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Chair: Mr. Emmanuel Dubourg



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• (1535)

[*English*]

The Chair (Mr. Emmanuel Dubourg (Bourassa, Lib.)): I call this meeting to order.

Welcome to meeting number 15 of the House of Commons Standing Committee on Official Languages. The committee is meeting, for the first hour, on its study of the challenges of the parliamentary interpretation service in the context of the COVID-19 pandemic. The second hour of the meeting will be dedicated to committee business in camera.

To ensure an orderly meeting, I would like to outline a few rules to follow.

[*Translation*]

I would like to remind participants attending the meeting remotely, that screenshots or taking photos of your screen is not permitted. This was mentioned by the Speaker of the House of Commons on September 29, 2020.

Members and witnesses may speak in the official language of their choice.

You have the choice, at the bottom of your screen, of either floor, English or French.

Before speaking, click on the microphone icon to activate your own mic. When you are done speaking, please put your mic on mute to minimize any interference.

A reminder that all comments by members and witnesses should be addressed through the chair. When speaking, please speak slowly and clearly.

Unless there are exceptional circumstances, the use of headsets with a boom microphone is mandatory for everyone participating remotely.

Should any technical challenges arise, please advise the chair.

Please note that we may need to suspend a few minutes as we need to ensure all members are able to participate fully.

[*English*]

For those participating in person, masks are required unless you are seated and when physical distancing is not possible.

Should you wish to get my attention, signal the clerk or signal with your hand. Should you wish to raise a point of order, please

activate your microphone and indicate to me clearly that you wish to raise a point of order.

[*Translation*]

I would now like to welcome our witness.

[*English*]

I would like to welcome Mr. Christoph Stoll.

[*Translation*]

He is a senior lecturer and research fellow with the Conference Interpreting Programme at the University of Heidelberg.

[*English*]

Mr. Stoll, you will have seven and a half minutes for your presentation. I will show you when you have one minute remaining. If you see the red card, your time is over.

Welcome, and good evening.

[*Translation*]

Dr. Christoph Stoll (Senior Lecturer and Research Fellow, Conference Interpreting Programme, University of Heidelberg, As an Individual): Mr. Chair and members of the committee, thank you for inviting me to speak with you this afternoon.

[*English*]

After hearing my French, you will probably understand why I feel more comfortable addressing you in English. I hope my colleagues won't be confused by this.

Thank you for inviting me to speak with you this afternoon. It's a great pleasure to be with you and to try to help you find solutions on this topic, which is very close to my heart.

Lawmakers and interpreters worldwide have had to adapt to COVID lockdowns and restrictions. After an initial phase of ad hoc solutions, interpreting hubs have now been set up in a joint effort of language services advised by sound engineers and interpreters.

As part of the body of knowledge established in sound engineering, psychoacoustics, interpreting studies and other fields, the parameters that impact the quality of sound, and thus also directly connect to the interpreting quality, are well understood and documented. ISO standards describe the minimum requirements under which interpreters can work reliably and safely. They have been agreed upon by equipment manufacturers, sound engineers, audiologists and professional organizations such as VKD, ATA in the U.S. and AIIC—

• (1540)

The Chair: Mr. Stoll, excuse me for interrupting you.

Could you lift your microphone up a little bit?

Dr. Christoph Stoll: Is this better?

The Chair: I think it's all right now.

Thank you. Go ahead.

Dr. Christoph Stoll: Heidelberg University hosts one of the most venerable M.A. conference interpreting training and research programs. Interpreters are trained in eight working languages for EU institutions and federal ministries in Germany. COVID lockdowns, however, have forced a large share of the more than 60 classes and conferences per week online, prompting researchers, trainers and administrators to investigate the current platforms and options.

I watched with great interest from my home here in Heidelberg your discussions that took place in the committee on Tuesday night. Yes, it was late evening, but I found the discussion really fascinating. However, there seemed to be some divergence of the testimony offered concerning matters related to technology and the platform that is used for your virtual meetings at the House of Commons and Parliament and the interpretation of your discussions. I hope to provide some clarity this afternoon.

I want to start with the testimony that you heard from the House of Commons administration officials. I believe it was Mr. Aubé who said that Zoom is not the interpreting system for the House of Commons. He also acknowledged that what interpreters are hearing comes from the ISO-compliant House of Commons system, unless it's from a remote participant.

From my understanding of the way you're meeting, pretty much everyone is connected online and therefore connected through Zoom. Looking at the first chart, you will see that there are ISO-compliant systems. However, the platform as was presented on the occasion of the study, which was commented on during the last meeting, is not compliant. Zoom, both the advanced and basic versions, is not ISO-compliant.

I'll try to explain why that is such a problem for us conference interpreters, which has been proven by research.

Sound information that is lost in one of the links connecting the speaker with the interpreters cannot be reconstituted. It cannot be added later on. What platforms do to sound—this concerns Zoom, Kudo and many of the other tested platforms—could well be a key reason why so many interpreters are being injured.

The spectrogram from the study shows how much of the original sound across the spectrum is lost through the Zoom platform that we're currently conversing over. The speech intelligibility was rated at 0.49 and 0.7 respectively for the two platforms. Those were among the lowest of all measured systems.

When interpreters speak, their voice overlaps the original. Unfortunately, the platforms reviewed have not been designed to allow people to hear and speak at the same time. Because of the missing audio frequencies, interpreters tend to increase the volume, which tires the stapedius and tensor tympani muscles, which mechanically soften sound's impact on the cochlea and the cilia of the inner ear. I'm sorry for mentioning this, but it will be a hinging argument later on. Audiologists are able to explain quite clearly why it is causing the fatigue and hearing impact observed.

There are currently no platforms that are ISO-compliant. There are set-ups, but they require sound engineers in attendance. This is why you probably continue working with Zoom.

My advice would be to ensure that your interpreters are exposed to a limited amount of sound from these platforms wherever that is possible, increasing team strengths and reducing the hours that they have to spend on mike on a daily basis, because this exposure can be detrimental to their hearing.

I listened also to the testimony at your last meeting and heard that ISO-compliant headsets have been provided. Looking around, I see that you are using the Plantronics 310. This cuts off the frequency—I've also provided a chart—at 6.8 kilohertz. That's about half of the frequency that interpreters need to be able to speak at the same time and hear what we are saying at the moment.

• (1545)

Many of the professional organizations have collated lists of compliant hardware. When that is connected correctly, it should also work for simultaneous interpreting, but I would recommend continuing to pursue the precautionary principle.

I have to stress that Canada has become quite famous for doing the right thing in this difficult situation and is in the limelight of attention of researchers and conference interpreters worldwide. We've been very impressed by the good path pursued here.

I've now tried to present these sometimes complex issues as clearly as I can, and of course, I'll be happy to take any questions and to try to answer them the best I can.

Thank you.

The Chair: Thank you very much, Mr. Stoll. That was great with regard to time.

Now we're going to start with rounds of questions. The first one is for six minutes.

MP Généreux will ask the first question.

Go ahead, Mr. Généreux.

[*Translation*]

Mr. Bernard Généreux (Montmagny—L'Islet—Kamouraska—Rivière-du-Loup, CPC): Thank you very much, Mr. Chair.

Dr. Stoll, thank you very much for being with us. It's tea time here but, unfortunately, we won't have time to drink tea today.

I listened to your testimony in French. I very rarely listen to the interpretation into French, since my spouse is bilingual and I learned English around the house, so to speak. So I find it quite easy to understand what English-speakers are saying to me, but today I listened to the interpreter. I've realized that, since March or April, when we started using the system, I've developed tinnitus and headaches myself, which I never had before.

For your information, I would like to add that yesterday I spent almost 12 hours on the screen with a headset on. I imagine that the interpreters must also be afflicted by these ills, as they also spend many hours transmitting information and concentrating on translating it.

Would you be able to tell us whether, in other countries where you have been able to find this out, there were also injuries among interpreters working for other parliaments or other organizations?

[*English*]

Dr. Christoph Stoll: Yes, I am aware of this being a general problem in conference interpreting, not only related to the current situation and the use of headphones. The main problem is that headphones are not just worn professional gear—this we are used to—but in this day and age many parliaments are using improvised ad hoc connections that are not engineered and controlled by humans, by qualified sound technicians or sound engineers, but controlled by algorithms. These algorithms are a bit to sound engineering what automated translations are for conference interpreting. It seems to work, but it comes with a lot of distorted sound. This distorted sound is what causes headaches.

[*Translation*]

Mr. Bernard Généreux: I hadn't realized that headsets weren't ISO-compliant when we discussed this last Tuesday. You're telling me today. I don't think Mr. Aubé told us about it, and if he did, I don't remember.

The interpreters therefore find themselves in danger because the devices that carry the sound aren't of a quality recognized by ISO standards. You have, of course, noticed that there was a significant gap between what the interpreters told us and what Mr. Aubé of the House of Commons told us. There was quite a significant difference.

How is it that within the same organization, there can be two such clear-cut variations in the way people interpret what they experience?

• (1550)

[*English*]

Dr. Christoph Stoll: That is a very well-put question. The sound systems established for conference interpretation have been around for the better part of 80 or 90 years, and they are well established. There are professionals servicing these, professionals measuring the compliance of equipment with the best possible professional standards and also setting all the parameters. You have sound technicians, sound engineers, audiologists who are testing equipment at the manufacturers' sites, and the level of quality of this sort of equipment is much higher than ISO standards.

ISO standards are the absolute minimum, the bare minimum that is possible to be used in professional settings, and not even that is reached.

The administration officials have rightly pointed out that your House of Commons interpretation system, which I personally have not seen and cannot assess—I know that Bosch consoles are used, which are very good—is very good and complies with all requirements. However, the connection to the outside seems to be the issue, so dialing in through the Zoom platform is where the quality falls down.

[*Translation*]

Mr. Bernard Généreux: Thank you for your answer, Dr. Stoll.

You teach translation, is that correct?

Dr. Christoph Stoll: Yes.

The Chair: You have a few seconds left, Mr. Généreux.

Mr. Bernard Généreux: Okay. I'll stop here. My colleagues will continue.

The Chair: Thank you very much. The time is, indeed, flying by.

Mr. Duguid and Ms. Lattanzio will have the floor for the next six minutes.

Mr. Duguid, you may go ahead.

[*English*]

Mr. Terry Duguid (Winnipeg South, Lib.): Mr. Chair, I thought I was sharing my time with Ms. Lattanzio. I would like to do that, if she is willing.

Let me thank Mr. Stoll for appearing before us today.

Let me also take the opportunity to thank our interpreters for their good work and for allowing us to do our good work. I know we all feel we need to do everything we can to improve working conditions.

Mr. Stoll, you rightly saw the divergence in testimony yesterday. I think you'd agree we're all doing our best in this new COVID world.

I wonder if you could comment. Is there a gold standard out there? Is there a country or an institution, a parliament that is doing it right, that has combined all of these elements in the right way? How would you recommend that we go from where we are to where we need to be? How do we structure that transition? Our Parliament needs to keep going. We need to keep passing laws and doing the business of the people.

Dr. Christoph Stoll: Absolutely, I entirely agree that everyone involved has been putting in their best effort and trying to keep things moving and trying to keep people in a position to be able to work. Interpreters are always trying to make do with what they have and keeping people in touch. I work in training; I'm an independent interpreter and I work freelance, but I have to admit that I know what parliaments around the world are doing only from colleagues who work there who also teach in our program.

I do know that there is a synchronized VPN that is different from the system that all major teleconference platforms are using, but you would have to get in contact with the sound engineers to set up a system and this can be quite expensive. From what I've heard, during the COVID lockdown you cannot install interpreting hubs where you are and you cannot travel at all from home, which is the same here in Germany at the moment, so I'm afraid we'll have to make do with the non-ISO compliant platform.

My urgent appeal would be to please keep team strengths up and exposure time as low as possible. What we've done here at our training institute is that we've stopped streaming recordings to students altogether, because we're afraid that it will cause hearing damage; there are enough indications of that. We've been sending them links to download the speeches offline and then to translate into the platforms only for us to then monitor their progress and that sort of thing, which is, of course, not an option for parliaments working.

Most parliaments that have done things well have established a dedicated connection between interpreting hubs with fixed bandwidth, so it's not the dynamic algorithm-controlled connection that Zoom, Kudo, Interprefy, Cisco Webex and other platforms are offering, because there, the sound engineers are not in control of what is done to the sound. I've talked to the people who organized the review that is under discussion now, and the engineers said they had to talk on the phone directly to the people controlling the software platform—Zoom, for instance—or Kudo required a retest because they adjusted parameters manually, which the algorithms had pretty much messed up from a measuring point of view, and with that new set of parameters it worked halfway decently.

But it's still a stopgap, an emergency solution.

• (1555)

Mr. Terry Duguid: Thank you.

Patricia, it's over to you.

The Chair: Patricia, go ahead. You have one minute and 30 seconds.

Ms. Patricia Lattanzio (Saint-Léonard—Saint-Michel, Lib.): The pressure's on.

Thank you for being amongst us, Dr. Stoll.

I wanted to basically ask you two questions and then cede the floor to you. I understand from your observations that calling in could be an issue with regard to the systems that we now have in place, and I'm wondering if that could be attributed to connectivity issues. That would be my first question.

My second one would be, can you speak to the challenges faced by the administration of the European Parliament, the council and the commission, since we are using a hybrid interpretation system?

Thank you.

Dr. Christoph Stoll: Yes, absolutely. The problems are occasioned by the fact that people are calling in with a range and variety of connection issues and laptops connecting to Wi-Fi—even though a wire is connected in my case today. There is all manner of interference when you use a PC sound card where the software downloads updates and that sort of thing, of course. The problem is that these platforms are configured to deal with these things for people connected for listening purposes only. The algorithms are doing an excellent job in dealing with faulty connection quality and keeping the connection going for purposes of listening only, and this is just not the sort of connection quality that is required for interpreters.

When it comes to the EU Commission and Parliament, they are using a whole range of different systems. I am out of time here, but I can come back to that. I don't know it from having visited there myself, I have to add.

The Chair: Thank you.

[*Translation*]

Ms. Patricia Lattanzio: Mr. Chair, could we ask the witness to send us a written response to the second question?

The Chair: Yes, with pleasure. Thank you, Ms. Lattanzio and Dr. Stoll.

Mr. Beaulieu, you have six minutes.

Mr. Mario Beaulieu (La Pointe-de-l'Île, BQ): Thank you.

This presentation is very interesting. You say that the Zoom platform ranked among the last of the systems that were evaluated.

You explained this mechanism, but are there other platforms more efficient than Zoom?

Which ones would you recommend?

[*English*]

Dr. Christoph Stoll: I will provide the answer in writing, of course, as far as I can. As I said, I'm not personally involved there. However, I have been instrumental in designing our three conference halls in Heidelberg, with a total of 60 interpreting console places.

• (1600)

[Translation]

I'll now answer Mr. Beaulieu's question.

[English]

Yes, there are much better platforms in some respects. We've seen the factors, the parameters measured, and platforms such as Interpretfy and Kudo are much better in some of these parameters. The problem is that none of these platforms comes close to a conference interpreting system, and all of them do not match the frequency range that is required to be able to listen and to speak at the same time.

It's very different, as you've probably noticed, if you just listen to a conversation, and even conference interpreters when listening to the speaker and not working themselves sometimes wonder why their colleague is struggling. As soon as you start working yourself, you notice how bad the sound quality is, which you haven't noticed before.

We absolutely need a frequency range from nine to 15 kilohertz—or better, 18 kilohertz.

[Translation]

Mr. Mario Beaulieu: If no platform meets the standards, then it becomes even more important to use the best platforms.

[English]

Dr. Christoph Stoll: Yes, I agree.

[Translation]

Mr. Mario Beaulieu: Also, according to the clerk, the Zoom platform is one of the factors, but what would matter most is the sound that reaches the interpreters, which comes from an in-house system.

I don't know if you have any information on that, but do you think we could use something better than the in-house system we use in Parliament to improve the sound quality?

[English]

Dr. Christoph Stoll: You're entirely right.

The conference interpreting system you have in-house is excellent. It would be possible to ensure better quality than you have at the moment if you had a dedicated, tunnelled connection with fixed bandwidth.

Sound engineers would have to decide that, but to my knowledge, it's not possible to have a guaranteed quality for the connection from the many speakers who are joining from outlying locations to the centre hub where the interpreters are located.

They are sitting in excellent technical conditions with a professional system, but the sound is coming through a connection, like a bad telephone line, basically, that compromises sound to the level where you cannot really hear and speak at the same time unless you turn up the volume to a level where it damages your hearing.

[Translation]

Mr. Mario Beaulieu: As I understand it, to your knowledge, the sound system in Parliament is still of high quality, and it isn't at all certain that it could be improved.

[English]

Dr. Christoph Stoll: It was, I suppose—as everywhere else in the world, in parliaments around the world—designed by sound engineers and measured by professionals, and designed for simultaneous interpreters. However, the chat and video systems and telephone lines are not designed.... If you've tried speaking to somebody at the same time as listening to a mobile phone conversation, for instance, you will simply interrupt the other party. It's simply not possible to listen and speak at the same time and not have a problem.

The systems are excellent. I like Zoom and use it on a daily basis for all sorts of purposes, but I cannot work on it as a simultaneous interpreter. It's a very good system, but it's designed to cope with very bad connection quality.

[Translation]

Mr. Mario Beaulieu: It seems that one of the big problems is the fact that we are going through the Internet. You also said that it was better to be connected directly to the routers.

If the MPs who participate in the debates were to be wired not by WiFi connection, would this help to facilitate the work of the interpreters?

• (1605)

[English]

Dr. Christoph Stoll: Yes, it can, but it will not address the central problem. We need a fixed bandwidth connection between all participants.

The Chair: Thank you.

[Translation]

We're going to continue with Mr. Boulerice.

Mr. Boulerice, you have the floor.

Mr. Alexandre Boulerice (Rosemont—La Petite-Patrie, NDP): Thank you very much, Mr. Chair.

Thank you, Dr. Stoll, for being with us this evening. I'd also like to thank you for taking the time to listen to last Tuesday's testimony. I find it very interesting that you took your valuable time to be well prepared.

I have to admit I was a little confused after Tuesday's meeting. We had two versions of the facts that were difficult to reconcile. I apologize for the bad pun, but we felt like we were having a dialogue of the deaf.

You said a few times that ISO standards are a minimum. You've even talked about a bare minimum.

Are there other or higher standards or norms that we could use as an example?

[English]

Dr. Christoph Stoll: Yes. There is a whole host of ISO standards and also of best practices that sound engineers and sound technicians use. This would go far beyond the scope that we can discuss today, but this is an established science. There is a human component. There is the outer ear canal. Medical professionals come in.

Absolutely, once you talk to professionals, they know exactly what to do to achieve the sound quality that you in the House of Commons have in your House system. Excluding the connection outside to the Internet Zoom platform and similar platforms, your local system is excellent. If we could achieve that sort of quality level, that would be far beyond the standards set in the ISO minimum standards for what we absolutely need to be able to work at all.

[Translation]

Mr. Alexandre Boulerice: Dr. Stoll, if all the equipment in the House of Commons is ISO-compliant, even if it's a minimum standard, why would you say that the sound system wouldn't be ISO-compliant?

[English]

Dr. Christoph Stoll: This is precisely my point. The system that connects the House of Commons system to where you are currently located, where you're speaking from, that goes over the Internet. There is a way to connect over the Internet with good quality, but that's quite expensive. You cannot do that using normal routers, and you need the hardware on both sides that ensures an encrypted connection and a stable sound quality across the Internet. It is possible, but you need sound engineers and not algorithms to do that.

[Translation]

Mr. Alexandre Boulerice: Okay.

You indicated earlier that one of the short-term solutions would be to reduce the exposure time for interpreters to Zoom's toxic sounds, since these effects are cumulative.

We've learned that some contracts are due to expire in February. We'll therefore be asking some interpreters to work five hours a day, instead of four. This is the exact opposite of what you said.

What potential effects can interpreters expect if we increase their exposure time to toxic sounds by 25%?

[English]

Dr. Christoph Stoll: As a researcher, I cannot use that sort of term, "toxic sound".

[Translation]

Mr. Alexandre Boulerice: Okay.

[English]

Dr. Christoph Stoll: As an interpreter, I'm absolutely with you. I have been raging at sound quality and what it does to my hearing.

As a researcher, I have to say, it depends on the exact conditions, on the amount of the damage inflicted on people's hearing. In the worst case—people connected through Wi-Fi with a non-ISO-compliant headset or their laptop microphone, and interpreters being my age or above, where the muscles that I described in my opening

statement have weakened anyway and age-related hearing deterioration is setting in and that sort of thing—you can have hearing damage from one hour of listening too loud, but that would have to be investigated by medical professionals.

These studies are still outstanding, for precise settings in conference interpreting, but we have a plethora of studies available to us from similar settings that indicate very strongly a suspicion is justified that this causes damage.

As you're in the limelight and as you are a role model in so many senses, but also in the way you have managed this very difficult situation, as opposed to many other parliaments and institutions—I have to add that there are much more problematic settings around that I've heard of—increasing the exposure time is absolutely the wrong signal to send. I do feel that the precautionary principle would be advisable.

• (1610)

[Translation]

Mr. Alexandre Boulerice: It's good that you mention this, Dr. Stoll, because it ties in with my next question, which is that the Translation Bureau of the House of Commons should apply the precautionary principle. This term is used in the fields of the environment and health. The end of your answer touched on that, so I'm very pleased that you touched on that principle. That's exactly my point.

I'll conclude this round of questions right now, Mr. Chair. I think we'll have a chance to talk about this a little later.

The Chair: Thank you very much for your co-operation.

I was looking at the timer. You did well to end this round of questions.

Thank you.

We'll begin the next round of questions.

[English]

We will start with Mr. Blaney, for five minutes.

[Translation]

Hon. Steven Blaney (Bellechasse—Les Etchemins—Lévis, CPC): Thank you, Mr. Chair.

I'd like to share my time with my colleague Mr. Dalton.

Dr. Stoll, thank you very much for bringing us your perspective, which we can look at with a bit of hindsight after meeting with other stakeholders on Tuesday.

I grew up watching *Star Trek*, where people used teleporting and spoke on giant screens. We thought it looked amazing.

Reality is catching up to us, and we realize that technology poses many challenges, including a linguistic challenge in interpretation.

Something about your intervention really struck me. You talked about our headsets. You seemed to say that they are of poor quality and that we could have better ones. Is that correct?

[*English*]

Dr. Christoph Stoll: It's my pleasure.

It's just that particular model. I can't see which one you are wearing, because you're quite small on my screen. It's just the Plantronics 310, which has a very distinct design as well.

Particularly when you only have one side on your ear, it's not suitable for interpreters and it's not very good for listening either, because you're putting load on only one eardrum and also on the rest of your hearing. Using both sides is good.

For conference interpreters, it is very advisable to use something above the 6.8 kilohertz. What's very telling is that on their website, in the specification sheet, it is advertised for call centres to connect to a phone, that very recommended headset. To my mind, it's not good for professional use by conference interpreters or for the microphone transmission, because it cuts off the sound quality just above phone quality. Phone is around four kilohertz.

[*Translation*]

Hon. Steven Blaney: Thank you, Dr. Stoll.

So that means that our equipment is the minimum. Yet we are 338 members of Parliament, and God knows we save a lot of money by meeting virtually. However, it's essential to have quality equipment. It should be mandatory for MPs.

What you're saying is that we should have quality headphones. At my office, I've provided my team with some, and I find that their headsets look better than the ones we received from the House. Sometimes it's worth the investment. Thank you, Dr. Stoll.

The Zoom platform therefore poses challenges for interpretation. Do you think we should continue to use the Zoom platform and ask this company to provide us with more powerful versions?

Do you think there's a better platform?

I understand that the House of Commons system is excellent. Do you advise us to migrate to a platform other than Zoom that would offer better sound quality, especially in an interpretation context?

• (1615)

[*English*]

Dr. Christoph Stoll: Yes. As I was saying, in fact, about the team of engineers who did the measurements of the current platforms, which I believe you've been given a summary of, that very team has said that there is the web synchronized connection and there is an STC connection as well.

I'm not a sound engineer, although I've been involved in the design of many conference halls. There are platforms that sound engineers—specialists, professionals—can set up and which are much better, but it's quite expensive, because you need dedicated hard-

ware rather than normal routers on both sides. You would have to consider the cost and whether it's feasible.

[*Translation*]

Hon. Steven Blaney: It's a process that won't end with our meeting today.

I'd like to give what little time I have left to my colleague Mr. Dalton.

The Chair: Great.

Mr. Dalton, you have one minute and 40 seconds.

[*English*]

Mr. Marc Dalton (Pitt Meadows—Maple Ridge, CPC): That's great.

Thank you for your presentation, Mr. Stoll. On a personal note, I was born in Baden-Soellingen, the Canadian Forces base just next to Heidelberg, and I have a brother and sister who were born in Heidelberg. It's beautiful country.

Concerning Canada, you were talking about the platform so much, and you were mentioning Internet connections. That's a major problem when you go up north or when you're in the rural areas. The platforms that you mentioned, would they make a difference? Does rural connectivity, Internet connectivity, play a big part? That would be one question.

The second question would be on the aspect of the visuals. Here, obviously, we're focusing on interpreters. Are these other platforms you recommend good visually? That's a really important part for us as MPs in being able to get our message across in the House and elsewhere.

Dr. Christoph Stoll: There are all kinds of systems. The main thing about the dedicated systems where the parameters can be set manually by technicians is that you can set priorities. For instance, when you say that there are conference interpreters involved, you can set audio as a priority, and lip synchronicity, for instance, and you can set them to not be quite as precise when it comes to the rendering of the background. I'm not a sound engineer or an IT person, but I know that they have all sorts of settings available.

You're always as good as the connection is. There are limits, of course, to what these systems can do. When you're sitting in a hut in the middle of nowhere, obviously your connection won't be as high performance as others.

I'm sorry if I went over the time.

Mr. Marc Dalton: Thank you.

The Chair: Thank you, Mr. Stoll.

[*Translation*]

Mr. Arseneault and Ms. Martinez Ferrada will share the next five minutes.

Go ahead, Mr. Arseneault.

Mr. René Arseneault (Madawaska—Restigouche, Lib.): Thank you, Mr. Chair. Don't hesitate to interrupt me after two and a half minutes. I have a tendency to talk too much.

[*English*]

Mr. Stoll, thanks for coming and welcome virtually to Canada. We're happy to have you with us tonight.

I think I'm more lost than I've been, on the technical part of this discussion.

We have to realize that in Europe and in North America we're using this Zoom platform more often, so it makes me think about it and conclude that all interpreters in the western countries are suffering because of the poor quality of the system that is used. It's across all the western countries. Am I correct when I say that about speaking on a Zoom platform or the equivalent of a Zoom platform?

Dr. Christoph Stoll: Yes. The Internet-based platforms with automatic adjustment of parameters by algorithms are a huge problem for conference interpreters as a category of software.

Mr. René Arseneault: Okay. It's not only in Canada. It's in European countries as well. Am I correct?

Dr. Christoph Stoll: It depends to some extent on the connection quality. When you have a very fast broadband connection, it's of course less dangerous to your hearing than it is with bad connections.

Mr. René Arseneault: I understand that.

I'm quick because I only have two and a half minutes, and I don't want to see the whip of the chair.

Let's say that we're in a pandemic, a situation that nobody on this planet controls. It's not the last day that we're going to have discussions like this about this platform and other kinds of platforms. If we have a headset like you're suggesting, if we have a good high-speed connection directly connected to our device, our computer, and if people start to talk slowly like me—usually I do—is this something that at first sight can start to meet the minimum criteria with the Zoom platform?

• (1620)

Dr. Christoph Stoll: The engineers have given us a very clear answer. They measured a completely wired set-up, and even Zoom “advanced”, which is specified to reach 15 kilohertz, which is the absolute minimum we need, did not meet that threshold.

I'm afraid, then, the answer is no. It will help, of course; everything we do will help. The interpreters will just have to suffer through it, I'm afraid, and live with the hearing damage that is inflicted during COVID on this generation of interpreters, to some extent.

The less loud we have to turn the original, the more it helps us, of course. We have to find a way of dealing with this as best we can.

Mr. René Arseneault: I'm trying to understand. With a sound system engineer's suggested platform—one that met all the criteria—if we don't have a good connection, we're still in the same place. Am I correct in my interpretation?

Dr. Christoph Stoll: I'm sorry; I would contradict that.

Mr. René Arseneault: Even with a bad connection...?

Dr. Christoph Stoll: A good sound engineer, or a sound technician even, with a bad connection can set the parameters in a way that is less damaging to our health than an algorithm that is optimized for a different thing can do.

Getting professionals in from sound engineering to advise on the type of connection that is set up would definitely help, absolutely. I think you can make the most out of what you have with those connections.

[*Translation*]

Mr. René Arseneault: Thank you very much, Dr. Stoll.

I think my time is up, Mr. Chair.

The Chair: Yes, but there's a minute left for Ms. Martinez Ferrada.

You have the floor, Ms. Martinez Ferrada.

Ms. Soraya Martinez Ferrada (Hochelaga, Lib.): Thank you, Mr. Chair.

Thank you, Dr. Stoll, for being with us today.

I'll be brief because time is running out. Today, one of your recommendations is to limit the daily working hours of the interpreters, which raises the issue of numbers.

Last Tuesday, witnesses mentioned that our interpreting industry is world class. But for at least the last 10 or 12 years, there has been a lack of recruitment and training and limited funding.

How can we make sure we invest in the interpreter industry?

What do you see in Europe in terms of hiring and training?

You can give us your answer in writing.

The Chair: Exactly, since you have just 15 seconds left.

[*English*]

Dr. Christoph Stoll: I'll be happy to do that. In Europe, there are plenty of interpreters, as there are many more training institutes, also for English and French—in Paris, for instance, at the ISIT and ESIT.

We'll be happy to assist in any course optimization or setting up of training, of course. I'm authorized to offer our help in anything you might need, for the University of Heidelberg.

The Chair: Yes. Thank you for your kindness.

[*Translation*]

Mr. Beaulieu, you have two and a half minutes.

Mr. Mario Beaulieu: Dr. Stoll, if I understood correctly, the sound management on the Zoom platform is done by algorithms. However, if it were done by sound engineers, it would be better. Is that right?

I didn't hear your answer, but I saw you nodding your head in agreement.

We could ask Zoom to adjust using sound engineers instead of algorithms, which would improve things.

As some of my colleagues have raised, and as you mentioned in your conclusion, interpreters should be exposed to toxic sounds as little as possible. There are two solutions to this: to have many more interpreters, which seems difficult to achieve since there is a shortage of interpreters, or to reduce the number of interventions to be translated. In fact, the Translation Bureau is currently moving in a direction that is not compatible with these orientations.

Do you think it's realistic to consider increasing the number of interpreters? You probably can't answer this question, because Europe may not have the same shortage.

The other thing is not to talk too fast. Maybe we should lengthen the time allocated to each intervention. We often speak quickly because we only have 35 seconds, for example, to ask our questions. Extending the speaking time and providing the text of our intervention could be part of the solution.

According to statistics, 70% of interpreters report having suffered injuries. Do you think this justifies changes to the current way of doing things, either by reducing the amount of time interpreters work, increasing the amount of intervention time allocated to each participant, or making technical improvements?

• (1625)

[*English*]

Dr. Christoph Stoll: I believe some solution will have to be found, because if we're stuck for another year with COVID....

I'm no medical doctor, but I've followed this very closely, as much as I can, and part of my Ph.D. thesis was psychoacoustics and neurophysiology. What we haven't talked about is the brain damage, which is quite possible if the metabolism on the cortical...on the brain surface is overtaxed, because we tend to activate very large parts of our brain surface in simultaneous interpreting.

There are quite a number of health concerns that medical studies have to investigate. I feel nervous about the situation at the moment. I have no panacea or silver bullet, but there are plenty of interpreters in the U.S., for instance, in Washington and other locations. You might want to set up interpreting hubs to rope them in, or probably the Translation Bureau has solutions ready. I haven't talked to them.

The Chair: Thank you, Mr. Stoll. That's all the time we have.

The last questioner will be Mr. Boulerice, for two and a half minutes, please.

Go ahead.

[*Translation*]

Mr. Alexandre Boulerice: Thank you very much, Mr. Chair.

Dr. Stoll, my colleague Ms. Martinez Ferrada mentioned the fact that not much has been invested in recruiting and training new interpreters. I think she's right. There's almost a shortage at the moment.

Shouldn't the fact that there isn't much availability of workers be an incentive for us to take care of this human resource?

If they are injured on the job and go on sick leave one after the other, the very functioning of Parliament can be called into question.

[*English*]

Dr. Christoph Stoll: Exactly. I agree.

From what I have learned, I've only talked to some of your interpreters, but 70% of people are experiencing problems. Those are the ones, they said during the Tuesday meeting as part of their study, who are working. Some of them can't work because they don't have child care and that sort of thing.

Absolutely, I would not ruin the health of the few people who are still really able to bear that load and to work under these conditions, because it requires a very robust technique and very robust health to be able to function under these conditions.

[*Translation*]

Mr. Alexandre Boulerice: This Zoom platform wasn't designed to be able to speak and listen at the same time, which is the essence of an interpreter's job.

Do you think the hearing injuries of the interpreters we're talking about are permanent, or can they be healed after a certain amount of time?

[*English*]

Dr. Christoph Stoll: We found during our review of classes and mock conferences that there were both. There is trauma from sudden sound—for instance, somebody dropping a microphone or putting down their headset. Also, there is long-term degradation of hearing, which is both permanent and non-permanent.

The non-permanent type was experienced by our trainers, by me. I had to walk outside and hear the leaves rustle to confirm that my hearing was coming back after two 90-minute sessions.

The students, after taking two 20-minute turns during classes, have reported, on occasion of a questionnaire we had before and after every session, transient hearing loss as well. That was from two times 20 minutes, which is much shorter than a conference interpreter typically works during a working day.

As well, there is a well-founded suspicion of long-term hearing damage or degradation because of the higher listening volumes from other fields, not from conference interpreting but from other studies with similar sound pressure levels.

• (1630)

The Chair: Thank you, Mr. Stoll.

[*Translation*]

Mr. Alexandre Boulerice: Thank you.

The Chair: Thank you, Mr. Boulerice.

[*English*]

Mr. Bernard Généreux: Mr. Chair, I have a point of order.

[*Translation*]

The Chair: Mr. Généreux, you have the floor.

Mr. Bernard Généreux: I'd like to ask all my colleagues to be able to ask one last question in 30 seconds.

The Chair: Unanimous consent would be required. Also understand that I had to cancel the last five-minute round of questions because there was no time left. It's already 4:30 p.m., Mr. Généreux, so I'm sorry. Dr. Stoll has promised to answer our questions in writing, so we'll be able to make that connection through the clerk. Then, as you know, we're going to suspend the meeting to move on to the second part of the meeting, which is still very important for the continuation of our work. I'm very sorry, Mr. Généreux.

Dr. Stoll, I would like to thank you on behalf of all the members of the Committee. As Mr. Boulerice mentioned, you have followed and listened to us in order to prepare for this meeting. It was a real pleasure to hear you. You are an expert. We'll stay in touch.

Please do not hesitate to send us any information that could help us before we write our report.

[*English*]

I would like to say thank you so much, and good evening to you, Mr. Stoll. Thank you for coming.

[*Translation*]

Colleagues, we will now suspend the meeting and proceed to the second part of the meeting, which will be held in camera. You have received the link to connect to this meeting.

The Clerk of the Committee (Ms. Josée Harrison): Mr. Dubourg, I'm sorry to interrupt you. Before ending the meeting, I just want to let you know that there are raised hands.

The Chair: Okay. I'll start with the participants who raised their hands first.

Mrs. Lalonde, you have the floor.

Mrs. Marie-France Lalonde (Orléans, Lib.): It's a point of order.

I don't think I've received the link for the second part of the meeting. I've looked through all the emails that were sent to me. I can ask my team to find it, but do you know what time the most recent information was sent?

The Chair: Yes. It was sent in the same email that contained the link to this meeting. It was a little further down in the email.

If you can't find the link, we'll send it to you.

Mrs. Marie-France Lalonde: Okay.

Thank you very much.

The Chair: Mr. Beaulieu, you have the floor.

Mr. Mario Beaulieu: So we have to disconnect from this meeting and connect to the other using the other link.

The Chair: Yes, exactly.

Mr. Mario Beaulieu: Thank you.

The Chair: Thank you.

Mr. Blaney, you have the floor.

Hon. Steven Blaney: Mr. Chair, I would have invited you to seek the unanimous consent of the committee concerning Dr. Stoll. Committee members may have wished to take an additional two minutes.

In any case, since the subject doesn't appear to be closed, we can come back to it at the in-camera meeting.

The Chair: Yes, exactly. We'll have an opportunity to talk about it.

Thank you very much.

[*Proceedings continue in camera.*]

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