MR ELDERFIELD: [10:01:49] Tabs 2 to 14 are documents associated with the
- 20 statement. Rather than dealing with them one by one, which may take some time,
- 21 I'm going to ask the witness to verify those en masse.
- 22 PRESIDING JUDGE SCHMITT: [10:02:02] Just let's give it a try and I think that
- 23 might be okay. I think there will be no objection by the Defence.
- 24 MR ELDERFIELD: [10:02:09]
- 25 Q. [10:02:10] So Mr Laroche, please take a moment to look through tabs 2 to 14.

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 After you look through them, I'm going to ask you if you recognise what they are and
2 whether your signature appears on the first page of each of those documents.

3 And, your Honours, while the witness looks through those documents I'll just read
4 into the record the ERNs of each of the tabs.

5 PRESIDING JUDGE SCHMITT: [10:02:41] Yes, that's a good idea.

6 MR ELDERFIELD: [10:02:44] Tab 2 is 0269-0034; tab 3, 0269-0041; tab 4, 0269-0044;
7 tab 5, 0269-0063; tab 6, 0269-0071; tab 7, 0269-0073; tab 8, 0269-0080; tab 9, 0269-0087;
8 tab 10, 0269-0096; tab 11, 0269-0101; tab 12, 0269-0104; tab 13, 0269-0107; and finally,
9 tab 14 is 0269-0112.

10 THE WITNESS: [10:04:33] The documents that you mentioned are the attachment to
11 my witness statement dated 10 August 2016.

12 MR ELDERFIELD: [10:04:42]

13 Q. [10:04:43] And do you confirm that your signature appears on the first page of
14 all of those attachments?

15 A. [10:04:53] I confirm that my signature is present on all the first pages of these
16 attachments.

17 Q. [10:05:05] Mr Laroche, I understand that in the last few days you've had the
18 opportunity to read fully through your statement and look through these annexes; is
19 that correct?

20 A. [10:05:17] This is correct.

21 Q. [10:05:21] When you gave your statement to the Prosecution back in 2016, did
22 you tell the truth?

23 A. [10:05:31] I told the truth, only the truth and nothing but the truth.

24 Q. [10:05:40] Under the Court's rules if you don't object, the Judges can rely on
25 your statement when they come to a decision in this case; do you object to the

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 submission of your statement as evidence in this case?

2 A. [10:05:58] I do not object.

3 PRESIDING JUDGE SCHMITT: [10:06:04] That's your questioning, I assume,
4 Mr Elderfield. Or do you have any additional questions?

5 MR ELDERFIELD: [10:06:09] I have two discrete areas I'd like to cover.

6 PRESIDING JUDGE SCHMITT: [10:06:15] Okay. Because you looked, also when
7 we are talking about questions, you looked like a question to me and I assumed that
8 they were perhaps finished. No, but of course you can entertain these two areas that
9 you want to.

10 MR ELDERFIELD: [10:06:27] Merely checking you were satisfied with the 68(3)
11 procedure.

12 PRESIDING JUDGE SCHMITT: [10:06:32] Yes. No, it is clear that -- and it's also
13 clear, of course not with such a witness, that there might be instances with witnesses
14 who do not really understand what not objection means, where we would have to
15 phrase it a little bit differently and circumscribe it, but that, that is of course not such a
16 witness. Please continue.

17 MR ELDERFIELD: [10:06:52] So just as a road map, the first of the areas relates to
18 some chain of custody questions, and the second is a small clarification on one of the
19 aspects of the witness statement.

20 Q. [10:07:08] Mr Laroche, can you turn to tab 1, your statement, and to paragraph
21 33. Can I ask you just to read silently to yourself paragraph 33. So there you're
22 discussing taking photographs of the 106 exhibits.

23 Can I ask you to now turn to tab 15.

24 And for the record, that's ERN 0269-0117 and 0118.

25 Do you recognise these photographs?

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 A. [10:08:24] Yes, I do.

2 Q. [10:08:27] Are they two examples of the photographs that you have mentioned
3 in paragraph 33 of your statement?

4 A. [10:08:40] This is correct.

5 Q. [10:08:46] Please turn back to tab 1, your statement, and now focus on
6 paragraph 37, and again please read that silently to yourself. In that paragraph you
7 discuss enhancing the exhibits and then registering the work product with the
8 Prosecution's Evidence Unit. My question is what physical item, what storage
9 device did you save those enhancements on for the purposes of registration?

10 A. [10:09:46] Regarding the digital copies and enhanced digital copies of each
11 exhibit, they were burnt onto DVD-ROMs that were provided to Information and
12 Evidence Unit.

13 Q. [10:10:18] Can you please turn to tab 16 of your folder. The ERN is 0247-0767.
14 The Judges and myself we have a photograph, but you I've put a copy of, a hard copy
15 of the CD itself in front of you as well, you may notice that. Do you recognise the
16 CD that you have in front of you?

17 A. [10:10:57] Yes, I do. For each exhibit we provided a DVD ROM containing
18 the digital copy and enhanced copy of the exhibit and they were provided according
19 to a PRF to the Information and Evidence Unit.

20 The one I have in front of me is regarding enhancement of the exhibit
21 UGA-OTP-0012-0009.

22 THE COURT OFFICER: [10:11:36] The CD can be seen on evidence 2 channel.

23 MR ELDERFIELD: [10:11:42] Perhaps it may not even be necessary, I've finished
24 my questioning with respect to that CD. But thank you.

25 PRESIDING JUDGE SCHMITT: [10:12:05] But nevertheless, since we are visual

1 beings, it's a good thing to have it really in front of us, why not?

2 MR ELDERFIELD: [10:12:13]

3 Q. [10:12:14] Mr Laroche, the final area of your examination that I would like to
4 cover with you is with respect to a clarification of your statement, so I'd ask you
5 please to turn back to tab 1 and focus on paragraph 27.

6 You state: "It is possible that some or all of the compact audio cassettes were copies
7 and not first generation audio recordings."

8 Now you do go on in the three preceding paragraphs to give a relatively technical
9 explanation of why you made that observation. But I'd just like you to explain again
10 in simple terms for the Judges how you made or why you made that observation with
11 respect to the exhibits that you were enhancing.

12 A. [10:13:28] So, first of all, I think it's not possible to know if an audiotape is the
13 original or is a copy of the original. We reached that conclusion that you just
14 mention because in few instances the compact audio cassette were 90 minutes long,
15 for 45 minutes for each side and they were containing only 30 minutes of recording
16 per side, meaning that 15 minutes were left blank.

17 What happened is that the audio signal was recorded from the start of each side A, so
18 the first side of the audio tape, until approximately 30 minutes and the rest of the side
19 was blank.

20 On the other way around, on the second side of the tape, on side B, the first
21 15 minutes were left blank and then the last approximately 30 minutes were recorded.
22 This is why we came to the conclusion that it is possible that few of the audio tapes
23 were not first generation or were not the original audio tapes that recorded the
24 original signal.

25 Q. [10:15:03] Can you just explain how that idiosyncrasy of the 15 minutes of

1 blank at the start of side B may lead you to have made that observation.

2 A. [10:15:22] What we thought, that when you copy an audio tape on a second
3 audio tape, if they are not from the same length, once the signal that is recorded on
4 the first audio tape ends the recording stops automatically on the recording audio
5 tape and then the recording starts without moving the audio tapes on the second side
6 of the recorded tape.

7 MR ELDERFIELD: [10:16:01] Your Honour, I have no further questions. Unless
8 you do.

9 PRESIDING JUDGE SCHMITT: [10:16:05] Perhaps they arise from the questioning
10 by Mr Rowse. Of course I think I and the Chamber will wait what Mr Rowse is
11 entertaining, and I assume he will have some questions that we as layman in that
12 respect also would have in our mind, but he can do it better.

13 So thank you very much, Mr Elderfield.

14 And I give the Defence the floor and I understand that Mr Rowse is questioning. So,
15 please, Mr Rowse.

16 I assumed again, I have to admit, that the Legal Representatives will not have
17 questions, and I don't see any objections.

18 So please, Mr Rowse, as I said, you have the floor.

19 MR ROWSE: [10:17:07] Thank you, your Honours.

20 QUESTIONED BY MR ROWSE:

21 Q. [10:17:10] Good morning, Mr Laroche.

22 A. [10:17:12] Good morning, sir.

23 Q. [10:17:12] On paragraph 14 of your statement there's a name of an individual,
24 I'm not sure whether we would consider this in public or confidential, but I can refer
25 to her as your assistant, if that will -- and, sorry, this is Defence tab 1, ERN

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 UGA-OTP-0269-0014. It's the same as Prosecution tab 1.

2 PRESIDING JUDGE SCHMITT: [10:17:39] I would not see any problem to name
3 the person. Or do you, Mr Elderfield?

4 MR ELDERFIELD: [10:17:44] No problems from the Prosecution.

5 PRESIDING JUDGE SCHMITT: [10:17:45] No. So then I think', Mr Rowse, you
6 can simply name the person.

7 MR ROWSE: [10:17:49] Okay.

8 So court officer, can you please show the witness Defence tab 2, which is

9 UGA-OTP-0269-0034.

10 Q. [10:18:28] Sorry, Mr Witness, there's a Defence binder to your right, which is in
11 black, which may assist you.

12 Sorry, to your right there's a Defence binder in black, the same document appears in
13 both. This is tab 2.

14 PRESIDING JUDGE SCHMITT: [10:18:50] And I think we are talking about an
15 enhanced CV, so to speak, of the witness.

16 THE COURT OFFICER: [10:18:59] And the item is currently being displayed on
17 the evidence 1 channel.

18 PRESIDING JUDGE SCHMITT: [10:19:06] There are a lot of pages and I think you
19 just would want to generally refer to it.

20 MR ROWSE: [10:19:11] Yes.

21 PRESIDING JUDGE SCHMITT: [10:19:12] So please continue.

22 MR ROWSE: [10:19:13]

23 Q. [10:19:14] Now, aside from the fact that on page 0035 you mention that you
24 manage audio enhancement software and hardware, and on page 0038 the training,
25 that we'll get to shortly, can you point to us on your CV any other training or

1 experience that you have that makes you competent to evaluate the impact of
2 processing audio by means of digital tools?

3 A. [10:19:46] Regarding the forensic audio enhancement, I got a general
4 knowledge about processing of signal during my Master of Science in Engineering at
5 the Special Academy, Military Academy of Saint-Cyr. It is mentioned on page
6 UGA-OTP-0269-0037. So I would say that it is on the principle, general knowledge
7 about electronics and the treatment, the processing of audio signals, any kind of
8 signals.

9 In addition, I would say that here the processing that we refer very often as
10 enhancement, but I think it's not the proper term to be used because it's basically
11 using this system, a process of filtering away unwanted signals and improving the
12 wanted signals, which is the speech, to make it more intelligible and clear.

13 In terms of audio, the complete sound, what we call the unwanted sound is basically
14 the surrounding noise. It is used as, for forensic purposes.

15 I would say that the second part of the general training was in terms of forensic
16 science, and I would on the same page mention my Master of Science in Forensic
17 Science from the School of Forensic Science in Lausanne. Why? Because in that
18 case on the exhibit there is a complete process of evidence to be, forensic evidence to
19 be carried out, starting with the documentation of chain of custody, then the
20 documentation of the processes of the filters applied to the signal, a process in that
21 case I think what is very important that it is replicable so you can see that in what we
22 provided in terms of attachment to the statement you have all the CEDAR Cambridge
23 work files, meaning that we have recorded all the steps that we've taken to go from
24 the original exhibits to the final enhanced or filtered version.

25 So this is a process that is very important in forensic science. So basically I would

1 say that it would be these two main diplomas. And I think that it's worth
2 mentioning that I'm not expert in the field of audio enhancement. I'm only here
3 applying technical capabilities that we learnt through a training since we acquired the
4 system, CEDAR Cambridge system. And finally, I would say that we've done it
5 because outsourcing this process would have been very costly for the OTP. This is
6 why it was decided in the OTP to purchase the system and to process ourselves the
7 exhibits, the audio tapes to enhance them, since it is only a technical -- these are only
8 technical operation I would say.

9 Q. [10:24:07] Thank you. So if -- well, from what you've said, do you have any
10 specific knowledge then in relation to the sub-field of digital audio processing,
11 sometimes known as DSP?

12 A. [10:24:34] I would not say that I have specific knowledge. I may have more,
13 I would say I have at least a common knowledge, maybe more than a common
14 knowledge. And basically the training course that we got specifically on the CEDAR
15 Cambridge forensic system in Cambridge in May 2015 was a good refreshing course
16 in terms of signals and also was very focussed on the use of the CEDAR Cambridge
17 forensic system.

18 That is very interesting for the OTP because it's very user friendly. It's one single
19 hardware and software containing the majority of the filter that can be used in terms
20 of audio enhancement to remove buzzes, hiss and any kind of unwanted sound on an
21 audio tape.

22 PRESIDING JUDGE SCHMITT: [10:25:47] So, Mr Laroche, do I understand you
23 correctly, to put it a little bit really on the spot, that the CEDAR system in this process
24 is more important that you? Very -- I think that that might be a very basic
25 observation, but you are indulgent with the Presiding Judge who is not a technician.

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 THE WITNESS: [10:26:12] I agree with you, Mr President. I think in that case the
2 CEDAR system is operating the filtering of the signal, and in that case we only acted
3 as operator.

4 Of course the first thing is the assessment of the audio, so what we've done
5 systematically is to listen to the complete audio tape to identify, including identifying
6 with the spectrum, because you can see on the processes that very often the first filter
7 that we apply is not a filter, it's the spectrogram of the signal. So we are identifying
8 all the problems, all the noises, and then defining a strategy for the filters to be
9 applied and then we're applying all the filters to the audio tape.

10 I think it's also worth mentioning that we did not carry out any deletion. It's only
11 filtering the system to make it -- to improve its clarity for a human ear.

12 PRESIDING JUDGE SCHMITT: [10:27:23] So before you applied this CEDAR
13 system you made, again a basic word, you made the diagnosis a little bit, or is
14 this -- would you agree with that?

15 THE WITNESS: [10:27:37] This is correct, Mr President.

16 PRESIDING JUDGE SCHMITT: [10:27:39] You know, we have to, for Judges who
17 are not experts, we have to really break it down to some basics to understand it, so
18 you allow me these analogous wording which is of course not technically correct.
19 Please, Mr Rowse.

20 MR ROWSE: [10:27:59]

21 Q. [10:28:02] I think we may know the answer, but then -- so if I started asking
22 you whether you're familiar with technical terms such as Nyquist frequencies, aliased
23 audio, and the result that that may have on aliased audio; this wouldn't seem familiar
24 to you?

25 A. [10:28:22] Yes. I told you I have the general knowledge in terms of terms

1 used in signals processing. And I would add that these terms are applied in the use
2 of the CEDAR Cambridge forensic system to operate the system.

3 Q. [10:28:46] So more concretely then, what is the application then of Nyquist's
4 theorem, or a Nyquist frequency in the operation of the CEDAR system?

5 A. [10:29:07] What is the Nyquist frequency that you -- is it a filter or is it ...?

6 Q. [10:29:20] Okay. So you don't know what a Nyquist frequency is then; is that
7 correct?

8 A. [10:29:28] Audio like Nyquist? I know the frequency, that you can see on the
9 CEDAR Cambridge, but to be honest the CEDAR Cambridge complete book, I think I
10 provided it, is 420 pages. As I told you, I would never say that I'm expert on the
11 CEDAR Cambridge. This system was designed by engineers. It is modified every
12 year with new filters, and for this I'm only an operator on the system because I do not
13 work on a daily basis on this -- in this field.

14 Regarding the filter that we applied, Mr Alan French, who is expert in audio, he is
15 working and he was our trainer for the CEDAR Cambridge, enhanced the first batch,
16 if I remember correctly, of audio tapes. And basically what we've done is, more or
17 less depending if we could find the same noises, applied the same kind of filter that
18 he himself applied on the frequency on the audio tapes.

19 If you ask me about all the details, all the, I would say, all the last publication about
20 audio enhancement, I am clearly unable to answer because this is not my field of
21 expertise. Here I acted as an operator with a system, which is basically exactly the
22 same when you process photographs using Photoshop. I'm not expert in Photoshop.
23 I'm an operator of Photoshop. I know how to recall my actions on Photoshop or to
24 use it, but I'm not expert in Photoshop.

25 Here is exactly the same, and I think it's exactly the same for my colleague, Sabina

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 Zanetta, who worked with me on this case.

2 Q. [10:31:45] You're jumping ahead a little bit, but in effect, when you're using
3 this system, it was as if you were following a recipe then?

4 A. [10:31:58] I would not say the same. It's a little bit than following a recipe,
5 because even if we had a kind of recipe, if I can use your word, that was designed by
6 Mr Alan French. We checked obviously that there were no filters that were useless
7 and that there were not additional noises that we could use to make the audio signal
8 clearer. But I think it's a bit more than following a recipe.

9 I will give one example. If you take the page UGA-OTP-0247-1199 --

10 Q. [10:33:09] Sorry, which tab is this?

11 A. [10:33:11] Sorry. It is tab 9 on the Defence binder.

12 PRESIDING JUDGE SCHMITT: [10:33:40] I think we all see it.

13 THE WITNESS: [10:33:45] So you can see that for this audio tape, we first applied a
14 spectrum, is to look at the spectrum. So you can see the spectrum on this page.

15 And then what you can see is that you have two peaks, two buzz, and then you can
16 see that we apply debuzz-3 at a frequency of 50 -- around 50 hertz. It's the next page.

17 And on the following page ending by 1201 as an ERN, you can see that we applied
18 also filters debuzz at 95. This is exactly what we marked as the buzz that we could
19 identify on the spectrum. So here it clearly a little bit more than applying a recipe,
20 because first you have to identify and to mark the buzz and then to apply the debuzz
21 at the right frequency.

22 PRESIDING JUDGE SCHMITT: [10:34:57] First a remark. I understand that the
23 Prosecution is planning to call Mr French also as a witness, as I understand it.

24 MR ELDERFIELD: [10:35:03] Yes, your Honour. He's coming up in perhaps the
25 second week of the next sitting session.

1 PRESIDING JUDGE SCHMITT: [10:35:08] For our information, everybody in the
2 courtroom, that we have another witness who is dealing with these matters in
3 a -- worded in a very general way again.

4 Please, Mr Rowse.

5 MR ROWSE: [10:35:23]

6 Q. [10:35:23] Again, we're jumping ahead a little bit. So perhaps we'll back up to
7 just asking you about your knowledge and the knowledge of Sabina.

8 A few -- some weeks back we asked the Prosecution to provide us with any
9 information that could illustrate the expertise, knowledge or experience that yourself
10 or Sabina had regarding the processing, enhancement or restoration of analogue and
11 digital audio, and that's Defence tab 26, which is UGA-D26-0024-0002, just for the
12 record.

13 And in response to that, the Prosecution indicated that they didn't have a copy of
14 Sabina's CV and that we would be able to ask you about her experience.

15 Can you describe for me firstly what languages she speaks, if you know?

16 A. [10:36:58] So I think that my former colleague Sabina Zanetta speaks English,
17 French, Italian, maybe German.

18 Q. [10:37:14] And does she speak any of the languages from northern Uganda?
19 Even a few words?

20 A. [10:37:29] I've been on mission with her to north Uganda once, I think, as far as
21 I remember, and it's possible that she knows a few words of the languages used in the
22 north of Uganda.

23 Q. [10:37:51] Does she have a university degree, and if so, in what subject? And
24 I mean, where, if you know, but I would understand if you don't.

25 A. [10:38:09] As far as I know, I think that she has a Master of Science in Forensic

1 Science from the School of Forensic Science in Lausanne. And I think that she have
2 another Master in -- I may be wrong, but I think it's humanitarian ... I don't know
3 exactly, but I think it's from the University of Geneva.

4 Q. [10:38:47] And I think you already discussed this, but just to clarify the point,
5 she didn't have any special training in audio beyond the CEDAR training you did in
6 May 2015?

7 A. [10:39:08] I honestly don't know if she had other training or other knowledge
8 and we never discussed this, what was basically knowledge or other training. So
9 I think the best would be that you get her CV so you can assess by yourself her
10 qualifications.

11 PRESIDING JUDGE SCHMITT: [10:39:39] To get the CV, yes, that would indeed
12 have been -- would have spent some time, but it's not your fault to say that.

13 MR ROWSE: [10:39:49]

14 Q. [10:39:50] Now, we understand she no longer works with the Office of the
15 Prosecution. Can you tell me why she left the Prosecution, if you know?

16 A. [10:40:02] Again, I think it would be better that you ask this question to her
17 directly. What I know is that she got an offer from another international
18 organisation and she decided to resign and move to this organisation.

19 MR ROWSE: [10:40:44] Your Honour, I'd just like to ask one question in private
20 session.

21 PRESIDING JUDGE SCHMITT: [10:40:49] Then we go to private session.

22 MR ROWSE: [10:40:51] It will probably be the only question.

23 PRESIDING JUDGE SCHMITT: [10:40:53] Yes. Private session.

24 (Private session at 10.40 a.m.)

25 (Redacted)

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Private Session)

ICC-02/04-01/15

1 (Redacted)
2 (Redacted)
3 (Redacted)
4 (Redacted)
5 (Redacted)
6 (Redacted)
7 (Redacted)
8 (Redacted)
9 (Redacted)
10 (Redacted)
11 (Open session at 10.42 a.m.)
12 THE COURT OFFICER: [10:42:19] We're back in open session, Mr President.
13 PRESIDING JUDGE SCHMITT: [10:42:30] But I think it -- may I ask you,
14 Mr Laroche, or make a comment? I think it's of interest how you divided your work.
15 So I also would have been interested if there was a sort of supervision by you or if
16 you were on equal terms, and if so, if the latter, how you divided your work, how you
17 organised your work, so to speak?
18 THE WITNESS: [10:42:49] Mr President, I think I was -- I wrote this witness
19 statement because I initiated the project, the CEDAR project for audio enhancement.
20 Regarding the work with Sabina, we were both very busy with other forensic task.
21 To be very clear, I worked on the first batch of items, working on the filters, and then
22 we basically switched according to our workload, respective workload. So some
23 weeks she was working on it and other weeks I was working on it. But we were
24 under pressure to provide this enhanced audio as soon as possible and we tried to do
25 it as quickly as possible, given the other tasks that we had to carry out.

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 In terms of supervision, I would say that there was a kind of permanent discussion
2 between us. When she was working on a tape, there was kind of, if I could call this
3 in that way, a kind of peer review, and we were always trying to achieve the best
4 result.

5 PRESIDING JUDGE SCHMITT: [10:44:24] So there is -- if I understand you
6 correctly, there is none, or is there any cassette, any tape that you did not have in your
7 hands, that you did not work on? You see what I mean, that exclusively was being
8 worked on by Ms Zanetta?

9 THE WITNESS: [10:44:49] Yes, this is correct. There were audio tapes that I did not
10 work on and there were audio tapes that she did not work on.

11 PRESIDING JUDGE SCHMITT: [10:44:58] Thank you.
12 Please, Mr Rowse.

13 MR ROWSE: [10:45:01] Your Honour, you've anticipated my next question, which
14 whether there --

15 PRESIDING JUDGE SCHMITT: [10:45:05] Excuse me.

16 MR ROWSE: [10:45:06]

17 Q. [10:45:06] Well, is there a record of the tapes you enhanced and which were
18 enhanced by Sabina?

19 A. [10:45:15] No, there is no record of tapes. I think that we could go back and
20 know exactly which tapes were enhanced by whom according to the dates they were
21 processed. But we didn't keep any record also for the reason that on few tapes she
22 started to work on them then was called for another task, so I was stepping into this
23 work and finishing it, and the other way around. So it was really a common work of
24 my colleague Sabina Zanetta, and I.

25 PRESIDING JUDGE SCHMITT: [10:46:01] Where does she work now, do you

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 know that? Which is the international organisation that she went to?

2 THE WITNESS: [10:46:10] I think she works as an investigator within the Food and
3 Agriculture Organisation, the FAO in Roma, in Italy.

4 PRESIDING JUDGE SCHMITT: [10:46:22] Thank you.

5 MR ROWSE: [10:46:32]

6 Q. [10:46:32] Now we have a letter annexed to your statement and also
7 reproduced in your statement. Did the Prosecution ask you what relevant skills you
8 had with regards to the processing of digital material?

9 A. [10:46:48] Yes. Obviously I provided my CV. And what was most
10 important, we started to process audio tapes once we got the certification of training
11 in forensic audio investigation by CEDAR Cambridge company.

12 Q. [10:47:22] And did the Prosecution enquire into the process at all or was it
13 simply the letter seeking your engagement in the project and then the provision of
14 material?

15 A. [10:47:41] As mentioned in the witness statement, we had exchanges with a
16 trial lawyer Mr Julian Elderfield who provided us with the ERNs, with the batches of
17 audio tapes to be submitted to forensic audio enhancement.

18 Q. [10:48:22] Did the Prosecution provide you with the authenticated
19 pre-registration forms of the tapes that were handed over to the Prosecution?

20 A. [10:48:34] No. We were provided with a list, I think you have the list in the
21 attachment to the witness statement, the different batches of exhibit that we had to
22 process. And we were getting these audio tapes, or sometimes CD-ROM, basically
23 these exhibits from the Information and Evidence Unit. It was not part of our
24 mission in the letter of instruction to carry out any kind of investigation or
25 authentication.

1 Q. [10:49:25] Now, I think you may have discussed this slightly, but from your
2 CV I can see that you are accomplished in forensics, including ballistics,
3 counter-terrorism, and victim identification, but you didn't hold yourself out to be
4 beyond this certificate that you had somebody accomplished in processing and
5 filtering of audio, did you?

6 A. [10:50:19] As I already told you, I don't know what you mean by
7 "accomplished", but I'm not an expert in audio digital, audio forensic. I have other
8 fields of expertise.

9 On this one, again, I was only an operator using the hardware and software to
10 make -- to render an audio signal clearer and more intelligible. On this I would
11 mention again that at no time we deleted or added anything on the audio signal. It's
12 only, it was only applying filters on the signal to remove the unwanted sound and
13 make the wanted sound, basically the speech, clearer.

14 On this, on this process, again everything is recorded, there is a report generated by
15 the CEDAR Cambridge system and there is a CEDAR Cambridge file, so you can take
16 the original tape, original audio, apply the filters, reload on the system the filters that
17 we applied, you run the filters and then you will get the exact final enhanced version
18 that we got.

19 So on this part everything is documented, but I agree with you that I'm not an expert,
20 accomplished expert, and I think that you will be able to ask all the scientific
21 questions relevant to the functioning of CEDAR Cambridge and audio signal
22 processing to Mr French if he is called to testify.

23 PRESIDING JUDGE SCHMITT: [10:52:29] I think that that's indeed fair. I think
24 it's now relatively clear where the skills, the competences and the also the tasks of
25 Mr Laroche lay, and what he has applied. And perhaps a question that really relate

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 to the system as such would have to be put later on to Mr French if he -- and we heard
2 that he will be called. So, so to speak, so we could defer this, these questions if you
3 have -- I would assume that you have some. I would really defer them, perhaps, to
4 the questioning of Mr French when he appears in the courtroom.

5 MR ROWSE: [10:53:10] Your Honour, the witness in his statement does say
6 that -- let's see if I can find the wording, but --

7 PRESIDING JUDGE SCHMITT: [10:53:23] Which tab, please?

8 MR ROWSE: [10:53:24] Sorry, this is tab 1 of the Defence binder.

9 PRESIDING JUDGE SCHMITT: [10:53:30] And which paragraph?

10 MR ROWSE: [10:53:33] Paragraph 15 at 0018.

11 PRESIDING JUDGE SCHMITT: [10:53:49] This of course has to be explained,
12 indeed. I agree with you. I would put -- you can put it to him and I think, yeah.

13 MR ROWSE: [10:53:58] Perhaps we move into this in the next session, if you
14 prefer.

15 PRESIDING JUDGE SCHMITT: [10:54:04] I think this is perhaps a good idea.

16 MR ROWSE: [10:54:07] I have one or two more questions on a similar theme.

17 PRESIDING JUDGE SCHMITT: [10:54:12] Okay. Then we move to the break now
18 and we come back at 11.30.

19 Do you already envision how long your questioning will be?

20 MR ROWSE: [10:54:20] We'll have to revise the questions, but I anticipate one
21 more session.

22 PRESIDING JUDGE SCHMITT: [10:54:27] Okay.

23 MR ROWSE: [10:54:27] Possibly slightly longer.

24 PRESIDING JUDGE SCHMITT: [10:54:32] Actually I assumed something in that
25 regard too.

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 So we have now the break until 11.30.

2 THE COURT USHER: [10:54:42] All rise.

3 (Recess taken at 10.54 a.m.)

4 (Upon resuming in open session at 11.32 a.m.)

5 THE COURT USHER: [11:32:14] All rise.

6 PRESIDING JUDGE SCHMITT: [11:32:35] So Mr Rowse has of course still the
7 floor.

8 MR ROWSE: [11:32:40] Thank you, your Honour.

9 Q. [11:32:43] Before the break we were discussing briefly your interactions with
10 the Prosecution, and I just had one final question on this subject, or line of
11 questioning: Did you get asked to conduct any other tasks in relation to the audio in
12 this case?

13 A. [11:33:04] No, I was not asked to carry out any audio task. There was a plan
14 to possibly, because at the same time we bought the CEDAR Cambridge forensic
15 system we acquired another tool, forensic tool, that is BATVOX, which is a speaker
16 identification that is able to provide a likelihood ratio that the person speaking on an
17 audio is the same person as what we call a questioned -- comparison audio. But for
18 this case we stopped, with my colleague Sabina, after enhancing 106 audio tapes.
19 There were possibly more audio tapes to be enhanced but we were running out of
20 time due to our workload.

21 Q. [11:34:09] And you weren't asked -- I ask because -- well, you've answered the
22 question, but tab 23 of the Defence binder, which is UGA-OTP-0280-0538 is a paper,
23 tab 23, is a paper discussing just this process, the ability to identify voices within an
24 audio stream. So you weren't -- let me rephrase this question. You were never
25 asked to use this system in relation to this case?

1 A. [11:34:50] No, I was never asked to use this system. As I told you, there was
2 the possibility to use it for this case, but then at the end it was not done, mainly for a
3 question of time and availability. But we have, we have the system BATVOX of
4 speaker recognition.

5 PRESIDING JUDGE SCHMITT: [11:35:25] But is this something different to this
6 CEDAR system, I would assume? And also the purpose is not one on one the same.
7 Or do I understand something not correctly?

8 THE WITNESS: [11:35:37] This is correct, Mr President.
9 So basically the CEDAR system is made to enhance, basically to filter the signal to
10 have the voice clearer and more intelligible. The BATVOX system is a system that
11 allows you to identify a speaker on a specific speech, and for this you work with a
12 reference database with, you can work with imposters, and at the end you get a
13 scientific likelihood ratio that the person on the tape is the same as the person that
14 you recorded the voice.

15 PRESIDING JUDGE SCHMITT: [11:36:29] So there is obviously a difference
16 between speaker recognition and merely enhancing the audibility of a record. And,
17 yeah, and also it was because the German author in this article works exactly on
18 speaker recognition since a very long time, as I happen to know.

19 So please, Mr Rowse continue.

20 MR ROWSE: [11:36:55]

21 Q. [11:36:57] Can you spell the name of that software, was it Badvox or Badvoice,
22 just for the record?

23 A. [11:37:03] This is BATVOX; Bravo, Alpha, Tango, Victor, Oscar, X-ray.

24 Q. [11:37:17] So moving on to a slightly different theme concerning audio more
25 generally: Is it fair to say that which frequencies are present and how loud those

1 frequencies are and the duration leads to how a sound -- let me phrase this, how
2 different sounds sound different, if that makes sense to you? Is it fair to say that the
3 specific combination of frequency, individual frequencies, the volumes of those
4 relative frequencies and the duration of those frequencies?

5 A. [11:38:06] Yes, this is correct. Maybe to summarise, and again I'm not expert
6 in the field and what I know is common knowledge, I think there is a difference
7 between -- so the sound first is a physical phenomenon. So the sound is a
8 propagation of waves of pressure through a transmission medium, which can be the
9 air, a liquid or a solid. You have different speed of transmission through the
10 different medium, for instance, in the air at the regular pressure, which is 1.013 pascal,
11 at 20 degrees, it's around 343 metres per second; in a liquid it's around 20 degrees,
12 1,280 metres per second; and in, for instance, a metal like steel it's around 5,960 metres
13 per second. So this is the transmission of the sound.

14 Then what is called acoustic. Then what is heard by human beings or any living -- or
15 any animal is another area that is called psycho-acoustic. For instance, the human
16 ear can hear between 1620 hertz until 18-20,000 hertz, kilohertz. And obviously it
17 depends on the ability of each individual, and the ability to hear sounds decreases,
18 unfortunately, when you get older.

19 But basically you have, as you said, you have different frequency, different duration
20 and different pressure.

21 Q. [11:40:21] Now, are you familiar with the term frequency response and can
22 you perhaps explain it briefly?

23 A. [11:40:33] I'm familiar with the term frequency.

24 Again, I'm not an expert in audio and all the terms, technical terms relating to audio,
25 and if I would answer this question it would be only a guess from myself what is the

1 response, is it ability of human to hear it? I honestly don't know.

2 Q. [11:41:03] And you would accept that -- okay. But you would accept the
3 proposition that through any given device, say the Court microphones or headphones,
4 the sound is shaped by those individual devices, each of those individual devices, to a
5 greater or lesser degree, of course?

6 A. [11:41:31] Yeah. I would say, and I think it's only common sense, that when I
7 speak at the moment it's recorded by a microphone that is recording the difference of
8 the pressure compared to the reference pressure. And then it is transmitted. It is
9 converted to an electrical signal and then, as I record it, you can see the signal and see
10 the waves, or, again, emitted as a sound through a speaker. But obviously there is a
11 transmission of the signal from one area to the other area. Again, and I think that
12 I can answer all the questions about the audio enhancements and the filters I applied
13 according to my training and my knowledge, and the knowledge of my colleague
14 Sabina Zanetta, and if you have a very technical question I'm sure that Mr French
15 would be very happy to answer your question in a very scientific audio way.

16 Q. [11:42:58] Well, we'll come back a little bit later to the actual enhancement
17 process, but now I'd like to speak with you about how the audio arrived in your office,
18 because in your statement at paragraph 14.5 you were asked by the Prosecution to
19 provide an explanation, insofar as the technical process undertaken by you permits,
20 of the reason why particular cassette tapes may not contain any audible or intelligible
21 content, whether before or after the enhancement process.

22 My first question in relation to that is did the Prosecution explain to you the way in
23 which -- or, the background to the way in which the audio arrived in your office in
24 the state that it did?

25 A. [11:44:04] As far as I remember, I got very few information. This information

1 was that these audio tapes were containing intercepts in the Ugandan case. But I
2 didn't -- I don't know what is the chain of custody of these audio tapes before we took
3 possession of these audio tapes.

4 In regards to the work that we had to carry out with these tapes, I think this
5 information was more than enough for us to be able to do the forensic audio
6 enhancements of these tapes.

7 Q. [11:44:56] So just before I move on to what you just said, in paragraph 25b of
8 your statement, and just for absolute clarity, you don't know who wrote on the tape,
9 "LRA attack on Lukodi ... Dominic said he was the one who attacked and ... about 25
10 civilians and burnt ... 100 huts", you don't know who wrote that?

11 A. [11:45:34] No, we -- I don't know who wrote that. On this process, it was as
12 any kind of forensic examination. It's first to carry out, after signing and receiving
13 the exhibits, to carry out an exhibits inventory, and for full transparency, to take
14 pictures of the exhibits. So all the audio tapes, for instance, we took picture of the
15 audio tapes on all sides, and even after they were opened, to show the state of these
16 audio tapes at the time we received them.

17 Q. [11:46:15] With what you've just said earlier on, that -- sorry, I maybe don't
18 have the direct quote, but that the information you received was sufficient to assist
19 you in your process or your enhancement of the tapes, would it have assisted you to
20 know that sometimes the tapes were recorded using a microphone on a cassette
21 player live from the radio rather than through a cable? So they didn't plug -- or if
22 the cassette player wasn't plugged into the radio, would that have assisted you?

23 A. [11:46:59] I don't know if it may have. What I know is that you get the exhibit
24 and the audio in the way it is and then you do your best to apply the right filters to
25 make the audio signals clearer.

1 Obviously, the more you have, I would say, intermediates in the recording, the more
2 you create artefacts and the more you get a signal that is more disturbed and less
3 clear.

4 PRESIDING JUDGE SCHMITT: [11:47:44] But, Mr Laroche, would this affect in
5 any way the content of the tape? Of course, the content of what is spoken on the
6 tape, I mean of course.

7 THE WITNESS: [11:48:00] Yes, Mr President. I think that a tape that is recorded
8 will record on one side all the noises surrounding it, but also the way it is recorded
9 will affect the signal itself. If you, for instance, if you make a recording with a
10 microphone that is 2 metres away from the speaker or a microphone that is high
11 quality, one very close to the mouth of the speaker, the recording will be different.

12 PRESIDING JUDGE SCHMITT: [11:48:47] I think my question was not clear
13 enough. That was my fault. I meant no matter how it was recorded, let's say you
14 speak and what you are speaking now is recorded in different ways, would by the
15 ways in which this, your speech, would be recorded change your speech?

16 THE WITNESS: [11:49:15] Mr President, I would say that it would not change the
17 speech. It would record with more or less noises what is said. Maybe one
18 additional thing that is worth to be mentioned is that we try to -- the audio tape has a
19 signal and we tried to -- for the tape, we have to digitise them, to put them in a digital
20 format, because they were recorded on magnetic tape. And what we've done is to
21 convert this magnetic tape into digital audio using a lossless way, using W -- as far as
22 I remember, WAV format, not to compress the signal that was on the tape, to get the
23 original recording with no compression.

24 PRESIDING JUDGE SCHMITT: [11:50:21] Okay. Thank you.
25 Please, Mr Rowse.

1 MR ROWSE: [11:50:25]

2 Q. [11:50:26] Again on the subject of information that would have assisted you, I
3 notice in the -- well, in some of the reports you use a decrackle process, which I
4 understand removes pops, for example, and this is just to contextualise the question.
5 Would it have helped to know what context the audios were purported to be made in?
6 So, for example, if there was gunshots in the background, if there was voices, if there
7 was reported to be people around, would that have helped you to enhance the quality
8 of the recordings?

9 A. [11:51:13] Yes, I think that the more information you get on the way the tape is
10 recorded obviously can provide you information on -- beforehand on the kind of
11 filters you could apply. But I think also it somehow leads you to apply these filters,
12 and in this case the -- all the audio tapes were more or less very similar in terms of the
13 quality and in terms of the noises that could be heard frequently or repeatedly on
14 these audio tapes.

15 And I think we had enough information to do the -- our work, because, to be quite
16 honest, we didn't have time to inquire about any single tape in the way it was
17 recorded. So we did our best to make the tapes more audible and intelligible for a
18 human ear.

19 Q. [11:52:30] Two final questions on this particular subject. Would it have
20 helped to identify whether there were -- would it have helped to identify whether
21 there were gaps in the audio if you had been told there had been -- there was power
22 outages at the time of the recording or in and around the context of the creation of
23 these tapes?

24 A. [11:53:19] Yeah, I think that I told you that the more information you get, the
25 more your -- your enhancement and filtering can be focused on the potential

1 problems that could have occurred during the recording.

2 Q. [11:53:40] And similarly, knowing that some of these tapes may have been
3 taped over prior conversations or recordings where you might get a previous part of
4 the tape coming through, would that have allowed you to isolate the second -- or the
5 latter recording, let's say?

6 A. [11:54:13] Obviously the quality of the tape is important because if you have
7 tapes that were recorded many, many times, I assume that they will -- the quality will
8 be less than if you have a brand new audio tape. However, I don't think that it
9 would have influenced in any way our processes because again it's an assessment of
10 the noises and then a strategy to apply the right filter to these noises, and I'm not sure
11 that knowing the full story of the tape would have changed anything in the filters we
12 would have applied.

13 Again for these processes, I'm sure that if you ask Mr French to carry out the audio
14 enhancement of these audio tapes, he will do a better job than we did, because he's
15 expert in the field. And we did our best for this to be intelligible, which was difficult
16 because it's a language that Sabina and I did not understand at all.

17 Q. [11:55:34] Now, in the process of digitising this audio, you say that the first
18 tape recorder you had broke on 24 February 2016. That's at paragraph 25f of your
19 statement, which is at 0023. Can you recall how this device broke? How it
20 manifested it as ...?

21 A. [11:56:16] So this cassette tape player was a TASCAM model CC-222. At one
22 point it stopped working, basically. We could not play anymore the audio tape.
23 We tried to find out the problem, but we are not expert in repairing audio
24 player -- cassette tape player, and none of the same audio tape, because it's becoming
25 relatively rare at the moment, was available at the ICC. So then we borrowed

1 another tape player, a similar one, from another forensic laboratory.

2 We were, I would say, kind of lucky when it broke because it didn't damage the tape
3 at all.

4 Q. [11:57:26] Did I understand correctly then that it was the motor that actually
5 wound the tapes?

6 A. [11:57:33] Yeah, I think it was the motor, but the exact problem inside the
7 cassette player, I have absolutely no idea.

8 PRESIDING JUDGE SCHMITT: [11:57:41] Perhaps exhaustion.

9 MR ROWSE: [11:57:49]

10 Q. [11:57:50] Now, is there any indication of which tapes may have been digitised
11 on this potentially faulty cassette player? My best guess is that it -- if you look at the
12 Prosecution tab 4, which is UGA-OTP-0269-0044, at the last two lines of 0053, we see
13 that you returned them -- returned a number of audios ... sorry, on page 0053, the last
14 audios that were returned to the evidence unit were on the ... the date of return of the
15 exhibit to the IEU was the ... perhaps we can move on.

16 But I made an estimate of roughly 60 per cent of the tapes were played on the faulty
17 or potentially faulty cassette player. But I don't believe that my question to you,
18 sorry, is whether there is a record of which tapes were played on which cassette
19 player?

20 A. [12:00:05] Yes, I think it's quite easy to find out when the last cassette that was
21 digitised with the first cassette player. If you look at the CEDAR Cambridge reports
22 of all the digital copies, I will give you one example, the ERN is UGA-OTP-0269-0064,
23 which is attachment number 4 of the witness statement, you can see you have a date
24 and time of the digitalisation of this audio tape. I don't have all the -- these reports
25 with me, but I think when you look at the date mentioned in the witness statement on

1 which the cassette player broke, if you look at the CEDAR report you will know
2 exactly and then it's quite easy to calculate the number of tapes that were done with
3 the first one and the number of tapes that were done with a second cassette player.

4 PRESIDING JUDGE SCHMITT: [12:01:26] As a first access, so to speak, I think we
5 could look at paragraph 39 where it is said by you when the enhanced audio
6 recordings were registered, so at least for a first access to try to assess which ones
7 were played on the old, so to speak, cassette player and which one on the new.
8 I think that that should be possible from the documents we have.

9 MR ROWSE: [12:02:08]

10 Q. [12:02:09] So I'd like to move along to the actual enhancement procedure now.
11 Because on paragraph -- at paragraph 15 of your statement you say:

12 "I designed the digital copying and enhancement procedures mentioned below."

13 So could you outline -- sorry, I'll wait for you.

14 Could you outline for the Court how you devised a filter?

15 A. [12:02:49] Well, first of all, I think we used the strategy that was applied by
16 Mr Alan French on the audio tapes that he, that he processed before we starting the
17 enhancement of these 106 tapes. Then if you take as an example the ERN
18 UGA-OTP-0247-0818 --

19 Q. [12:03:49] Sorry, could you provide the tab number that you're looking for?

20 A. [12:03:53] In the Defence binder it's tab number 7.

21 So the first step was to upload the digital copy of the audio tape, then looking at the
22 spectrum to see any kind of noises that could be identified through the spectrum. In
23 that case you could see that we have different peaks and then we applied a phase
24 corrector to correct the phase of the signal because there was a phase problem with
25 this; then 2 channel tools with the mono sum is basically that you put the two

1 channels on the same channel; and then we applied two debuzz as the frequencies
2 that could be seen on the spectrum. And then we apply different filters, auto dehiss,
3 declickle to remove clickle, vintage decrackle, remove the crack, and then different
4 filters in term of the frequencies.

5 So the noise reduction number 4, noise reduction number 5, and then an equaliser,
6 before applying what is called an adaptive limiter, so it's basically not -- to render the
7 signal smoother in terms of the gain.

8 And finally, the spectrum and the metering to be sure that we -- the signal was not too
9 loud.

10 Again, these filters were applied and we spent quite some time trying to get the best
11 possible signal. And I'm sure that Mr French could have been 10 times quicker than
12 us with 10 times better result at the end.

13 We were -- once we were satisfied that a lot of noises, unwanted sound were removed,
14 filtered away, and that the voice was clearer, we processed -- we rendered the final
15 version of the enhanced. And I would say that in terms of the forensic process in
16 this particular, and what I understand from forensic audio, is that as long as you
17 apply only filters, that you do not edit, delete or modify any part of the speech, you
18 are completely inside the forensic process that is admissible.

19 This is what we've done systematically and there is a complete record and
20 documentation of all the process applied, so in my opinion proving that we did not
21 edit, delete, or alter in any way the audio tapes that were provided to us.

22 Q. [12:07:35] Can you explain to the Court what equalisation is?

23 A. [12:07:40] So equalisation is basically that you apply filter. On this -- on the
24 one that you can see, you can have a low pass or high pass filter; it's basically to filter
25 away the lower frequencies when you have disturbing unwanted noises in lower

1 frequencies, it can be a different, any kind of frequency where you have a disturbing
2 noise that you filter away the signal.

3 Q. [12:08:18] If I can stop you there, I mean filtering away is removing, correct?

4 A. [12:08:24] Filtering away is attenuating a part of the signal. Obviously, if you
5 put the filter until its maximum power, you will completely attenuate and bring the
6 signal to zero. But in that case you can see that we apply the filter at different
7 frequencies with different settings of the system to make it more intelligible, but we
8 did not -- when I say remove is that basically what you can do in parts of the signal is
9 to cut out, completely erase the speech; it's not what we did.

10 So what we did is filtering in a way that did not remove the complete signal but made
11 it clearer for a human being, for the listening of a human being.

12 Q. [12:09:32] And am I correct in saying that, or perhaps you're aware, that a drop
13 of 3 decibels in volume is, for the perception of a human being, a drop of half the
14 volume?

15 A. [12:09:51] Yeah, in fact in sound pressure it's a very large scale. I think the
16 minimum, as far as I remember, that a human ear can perceive is 20 micro pascal. So
17 what is done in terms of forensic audio, and again this is common knowledge, is you
18 apply a logarithmic scale. So basically the pressure, the pressure, the sound pressure,
19 what is called sound pressure level, is 20 times decimal logarithm of the pressure that
20 is recorded compared to the reference pressure. So this is why a logarithmic scale is
21 used.

22 Q. [12:11:01] I was going to -- you've referred to another report, but I was going
23 to refer you to Defence tab 5 which is, for the record, UGA-OTP-0247-0802, and this is
24 an enhancement of a recording taken on 29 April 2004. At page 0807 we see -- well,
25 quite drastic equalisation; minus 50 dB and minus 41 dB, leaving only a small part of

1 the signal based on what you've said. And, in fact, in the pages 0805 and 0806 there
2 is three other equalisation steps, let's say, also applying quite significant or different
3 levels of equalisation. Wouldn't -- I mean, running these many filters together,
4 doesn't it increase the risk of unpredictable interactions and results?

5 A. [12:12:32] I think that the term unpredictable is not appropriate, since you
6 apply the filter, and maybe what would be worth doing is on this particular audio
7 tape that you mention, listen to the original one and listen to the enhanced version.
8 So I think then, because at the end of the day what's important is what is heard by
9 humans, and then you will have a clear idea of the filters applied and the results.

10 And I'm pretty sure that you will see that there is no unpredictable results on the
11 enhanced version and I hope you will hear that the enhanced version is much better
12 than the original one and that we did our job.

13 PRESIDING JUDGE SCHMITT: [12:13:28] Perhaps a question.

14 Could it be that in the process also parts of the speech would be removed? If you
15 filter it so, so much as you have described it in some instances at least.

16 THE WITNESS: [12:13:46] Yes, Mr President, if you apply the filter to the maximum
17 of the system you can have a complete blank signal.

18 PRESIDING JUDGE SCHMITT: [12:14:01] I didn't mean complete blank. I meant
19 since the signal coming from the speech, so to speak, might be different, might be at a
20 different volume, different intensity, could it be that by applying these filters some of
21 the speech remains and some of the speech is removed?

22 So I had not made clear my question.

23 THE WITNESS: [12:14:26] So regarding the speech, I think there is a range of
24 frequencies that comes out of the mouth of a person speaking, so then - that are
25 recorded on an audio tape - if you apply the filters on different parts, you could

1 remove part of the speech. However, what we've done is to -- we didn't cut out the
2 speech. So we apply the same filter on the entirety of the recording, so I think we
3 did not remove any speech from the audio signal.

4 What can be done also with the CEDAR Cambridge is a kind of fine-tuning
5 enhancement. You can even go to a linear frequency and work on the filter or even
6 delete the speech. This is not what we've done and what is documented on our
7 report, since we applied the same filters on the complete audio tape. So in my
8 opinion, it's not possible that, with applying these filters and these forensic process,
9 we removed part of the speech at one point by keeping the speech at other time.

10 PRESIDING JUDGE SCHMITT: [12:16:12] I think it is not -- nobody says or would
11 assume that something has been cut out. But I was interested if it would be possible
12 to suppress, so to speak. "Removing" would also perhaps not be the adequate word,
13 but suppressing parts of the signal which contain speech while others remain. This
14 was mainly my question, but I think you have answered it.

15 THE WITNESS: [12:16:40] Yes, Mr President. It's possible to suppress speech. It's
16 possible to add speech to the signal. Everything is possible by manipulating the
17 signal itself. In this case, it was not what we've done since we applied only filters to
18 remove the unwanted sound on the entirety of the audio tape.

19 PRESIDING JUDGE SCHMITT: [12:17:01] Thank you.

20 Mr Rowse.

21 MR ROWSE: [12:17:04]

22 Q. [12:17:05] Perhaps one follow-up question to that. Are you familiar with
23 the -- does the word "sibilance" mean anything to you, sibilance?

24 A. [12:17:15] No.

25 Q. [12:17:17] These are -- yes, these are sounds such as the sound in the English

1 words sip, zip, ship, chip and jump, for example. They exist within a particular
2 frequency, but I don't -- I guess you wouldn't have taken -- if you're not familiar with
3 this term, you wouldn't have taken into account whether the filters would be
4 removing the bands in which these sounds typically exist.

5 A. [12:17:48] No. I think that you will have a very interesting scientific
6 discussion with Mr French, but I'm sorry, I cannot answer your question on this
7 specific topic.

8 Q. [12:18:01] Perhaps I'll ask you one or two questions about the character, so
9 rather than -- moving from the content of the words to the character of the voices.
10 Would the processing that you've done to these audios potentially have changed the
11 perception of the voices or the character of the voices that are being heard
12 such -- maybe I'll leave it there, the particular characteristics? So you and I both
13 have different sounding voices, for example, the different characteristics?

14 A. [12:18:41] Yeah, I think that the -- obviously the filters change the characteristic
15 of the voices. It's exactly the same here in the courtroom when someone is testifying
16 with a distorted voice. So, yeah, the characteristic are different.

17 But what is interesting -- and you mentioned the publication of Hermann Künzel,
18 Professor Hermann Künzel, and I think the other person is an engineer from CEDAR
19 Audio, and the publication that you referred to --

20 PRESIDING JUDGE SCHMITT: [12:19:25] Tab 23.

21 THE WITNESS: [12:19:27] Thank you, Mr President. So this publication was
22 basically, I think, interesting in terms of the capability of speaker recognition using a
23 BATVOX system with enhanced speech. Basically, does the modification of the
24 voice of the person -- and again, it's psycho-acoustics, so it's what a human being, the
25 brain of a human being, can process and can feel in terms of difference.

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

1 But does it affect the capability of the system to carry out speaker recognition? And
2 in this publication Hermann Künzel and Paul Alexander came to an interesting
3 conclusion in terms of this topic that is obviously important, because we could think
4 that modifying, filtering the voice would affect the capability to identify it.
5 Obviously it, in my opinion, affects the capability of a person to identify the voice and
6 to say, "Yeah, I recognise it is the voice of this person".

7 But the system BATVOX, that is language independent, channel independent, that is
8 scientific hardware and, I think, software, is not always affected by this filtering of
9 voices and can still process speaker recognition, which is one of the reason why we
10 decided to buy this software, BATVOX. And also the CEDAR Cambridge, that
11 was -- that is basically one box tool to carry out audio enhancement.

12 I didn't mention it before, but audio enhancement can be made through a lot of
13 software. Some of them are free software, like Audacity. The advantage of
14 BATVOX is that it is user friendly, a single hardware and software. It generates
15 reports, so with a complete documentation of all the processes applied by the
16 technician. And it records the complete chain, the complete process of filtering.

17 PRESIDING JUDGE SCHMITT: [12:22:19] But not to get confused here in the
18 courtroom, you applied CEDAR, not BATVOX, to these recordings that we are
19 discussing?

20 THE WITNESS: [12:22:31] Yes, Mr President, we only used the CEDAR Cambridge
21 forensic system.

22 PRESIDING JUDGE SCHMITT: [12:22:37] Thank you.

23 MR ROWSE: [12:22:47]

24 Q. [12:22:48] Now, when you were processing the audio, and this relates to the
25 character, did you note the listening volume at which you were working with the

1 audio?

2 A. [12:23:01] Do you mean the listening volume of --

3 Q. [12:23:07] That you were perceiving through your headphones at the time of
4 enhancement.

5 A. [12:23:15] We did not record the listening volume that we were applying at the
6 time. It was not a problem, in my opinion, since at the end there are filters -- not
7 filters, but processes that we use for CEDAR that show you -- basically, you can see
8 on the CEDAR Cambridge report, at the end you have the metering. So the metering
9 gives you where you are with the signal, to basically at the end process a signal that
10 has a kind of normal volume. Because we could have increased the volume on the
11 signal itself and putting the volume of our headphones lower, but then it would have
12 been, I think, very bad for the interpreters while listening the audio with a regular
13 volume on their computers.

14 Q. [12:24:27] But that's -- I mean, that's a relative volume of course?

15 A. [12:24:31] Yeah.

16 Q. [12:24:31] Within the system?

17 A. [12:24:32] Yeah.

18 Q. [12:24:33] And you didn't provide any instructions to the Prosecution as to
19 what volume to play the enhanced audios for the witnesses? Or I guess you didn't
20 know perhaps whether they would be played for witnesses, but you didn't give them
21 any instructions as to the playing volume?

22 A. [12:24:51] No, I did not give them any instructions. I remember that at one
23 point they requested that we provide them with our speakers -- our headphones,
24 sorry, because we have high-quality headphones. But I don't remember if we
25 provided them or if they requested headphones from another unit. But no

1 instruction about the volume at which it should be played.

2 Again, it depends, I think, when you ask someone to listen to an audio - and it's quite
3 common sense - it depend on the ability of the person to listen to the signal. So then
4 you adapt the volume to the person, the sensitivity of its ears to the signal.

5 Q. [12:25:38] I won't belabour the point, but have you come across what are
6 known sort of interchangeably or a very similar concept of Fletcher-Munson Curves
7 or equal-loudness curves? If you know it, then we can just move on.

8 A. [12:25:58] I think that you are more expert in audio than I am. But I'm sure
9 that if you start a discussion with Mr French, it can be scientifically very interesting
10 for the whole audio community.

11 But I never heard about this person. I'm sure that they made very interesting
12 publications, but again, the only publication that I read at the time of the training
13 were the one provided by Mr French. I'm not expert in audio. I'm expert in
14 ballistics, CSI and DVI. So I can talk much more about this in publication, and my
15 knowledge for this is only the knowledge of an operator who has a little bit of
16 common knowledge in terms of signal processing and audio.

17 PRESIDING JUDGE SCHMITT: [12:26:50] But nevertheless on paragraph 15 of
18 your statement, you said you designed the digital copying and enhancement
19 procedures.

20 THE WITNESS: [12:27:01] Yes, Mr President. So I designed the strategy, but the
21 strategy was based on the strategy that was applied by Mr French. So I did not
22 reinvent the wheel. He's the expert in the field. He applied a strategy. And I
23 don't have the qualification to completely redesign a strategy that was working.
24 But obviously at the beginning we had to design the strategy, and we agreed with my
25 colleague Sabina Zanetta that it was the best possible filter that we could apply. We

1 did not engage in any discussion with Mr French on if his strategy was correct or if
2 our strategy was correct. So basically, to be quite honest, we only applied the
3 strategy of Mr Alan French.

4 PRESIDING JUDGE SCHMITT: [12:28:02] I think we have understood now and
5 you can continue, Mr Rowse.

6 MR ROWSE: [12:28:07] A few --

7 PRESIDING JUDGE SCHMITT: [12:28:10] But there would perhaps not be left so
8 much for (Overlapping speakers)

9 MR ROWSE: [12:28:15] Not so much.

10 PRESIDING JUDGE SCHMITT: [12:28:15] Frankly speaking.

11 MR ROWSE: [12:28:18] One more question on this and then maybe move to the
12 last thing.

13 Q. [12:28:23] To your knowledge, with the recordings of the kind you received,
14 absent a reference, reference recording, is there any scientific way to verify that the
15 underlying voices have not been changed? So this is perhaps a follow-up question
16 to the other question about the content.

17 A. [12:28:54] Is your question related to the absence of blank samples in the
18 reference samples?

19 Q. [12:29:09] Maybe I can reformulate my question a little bit clearer. You have
20 an audio. You've enhanced it. Is there a way to know scientifically whether you've
21 removed any of the sounds in the voices, any of the characteristics of the voices that
22 are particular to the words that are spoken or the quality of the voices? Or is it a
23 more -- maybe I can phrase it, is it more of an art in this respect? There's a scientific
24 component, but is there a certain level of art in this respect?

25 A. [12:29:58] For this I think there may be, surely, a scientific way of comparing

1 the two signals only by maybe comparing the two spectrograms, one spectrogram of
2 the original and the spectrogram, so to see exactly the effect of the filters on the
3 original signal. So I think it's possible to do it, but it's only my guess and most likely
4 Mr French can provide you -- shed some light on this.

5 Q. [12:30:42] I think on to our last theme. Your statement states that you, you
6 speak French and English. I'm going to read a list of languages for you, if you know
7 any words from them perhaps you could indicate whether you know any of the
8 following languages: Acholi, Luo, Dinka, Langi, Ateso or Arabic. Do you know
9 any of those languages or any words or phrases?

10 A. [12:31:38] I think I know few words in Acholi because I spent quite some time
11 in Abok, Pajule, Lukodi and Odek. I think I know few words in Arabic since I
12 worked for three years for the United Nations International Independent
13 Investigation Commission in Beirut.

14 The other languages, I know the language Acholi because I heard that it was a
15 language spoken in north Uganda. The other ones, I would be unable to hear a
16 single word and identify that it's coming from this language.

17 Q. [12:32:30] Are you aware that Acholi has certain tonal elements to the
18 language, somewhat like Mandarin, let's say?

19 A. [12:32:46] I had no idea before you told me.

20 Q. [12:32:51] And you've, I think you've said your assistant didn't speak -- well,
21 she accompanied you, but you don't believe she spoke any of the languages that I've
22 listed?

23 A. [12:33:09] No, I don't think so. The usual common word that everybody
24 knows when you go on mission.

25 Q. [12:33:15] So is it fair to say that if your treatment changed the meaning of the

1 recordings you wouldn't be aware of this?

2 A. [12:33:26] Obviously, when you don't understand the language, in my opinion,
3 you cannot identify if the filtering modifies the meaning of the word that are
4 pronounced on the enhanced tape. Which was it's quite difficult to work on audio
5 enhancement when you don't understand a single word that is present on these audio
6 tapes.

7 Q. [12:34:08] And are you familiar with the voices of Joseph Kony, Vincent Otti or
8 Dominic Ongwen? Have you heard them many times?

9 A. [12:34:26] I would not say familiar, but then when you hear, when you spend
10 weeks and weeks listening to audios, I think at one point you can have a guess on
11 who is speaking when. And also, we provided some assistance to the OTP to make
12 presentation with synchronisation of the voice. But I would not say that I can
13 identify that I'm very familiar with the voice. What I can do is listen to a tape and, at
14 the end of the listening, say okay, I could hear that there were two people and at that
15 time this person was speaking.

16 Now, to identify the person speaking you need obviously the comparison material
17 which is the voice of the person to be able to say. But again it's kind of -- it would be
18 a phonetic identification, and I will give you one example: Professor Hermann
19 Künzel is working, in terms of identification, on a hybrid process, so it's phonetics,
20 plus computerised speaker recognition through BATVOX.

21 Because obviously, when you modify the signal filtering out, you modify obviously a
22 little bit the voice, the characteristic of the voice. So the phonetic part is quite
23 difficult to do, this is why he's combining both methods to reach a hybrid method.

24 MR ROWSE: [12:36:19] I think just if you give me one moment to confer with my
25 colleagues.

Trial Hearing
WITNESS: UGA-OTP-P-0256

(Open Session)

ICC-02/04-01/15

- 1 PRESIDING JUDGE SCHMITT: [12:36:29] Of course, of course.
- 2 MR ROWSE: [12:36:32] But I think we have reached the end.
- 3 (Counsel confer)
- 4 MR ROWSE: [12:36:50] So, your Honour, as perhaps --
- 5 PRESIDING JUDGE SCHMITT: [12:36:54] As indicated, this concludes your
- 6 examination. Thank you very much, Mr Rowse.
- 7 Thank you also very much, Mr Laroche, for having made yourself available today and
- 8 answering the questions. This concludes your testimony.
- 9 (The witness is excused)
- 10 PRESIDING JUDGE SCHMITT: [12:37:10] This also concludes this evidence block
- 11 and we continue on 30 October at 9.30, this should be a Monday, with P-138.
- 12 THE COURT USHER: [12:37:26] All rise.
- 13 (The hearing ends in open session at 12.37 p.m.)