

Interview Transcript

Interviewee	Merja Bauters - Researcher / Lecturer, Aalto University, Helsinki, Finland
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Research Question

What are the socio-ethical implications of body worn video camera recorders on society?

Research Focus / Outcomes

This research examines the historical developments and contemporaneous challenges that location enabled body worn camera technologies pose for humanity. The potential benefits, risks or harm on society from body worn camera technologies will inform the development of a socio-ethical framework to provide context, inform and address these issues where gaps in the literature have been identified.

Hayes: We are all good. Recording in the background and I'll just explain the context of the research and then I'll introduce myself and yourself and away we go.

Bauters: Ok...ok.

Hayes: So my name is Alexander Hayes and I am from the University of Wollongong which is in, it's about half an hours drive south of Sydney.

Bauters: Yes. Ok. I've been there.

Hayes: You've been there?

Bauters: Twice.

Hayes: Oh really? Cool! Excellent...good, well I'm not explaining something because there is no need!

Bauters: Yes. The first time we drove from Sydney to Canberra and the second time we went up to north Brisbane and I can't remember but some small towns and then we took a plane to Darwin and from there to Vietnam.

Hayes: Wow. You know everything then!

Bauters: Well I know the coast this way but not that way.

Hayes: Not the centre.

Bauters: Its so freaking big.

Hayes: Its massive. Yes, it's a big place. I live in Canberra and I lived in Western Australia for half of my life so I lived in the bottom south. Beautiful country. Amazing country. It's not cold like this but it's a very windy and cold sort of area but very nice. Huge trees. Big forests.

Bauters: Yes, well, it has a lot of nature and really different kinds of nature.

Hayes: Yes.

Bauters: ...but it is also hard to get there and away from there.

Hayes: It is.

Bauters: Everything is like six hours away (laughing).

Hayes: It is. It is a big big country yeh and I've worked with Indigenous or Australian Aboriginal communities and I've worked in jails and I've worked in all sorts of things. My background is as a teacher, then tertiary teaching and research.

Bauters: Alright. What did you teach?

Hayes: I've taught everything from numeracy and literacy or how to read and write through to media arts when Flash was king or queen (laughing), web development, installation art work. I've done part of my Honours and part of my Creative Doctorate in the Arts so I've had three careers, artist, teacher, educator, now technology side of things.

Bauters: Alright.

Hayes: So spread over 25 years.

Bauters: Not bad.

Hayes: So I'm sitting here with...

Bauters: Merja Bauters.

Hayes: ...who is?

Bauters:...well actually, how would I start ? Now I'm in Aalto. I have been here two months and before that I was in Metropolia University of Applied Sciences for 12 years.

Hayes: In which country is that?

Bauters: Finland also and at the same time was teaching there media and engineers so I know what the height of Flash and the dying means

Hayes: ...the dying days (laughing)

Bauters: Yes...indeed (laughing) and then I have been teaching at Helsinki University at the same time and well, I have been in many EU projects which all have been involved in some kind of learning so in the start it was more project based, problem based learning and then we started the distance learning one. It was really like difficult to do anything.

Hayes: Yes. I know that one well.

Bauters: Yes, and a lot of it was fun.

Hayes: Hmm.

Bauters:...and now I'm also teaching into Dubai, only like distance stuff. I just wanted to try out how did it work now supposedly it should be so much better.

Hayes: Is it?

Bauters: Well let's say that the technology is more stable so you can always contact in some ways, so if something fails you can take something else to use you can manage but every time there is a problem so I haven't been able to have a meeting or a lecture or synchronous work without some kind of problem happening every time, so it's always about fiddling with technology and I most likely shouldn't say but the bureaucracy that they have there are killing me. I have never ever in my life seen bureaucracy that take so much time to even prepare one of the lectures or the time being and I did my research on aesthetics, philosophy of art.

Hayes: Ah aesthetics.

Bauters:...and that is also my PhD. from Helsinki University so I have also gone from sort of being varied in the sort of arty part and then with media engineers and now I am sort of here in between.

Hayes: I am pretty much the same.

Bauters: Which is always the feeling that wherever I go I am not exactly there, I am always somewhere in between, for the engineers I was too philosophical, too artistic and here I am too engineering.

Hayes: I get accused of the same thing.

Bauters:...so (laughing).

Hayes: Hmm...well I really appreciate the time to be able to connect with you as a fellow colleague who has travelled those different roads and that understand the tensions that exist between domains and disciplines and part of this research that I'm looking at travels that same road. It's quite a difficult set of questions that I'm going to work with you through but I'd like for you to try and answer them as in anyway that want to answer them. There is no one way of answering them. I've conducted many interviews and probably more than I have ever needed too, (laughing) in fact many, many. many more than I needed to (laughing) but I have found that, well, I've been interacting with some brilliant people never knew existed and they are from many different domains, so I hope we can address

these questions and the purpose for recording them is that they will be fully transcribed and they will be provided to you to make amendments if you wish, as you may want to retract some things that you say, which sometimes happens but in general we would like to be able to publish those in full as part of my PhD and my supervisor if Associate Professor Katina Michael through the University of Wollongong who is in the Faculty of Informatics as I am, we also have a background in justice and law particularly in policing and military areas.

Bauters: Alright.

Hayes: I am a Research Network Secure Australia (RNSA) academic and I'm also member of the Australian Privacy Foundation (APF) and a few others that you may gradually get to know over time as well. So, the nature of this interview is to pose some questions which I'm sure...they are general and you will be able to answer them so are you happy to proceed as they are. There are a series of ten questions that we have here.

Bauters: Alright.

Hayes: So we will go through these in chronological order. At any time you can see you need a break or whatever. Ok...the first question being, what does the term wearable computers means to you?

Bauters: Well for me it ah...it means all kinds of stuff. Sort of with you, on you and well some of the most interesting are the ones that are in the clothes. There are more and more. You are most likely, what's the skydive term...and I was wondering how come they didn't have any of this in the clothes like measuring blood pressure and all this kind of stuff.

Hayes: Sensors.

Bauters: So they didn't even get the guy to wear any of that and I was wondering why because that would have been a really interesting test for the clothing and the equipment...but they didn't.

Hayes: So when you say that you are meaning that the sensors would be nearing but would they be feeding back to the person at the same time as they were?

Bauters: I am not sure...I don't know how they feed it back or do they?

Hayes: Feed it back afterwards.

Bauters: I don't think it would have made any sense because there was enough to concentrate without more feedback of what he was already doing.

Hayes: (laughing)

Bauters: So I think his attention was already quite on the limit so (laughing)

hayes: He didn't want to see that his heartbeat was 180 beats a minute.

Bauters: Most likely not (laughing) especially when he started to spin so I don't think there was need to know any more than "...I have to stop this".

Hayes: Yes it's a possibility.

Bauters: ...but those that you put in your body (technology) I'm not sure I would call those that (wearable).

Hayes: When you say...

Bauters: Its not wearable anymore in a sense that wearable is like wearing you clothes and stuff but if I put a chip in my hand then it's a bit more of other stuff already. I would make the division between there.

Hayes: Meaning that it is no longer wearable?

Bauters: Yes...even though it could be taken off (out) it is no longer wearable.

Hayes: So that's the distinction for you, if it's something that you can take off it is wearable and something under the skin or transdermal is not wearable.

Bauters: ...or something within the skin like tattoos and stuff like that because you can take them off or hide them.

Hayes: ...so, like I can hide mine but I can't take them off.

Bauters: Well you can take them off with a laser.

Hayes: Oh yes. Well yes. It's sort of...

Bauters: ...or like my plates here (pointing at her wrist) because they broken and they should be taking them off, out.

Hayes: How did you break your wrist?

Bauters: I had a bad landing and it was really broken...and (pointing to the other wrist) now the other one is starting to come out but I don't really want to have it taken out as the healing takes time too.

Hayes: So just for...because this will be published and the reader may not understand this context we are in could you explain what it is that you do in your spare time?

Bauters: I skydive. Well all of the sports. In the summer I motorcycle and I do kickboxing and all the other normal like biking, jogging, swimming. Blah blah blah stuff.

Hayes: Good. That's very good as that gives people a picture of the person that I am with is incredibly fit and...

Bauters: Not so fit (laughing)

Hayes: (laughing)...but very active and exposed to technologies in the environment...in those particular environments...biking...?

Bauters: There is quite a lot of technology. I don't have as much as I could because it is also quite expensive, so if I get it I am happy to use but I'd rather not spend that and just find the technology. So I know there are others that have a lot more of things.

Hayes: OK. So let's dig a little bit deeper and try and work out from you what the key difference is or what you believe the key differences are between handheld, wearable and body worn technologies in your opinion.

Bauters: Body worn is an interesting one. I don't know what it means as I haven't heard of it before it goes like what I said like it would be sort of in the body somehow, wearable we have already made that distinction already. Handheld it's something that you have in your hands like a mobile or a tablet or...

Hayes: Do you have a mobile?

Bauters: Yes...I do.

Hayes: Is it a smartphone?

Bauters: Yes, actually I have two now.

Hayes: You have two?

Bauters: Yes, the other one without the sim because the previous workplace didn't want the phone back because it's an early version of the iPhone and it's just a piece of shit (laughing)

Hayes: Don't throw it away. If you are going to throw it away put it out in the cabinet outside.

Bauters: No no. I am using it because the wifi works and so I can play my music from there and all this stuff.

hayes: They were a very good iPod.

Bauters: Yes.

Hayes: That's for certain.

Bauters: ...and the other one is a Nokia to sort of challenge myself being a Mac user trying to use it.

Hayes: Were you born in Finland?

Bauters: Yes.

Hayes: Ok, so you were part of the Nokia journey that went and was subsumed but Apple?

Bauters: Yes.

Hayes: So you agree with that or disagree that Nokia fell prey to Apple?

Bauters: I think they made a lot of mistakes and I think they are still making a lot of mistakes.

Hayes: Oh ok. Right...still doing a lot like mapping.

Bauters: Well the one thing that they have done well is the maps because they have the licences so you can download real maps, they are not using Google or anything like that. They are accurate to a certain degree but when you want to be more precise where you are with better connection to GPS then Nokia is better than that.

Hayes: Ah ok, so, it's about where you are that matters.

Bauters: Yes, so there is like a small slope where they could try to make a difference but I am not sure whether they really realise it because I know in Finland that when people go to the forest for picking mushrooms or hunting or just walking or stuff like that being able to accurately know where you are and how much there is a road or swamp makes a huge difference (laughing)

Hayes: Might be the difference between being alive and dying.

Bauters: Yes.

Hayes: OK.

Bauters: ..and also wasting a lot of hours of going in the wrong direction

Hayes: or picking the right mushrooms and not the wrong mushrooms.

Bauters: Yes, also that, so there is something but with handheld, it's interesting because the smart phones are not only good. I am using the text messaging when I'm biking and with the really old one when you had to press the buttons.

hayes: Like 'A,A,B,B,B,C...'

Bauters: I didn't need to look at anything now. I can just type the messages by feeling the buttons, however with the smartphone I can't feel them anymore so now you're really need the visual to be able to do something.

Hayes: So where do you think that will go? Do you, it seems to me that we have moved away from machine typing, touch typing to....

Bauters: I don't know but I think that they will sooner or later realise again that it's not just about visual, that the other senses are needed, that we are not only on the visual typing slowly everywhere like, our cars, they eventually made the doors so quiet that you couldn't hear when they were closed., and then the added the sound (ping, ping, ping) which is sort of a bit stupid because it is still a physical object which makes a sound, you don't need to add the sound.

Hayes: Add the sound to make or to indicate that the door is closed...hmmm.

Bauters: ...so for example with that small camera when it buzzed you already used another means so that you can feel it, so I'm sure that it will come back. It just takes time to, so they are different so it takes a lot of time testing as to how people are using, how they will incorporate it with the other senses.

Hayes: Yes, that's interesting, so would any of those sense include smell?

Bauters: For sure. Yes, for example, like in the cigarettes, were you there when we discussed it with Eva and Kiarii ? (pointing to the ceiling ventilator in the room)

Hayes: No.

Bauters: Ok.

Hayes: Where is it coming from?

Bauters: Eva asked and apparently the ventilator comes from where they used to go smoking as they sometimes do and it comes back in here (the room).

Hayes: "...arghhh...they are smoking again!" (laughing)

Beauters: Well...I used to smoke so I don't really mind.

Hayes: Well I don't mind either (laughing) ok. Merja in what way have you been involved in past, current or proposed use of these technologies and what I am what I'd like to point out here is that I am here. I arrived and all of a sudden there is a whole heap of equipment in this room which has probably never ever arrived in this setting before, so if we reference that as well (pointing to wearable technologies on a table in the room) as well as the what we talked about including phones as well as sensor, all of them together, what have you used in the past, what are you using now and for me most importantly what might you be using in the future?

Beauters: Alright well, the current and the past were a little bit touched on with the mobiles. Well, I have the whole repertoire of Macs...from the really really early...

Hayes: LC2?

Bauters: Clarisworks (laughing)

Hayes: Is that how far back?

Bauters: Yes.

Hayes: So, for the reader's perspective as well. I am not going to ask your age.

Bauters: Well you can.

Hayes: But I am going to ask you a question which is..

Bauters: When was I born? So you can go in.

Hayes: No, no that would be a very rude thing for me to do.

Bauters: Why? I don't have a problem with telling you my age!

Hayes: No. I am going to do it more surreptitiously. What I am going to ask you is can you remember what a 56.6 kbps modem sounded like. The handshake.

Bauters: It sounds. I don't actually, we didn't, I can't remember what modem we had but at least with the first computers there was no frigging modems.

Hayes: There was no modems so...

Bauters: But the first things in Metropolia and Helsinki University there was the Unix email and all the things that you actually, how do you call it?

Hayes: Command line.

Bauters: Yes.

Hayes: DOS systems.

Bauters: Yes but in Mac it is called another one and it is still there. You can. It's usable (laughing) because there was, you can still use it.

Hayes: You can still use it like IRC chat...did you use a floppy disk?

Bauters: Yes.

Hayes: OK that's enough. We have enough and everybody knows exactly how old you are (laughing).

Bauters: I remember in my childhood that my StepFather was working with Outokumpu. Like this basement where you had these huge computers with the cards that had the holes...so thats going back .

Hayes: Ooooh so you were a child then ok well that puts us right back to saying, we are almost the same age (laughing) but for the reader it puts the discussion in context also because Finland...

Bauters: ...also when you said you have a career of 25 years so.

Hayes: Well maybe you are considerable younger than me which is a good thing but in the context, technology time.

Bauters: There has been some change.

Hayes: There has been considerable change in your career and that is in a past context but in a current context you were saying that you are communicating with people in Dubai and that essentially the computers have become ambient,

beyond ubiquitous meaning that you are not a slave to the computer. If something happens and stuffs up that you can change to something else.

Bauters: Well there are things of course when you can't for example, when the connection is broken not work, out from my roots, from my home.

Hayes: Ah ok.

Bauters: Then of course I can't do anything because I can't physically change the premises to somewhere else where it works.

Hayes: So you are still experiencing issues with connection in certain locations?

Bauters: Actually that happens way too often for example, at least when you were in the hospital side of things you could connect anywhere because of the security side of things because you were blocked from any wireless.

Hayes: That was in a medical setting?

Bauters: Yes.

Hayes: Ah ok.

Bauters: There are these things where it is sort of restricted because you can't connect into certain areas as it's a network and you aren't allowed to go outside of certain places, then also there are different traditions like in Germany you have to pay for the wireless in Euro. The hospitals don't provide it. It can be free in the lobby but then you say do I pay this 5 Euros so I can work two hours in the evening and so I think I am not paying from myself so that the damn thing can work ...no, that should be provided for me. So, these kind of things and then if we think that in Estonia they have wireless in buses, in trains, even though the trains are from a time of the Soviet occupation...they still have wireless!

Hayes: They have wireless?

Bauters: Hmm...

Hayes: Wow.

Bauters: So, there is interesting combinations of these like, old going hand in hand with new but it means that you have a new mindset. Like it is more than it is in Estonia. It is sort of granted that you have to have the access thats like something that you should be able to walk.

Hayes: Its equitable.

Bauters: It's like we want money out of it or it's a security or...like in Dubai one interesting thing was that when I tried to send an email and it didn't go and it came back and it came back and I was saying "what's wrong?" and there was anything like a port wrong or anything like that and I checked. I'm dyslexic so I checked hundreds of times no...this is right!

Hayes: Did I really send it?

Bauters: Yes exactly! (laughing)

Hayes: Send...means send.

Bauters: The there was an example of how to use references like 2007 double dot x x x something like that...might have been 2009 x x x

Hayes: Sorry you have lost me...

Bauters: Its red the colour (CSS).

Hayes: Oh I thought you were producing code something that you would put into that.

Bauters: Exactly. I had x x x signifying that you put something in there but it's x x x so they blocked you.

Hayes: so they blocked you ...ah! that makes sense (laughing). See that only took half a minute to work it out (laughing).

Bauters: Guess how long it took me to work it out? (laughing)

Hayes: It took you awhile but I would have, probably in the same context not have put that together either.

Bauters: Oh, so there are all these things that even though the technology is more reliable, it is not only the technology that makes it more difficult to use it. It is the practice, it is the values, especially the values.

Hayes: If you go in Australia to buy a packet of cigarettes, you now can't buy any cigarettes that look any different to any other cigarettes. They all look exactly the same. That is because the law. The law says that it is to be in a plain wrapper.

Bauters: Yep.

Hayes: Why? People take the cigarettes out of the plain packet and put it in the cigarette packet. So you have experienced differences in access and equity to networks.

Bauters: Yes.

Hayes: ...and you are conscious to that.

Bauters: Yes.

Hayes: This is good. While we are thinking of that can we look at that proposed use of technology. What do you think you are going to be doing with what you have got here? Is it just going to sit there and end up back in the cupboard or is it?

Bauters: No theres actually some technologies we couldn't even get with past customs without, how do the letters go...R-F-I-D

Hayes: RFID

Bauters: I always mix the letters up.

Hayes: No that's ok. I do to.

Bauters: Ok, so that one went in there because an ex-student who started their own company and they are doing all these type of intelligent spaces using (those) RFID and recognition and stuff like that and I think something like that, there is the recognition when you come into a certain space at a certain time and it provides you with something that you need there. For example when you go to a class or a workshop or something like that it knows that it is you and it knows what is going on in this time there and it provides for you the material that you need there.

Hayes: So intelligently you haven't needed to log in to the class setting because it has enrolled you because you walked in there.

Bauters: Yes.

Hayes: Contextually it has provided you through your whatever device you have carried in there content that is required for that particular time and anything else that I missed ?

Bauters: No.

Hayes: So they are the two key things.

Bauters: Yes.

Hayes: Ok. So it is not a manual system where you are having to take something and wave it in front of something to get something back, it is actually an intelligent system?

Bauters: Yes.

Hayes: Have you seen that (incomprehensible) operation yet?

Bauters: No, but in Metropolia there are. There was a project that was provided for museums that was recognition points that provided you with help as to which way to go in the right way because it seems that many people didn't want to go the right way. I don't really get this but it seems that the majority of people they feel that there is a way of going in the wrong direction so they get something, something like that but I haven't been there the students got an idea with that and they started to do, they mapped the whole building and they put sensors in there and they made an android app. for the phone that if you have that one you, it knows where you are so it can track where the teachers are (laughing) without having to ask the questions.

Hayes: ...and likewise they could probably track where the security personnel are in relation to what is in there as well and I have always wondered why do museums now still have people sitting in chairs watching people when tangibly perhaps it's no longer necessary but maybe it's a cultural thing

Bauters: Well you can also ask questions of them.

Hayes: That's it, you can, questions for things not on the app yet.

Bauters: Yes and sometimes human beings are just human beings.

Hayes: They are and sometimes they provide answers that you never really wanted to hear!

Bauters: Yep!

Hayes: They are good company (laughing) but they do fail at times.

Bauters: (laughing) They do indeed.

Hayes: So what we are talking about here is ambient, intelligent, smart technologies that provide context and provide potentially knowledge for people as they move through space and time?

Bauters: Yes.

Hayes: They are not locked into a certain prescriptive step through.

Bauters: Yes.

Hayes: ...and yet you were saying at the beginning of the interview that you are experiencing something very different with a different culture who are very bureaucratic and I imagine very autocratic.

Bauters: Yep.

Hayes: ...and perhaps, you know that it's very lockstep, so perhaps the technologies and Finland is known to be a very open and free thinking body of peoples in certain respects particularly around the educational organisational

Bauters: that became obvious today when we gave the presentation with Jukka. They made in the ITEC I think that Tarmo told you, that there is this amber or whatever it is called that shows the students laptops into the screen like randomly flicking through them. and somebody said "but isn't that like surveillance?", well in Finland yes.

Hayes: Were you and I talking about that or was I talking about that with someone else?

Bauters: Jukka and Tarlo because Jukka asked also.

Hayes: Ok..yes.

Bauters: but, yep, in Finland teachers don't track that much. They don't look at what the students are looking at but in many other countries it is common practice that the teachers see all the screens that the students are on and they can block that student (laughing)saying "you are not going to do this"

Hayes: You are not doing Facebook and I'll stop you.

Bauters: Exactly, so in that culture if you show it to like everybody it's more transparent and therefore it is more open, but here (in Finland) it feels like surveillance. There it must be opened up, so again there is this again the exactly the same thing but the values, how you see it is different.

Hayes: While we are on that topic if I can please what I'd like to do is run some terms by you and see how you respond to them.

Bauters: Ok.

Hayes: So, what if, if we have a camera and its pointing at and its recording and people are watching through that, what's that called?

Bauters: If other people are watching and the camera is like static on the street?

Hayes: Yes, static and looking to the street say.

Bauters: So what is it called, the situation of the camera? (laughing)

Hayes: No. What is the term called for that action that is going on?

Bauters: Well, do you see that a static camera on building filming is surveillance or is it something different?

Bauters: It can be surveillance but it can be also safety.

Hayes: Ok and when I look out the window here I can't see any cameras anywhere.

Bauters: No, but in the corridors there are.

Hayes: There are?

Bauters: Yes

Hayes: Ok now if I was in the same space, in the same setup in Australia I would see cameras (on buildings) everywhere.

Bauters: Ok.

Hayes: So it's just an observation.

Bauters: Yep.

Hayes: ...because I have observed it.

Bauters: We do have a lot in Helsinki (surveillance cameras) but they are not so visible, so much so you have to know where to look to see them.

Hayes: I would have to know where to look #00:38:09-0#

Bauters: Yes.

Hayes: So what is the part called where “I have to look” what is that called? When I am the one looking and seeing things.

Bauters: Well you can observe but then again it depends on a bit of where and (at) what you are looking and also with what attitude you are looking with?

Hayes: ...and if it is recording, if I am recording?

Bauters: I would say the same goes, also, what happens to it afterwards.

Hayes: The data that is from the recording?

Bauters: Yes. So going somewhere and kept a certain amount of time and destroyed for example. Then it's for like ongoing review. Like checking for something bad doesn't happen there, if it's kept.

Hayes: Is that a safety thing again?

Bauters: Yes. It's a sort of a safety thing again.

Hayes: Ok.

Bauters: So if it is kept for a longer time that when like everywhere you go back to find anything then it's a bit tricky because you never know where it goes.

Hayes: So if I go to the supermarket and I buy something with my card and the transaction, how much I have bought and how much I paid to whom, in what location and on what date and time, then what is that called?

Bauters: Oh my god. What's that? I don't know. These are the questions, the discussions that go, frankly I don't know how to answer that. I don't like that everything is tracked but there is so much tracked now that I don't really care about it because it's a bit like sand, if I am one grain down there who cares, but then again there is the others that say that you should care because you never know when all the things that are connected to that sand are made out, then are you sure that you want to know yourself that much about yourself?

Hayes: Hmm...that's right. Did you or would you have any problem, in that context, if every single website that you had every visited in your time (on the internet) from the beginning of time (on the internet) and your searching through browsers to now is made public?

Bauters: No.

Hayes: You wouldn't have any problem with that?

Bauters: No.

Hayes: Ok...so we have gone from safety to exposure. We are looking at the whole picture there so, the term surveillance makes sense?

Bauters: Yes.

Hayes: Which is a French term meaning 'oversight'

Bauters: Yes

Hayes: Sousveillance ?

Bauters: (whispers) What is that?

Hayes: Sousveillance means 'undersight'...so surveillance is oversight and sousveillance is undersite.

Bauters: ...and it does what?

Hayes: ...that's when we are recording back on things.

Bauters: OK.

Hayes: Wearing things, wearing cameras and systems like that.

Bauters: Alright.

Hayes: ...and what about the term 'dataveillance'?

Bauters: So you are checking up on data?

Hayes: Swipe the card, system has your information.

Bauters: Oh ok.

Hayes: So what would you call, if they are the disciplines, what would you call the domain? This is not an educational expedition either (laughing). I'm just trying to see if something differing comes out.

Bauters: I am just thinking, I don't know how you call it.

Hayes: Is surveillance the domain do you think?

Bauters: No.

Hayes: OK.

Bauters: No, because I think it goes back to cultural practices and the values.

Hayes: Wow. I wish someone had said that 5 years ago as it would have saved me an awful lot of writing (laughing) because what you just coined then is probably the most important part of the findings that I never thought would be a focus of my PhD. I started over here thinking that this was where the final output would be and things like you have just said are the gold in the whole of the equation because as I see it and I'd like to see what your response is the tension is, the domain is 'veillance'. It is not plural, the domain is just veillance and under that are a series of disciplines that come from that. Surveillance, there is a whole university faculty and whole units dedicated just for surveillance studies.

Bauters: Alright.

Hayes: People that engage in studies that are specifically and just about surveillance and there are an emergent body of people that are looking at sousveillance as a discipline alone also, and for the last 25 years there are a number of academics that specifically talk about dataveillance.

Bauters: Alright.

Hayes: So does 'veillance' make sense as a word to describe that as a domain.

Beauters: Why not? (laughing)

Hayes: Why not...ok. (laughing) Why not ? why not it is, so now you are getting a different picture from the questions one through to three. Now we are onto question number four. What do you think the benefits, risks or harm are from your perspective on the users of this technology? Everything from the smartphone through to the...we have talked about it. I think is Google Glass, there Memoto, there is Autographer (pointing to the table containing the technologies), there is SenseCam. There are a whole range of other veillance based technologies particularly as they are all sensor based technologies all coming together. What do you think the benefits, risks or harm are do you think on the people, you know, playing with to using them?

Bauters: Well I would say that they are the same with anything else, so, you can find something good and you can help people, you can come up with curing different types of illnesses when you know enough stuff but you can use it for wrong, to make people worse when you know more.

Hayes: Make people sicker?

Bauters: Yes, for example, but what they have been trying to do for example in (incomprehensible) to calculate like where do the criminal acts go and of course police in they go somewhere else so they have been trying through the cameras and some other way. I don't know exactly what all things that they use but they have been able to start to predict which stream where would they go next and sort of be there before. That's their aim.

Hayes: Developing a theorem.

Bauters: Exactly, so these kind of things of course you might be able to renew something but then of course you can use it the other way around because if you can predict something you can also use it for bad.

Bauters: Exactly.

Hayes: Can you give me any examples of bad?

Bauters: Well you can always take the Nazi card and play it again, again (laughing) and it would have of more means to a whole lot of things.

Hayes: Marginalising.

Bauters: Even more accurately.

Hayes: So marginalising cultures for a specific genocidal act or other...

Bauters: Not cultures. Just wrong minded people, wrong valued people. People who want only the values from the States (USA) or you want only the ones from Dubai, you want only the values from China.

Hayes: Do you think that is already happening with this type of technology?

Bauters: I don't we are there yet at least.

Hayes: So you don't think we are in that filter bubble?

Bauters: No I don't think we are there yet.

Hayes: We are not yet streamed.

Bauters: Not fully yet at least.

Hayes: So if we taken it back down to the simplest notion that the Russians often draw the analogy that the Americans in the space race, the Americans were substantially behind the Russians...the Russians said "...it's not a matter of your capability and it's not a matter of the American capacity to be able to be or have a better view of outside of earth but there is a very simple issue that you missed at the beginning and that is you spent almost a tenth of your entire budget trying to make a pen.

Bauters: Oh yes!

Hayes: to work in space.

Bauters: ...when there is a pencil already.

Hayes: When there is a pencil already and there is a series of ten that we can give you as well, so you are still well and truly behind. Now what I want to pose to you Merja, that the same analogy exists now, that the Russians have said to the Americans, the difference between the technologies that you are investing in is that we switched our minds from looking out there to find an answer to what we can do with us, now we have gone the opposite way around, we are now looking back in at humanity and what we can do in terms of nano cultures and so on, so, are you aware of the 2030 and the 2045 program?

Bauters: No. I don't think so.

Hayes: So those two programs, the Russians are particularly behind, that they are no specifically talking about exoskeleton technology, they are talking about Singularity human replacement technologies.

Bauters: Ah...ok.

Hayes: ...where we (humans) become redundant.

Bauters: That stuff I know yes, but not with those two but I have. I listen to a narrow podcast that are free so they discuss there about findings of these possible kind of selves, not sure of the English word for that.

Hayes: Cyborg ?

Bauters: No. Well the basic selves that produce other ones and how these can be extracted and also sort of produce from the ordinary ones and stuff like that.

Hayes: Biogenetic replacement?

Bauters: Yes. Yes.

Hayes: So 2045 is about the complete replacement of humans altogether.

Bauters: Alright.

Hayes: Moving away from biology to a complete and utter intelligent technology that replaces what we do.

Bauters: Somebody from Finland who I was introduced to about that said we have already done those kind of things but the only thing we can hope that we always code those kind of stuff that this are really like kind of, that they come from the good and not from the bad (laughing)

Hayes: So we have build into technology obsolescence purposefully

Bauters: Yes.

Hayes: So humans will build into things obsolescence to protect their own do you agree? possibly?

Bauters: Possibly.

Hayes: So in terms of the future context of the technology we talked about benefits, we talked about risks and we have now talked about harm. So we have gone through all of those perspectives and now what does the term location enabled mean to you within the context of location enabled body worn technologies?

Bauters: Well. I think with (incomprehensible) spaces we sort of went a little bit that, because it is all about you and location.

Hayes: Ok.

Bauters: It recognises your location so I would say something like that. The only thing with that I think is that I think that should be always a possibility to turn it off if you want to.

Hayes: The user or the system?

Bauters: The user.

Hayes: Ok. Very interesting because if I am wearing a Memoto camera and I turn up in your class or learning setting and you know that I have turned up because your RFID or other systems have told you that I am there present and it's providing information and you tell me that you what me to turn that camera off

and I say 'no' because I am wearing that camera for my own personal safety what do you do? Tell them to leave?

Bauters: No. It's a public situation if its a classroom.

Hayes: So it doesn't...

Bauters: because anyone can walk in.

Hayes: To the setting?

Bauters: Yes.

Hayes: What if the same...

Bauters: If you come to my home it might be that I would say that no. in this home I don't want you to have it on because their is only privacy in certain locations.

Hayes: Ok. So privacy exists in differing contexts.

Bauters: Yes.

Hayes: Particularly in Finland?

Bauters: I don't know but they say that the Finnish people have the need.

Hayes: for more room?

Bauters: Yes.

Hayes: Ok so if I then, as the student, I then ask you (as the teacher) to turn the system off, not the device but the RFID tracking system off, the intelligent system because I just wanted to attend a learning setting without all of that.

Bauters: I would say you turn it for yourself off because if everyone else wants to use it they are free, just shut it off from your end and collect the learning material as you wish (laughing)

Hayes: As you wish, if they can access it without the system.

Bauters: Yes.

Hayes: ...without the system, ok. Good. Good. Did you notice that we swung straight over body worn technologies and you used it without any qualm at all?

Bauters: No!

Hayes: We did.

Bauters: Ok. (laughing)

Hayes: (laughing) so in terms of the language between the first question of body worn technologies and the fourth question location enabled technologies.

Bauters: Ah yes, yes.

Hayes: So you gave me that. Location enabled meaning specifically ambient for GPS and GIS and body worn synonymous.

Bauters: Ok, yep.

Hayes: Just an observation.

Bauters: True.

Hayes: Question 6. So which issues do you, if any, are you aware of that involve this type of networked technology?

Bauters: Which issues?

Hayes: Hmmm. Like have you kind of come up against any issues like I've just noted there that student might say "turn it off" or you say the system failed or that some students say it's invading on my privacy. They are just examples but are you aware of any other issues with the technology at all?

Bauters: Well, we talked a lot about the different values and how they affect our use of technology.

Hayes: Are values like morals or are they values like popular thinking?

Bauters: I wouldn't say it's about popular thinking I would say it's about the culture or the society has. Popular thinking would be a bit different but most of the culture they have differences of values so, some are pretty much the same, they might have little differences but others have different kind of, sort of..., they all know what is right and what is wrong. What is disgusting and what is not.

Hayes: Ok, but is it like a virtue? like the Baha'i faith say "...trust, honesty.."

Bauters: No. That is again different.

Hayes: Ok. That is again different. I just need to find out where the distinction of values that, what impacts do you think these location enabled body worn technologies are going to have upon you, your colleagues and perhaps your industry?

Bauters: Woah! Industry.

Hayes: (laughing) What's going to happen here?

Bauters: Now, there's the body worn again so now how should I think of the body worn, is it like the glasses or what do I have to think about?

Hayes: So if we were to rephrase the question how would it better put? If we took location enabled and body worn away from there.

Bauters: We can have location enabled but the body worn is the only thing I can. Wearable I understand

Hayes: Let me ask the question this way and see if it gels and rings true and I'll ask these as an analogy or questions or prompts for you. Do you own a mobile phone?

Bauters: Mmm mmm.

Hayes: How many other people do you think, how many other people do you know, what percentage of the people that you know in the entire world own a mobile phone?

Bauters: Oh Jesus. I have no idea because it is increasing in huge amounts in Africa and so on.

Hayes: Of all the people that YOU know, how many do think of those individuals, how many of those individuals own a phone?

Bauters: That I know. The percentage of those?

Hayes: Yes. 90%?

Bauters: Yes.

Hayes: How many of those people including yourself actually turn the phone off? Like physically turn, physically turn the phone off and then put the phone somewhere away.

Bauters: For a while.

Hayes: Yes.

Bauters: Mmmm. I would say about 80%

Hayes: Ok. and how many of those people would perhaps have the phone on but never more than 5 metres away from themselves physically at any given time over a twenty four hour period?

Bauters: I don't know, but I know the (incomprehensible) people are with the phones.

Hayes: Mmmm. What generally do you think? This is talking about you as well.

Bauters: Generally if I think about my students I think that they don't put it away, far away.

Hayes: So always within 5 metres of them?

Bauters: Yep.

Hayes: and the majority of them time it is turned on?

Bauters: Yes, but then if you talk about people whom I am with, then they leave it at home.

Hayes: Sorry...they just leave it at home?

Bauters: Yes.

Hayes: Hmmm...they forget about it. Ok, because they are involved in other things ?

Bauters: Yes.

Hayes: So if we are thinking about location enabled with the smartphone as it is tracking, tracking, tracking, its every four seconds, sorry every fourth of a second it is locating where this particular device is in that period of time and we talked there about body worn hand held, hand held, body worn, the differences between the nomenclature or the naming systems there, so when you put the phone in your pocket it becomes a, is it still a hand held technology if it is in your pocket?

Bauters: Yes.

Hayes: Still a hand held technology ok, so, what do you think that...

Bauters: Because that's the main usage at least for me.

Hayes: Hand held?

Bauters: Yes.

Hayes: Yes, ah, then we understand in a contemporary context that the phone as a hand held device is not going to be like that within about five years or so.

Bauters: That is possible yes.

Hayes: So in terms of that what impacts do you think location enabled body worn technologies are going to have? I am not saying the phone will become a body worn technology but it is quite likely that the number of technologies that are around that are moving towards that way.

Bauters: It needs, people will, some of them, I guess the younger generations, they won't need to change their practices as some older ones will have to, because you are losing some of your freedom.

Hayes: What sort of freedom are you losing by this technology?

Bauters: That kind of thing that then it is possible to for people who access, can hack. You have allowed to and them to know where you are so we if we think of before mobile you could call home and if you weren't there well and that your were trusted to where you said you were!

Hayes: So you were calling a location and now you are calling a person?

Bauters: Yes. So either you learn to start to skip things, like you (the caller) need to know when they are talking you don't need to know what you can know and also the other way around that learn to skip that even though it can be known even though you don't say it where you are so it's a different kind of mindset how you think of it.

Hayes: Like..."How are you today?" and "Good..." "Where are you?"..."I'm..."...your saying that this is all finished.

Bauters: Yes.

Hayes: If all that is finished what do you think the impact is going to be on you, your colleagues and this industry here ?

Bauters: Well one advantage is that you don't have to say "well I'm here in the cafe" because if you need me just come here. I can skip that now.

Hayes: It saves time and breath?

Bauters: On the other hand there are persons that if I happen to or they call me and I know that they are close by I just don't want to see them! I can't do it anymore because they know that I am there. I can't say that "oops I'm in a meeting at the moment..please just". I can't make a nice white lie and keep them sort of in the distance and sort of be able to...

Hayes: So what did you forfeit?

Bauters: What?

Hayes: What did you forfeit, what did you lose in that?

Bauters: I lose some of my privacy. I have to stand certain kind of people I'd rather not meet but now I have to.

Hayes: Now I'm going to come back to that word privacy when we get down to the specific...

Bauters: For me it's a big issue because I don't like people in general very much so it means I have to go to new places where I don't know anybody. It takes at least a day to practice that I'm ok.

Hayes: Do you like machines?

Bauters: Some.

Hayes: More than humans?

Bauters: Sometimes, there are probably a lot of humans that go beyond machines (laughing)

Hayes: (laughing) ...and some humans that are well and truly machines.

Bauters: yes! (laughing)

Hayes: (laughing)

Bauters: For sure yes (laughing).

Hayes: So how do you envisage these things (pointing to wearable technologies on the coffee table) being used for educational purpose? ...these location enabled body worn technologies.

Bauters: Well some of them we already went through with the classroom, that you get the stuff and you don't have to carry it (materials) I don't (as the teacher) tell it before hand students don't have to think about it and forget it and still have it and so on (laughing)

Hayes: That assumes that the student is wearing a location enabled body worn technology.

Bauters: Yes.

Hayes: Is it their phone?

Bauters: It could be their phone - yes.

Hayes: Could it be something else? What could it be? A tablet?

Bauters: Yes it could be...a tablet, it could be...well not digital glasses because not everybody wants glasses.

Hayes: But could it be?

Bauters: It could be something that you can put easily inside your clothes.

Hayes: Could it be Google Glasses?

Bauters: No because not everybody wants to wear glasses all the time.

Hayes: Not whether they do or not, not the choice but, if someone walked in with Google Glass on into your...

Bauters: Yes!

Hayes: This setting...

Bauters: Yes.

Hayes: You can. You're going to tap into them using those provided that people have got a phone, people have got a tablet?

Bauters: Yes.

Hayes: Are you going to provide in the future in the future for people who are wearing these types of...

Bauters: Yes.

Hayes: So it's part of learning design?

Bauters: Why not?...if it doesn't have to be (forced)

Hayes: It's just another technology to cater to?

Bauters: Yes.

Hayes: Ok, so what do you envisage the longer term effects this technology will have on society?

Bauters: ...as I said, it might change those kind of, those sort of mindsets, how much you can share with others and it doesn't matter.

Hayes: Less barriers to sharing?

Bauters: Well let's pretend as you said with the card (credit card), you can skip it and just, because you have to, you sort of skip it might be that you don't like it or you don't, well most of the people I would say they don't even want to think just skip the systems and live it as it happens.

Hayes: So it's beyond ubiquitous it somehow is just, its spiritually there as they don't even think about it, anything about it, it's just there.

Bauters: Which might be that you have different kind of sort of, lets say, social rules how you are supposed to act, so previously everybody greeted by hand it was sort of, well nobody is doing that anymore, every now and then but it has a different meaning now.

Hayes: Not even a 'moi'

Bauters: Well...'moi' yes and so.

Hayes: That will go as well?

Bauters: I don't think 'moi' will go but it was an example that I think there is stuff that will disappear and some others will come.

Hayes: So new things will happen.

Bauters: Yes...so for example...

Hayes: Bing! Soothing will pop up that will say something...

Bauters: ...and also something like, before there were different things that you didn't tell even if you knew. It was just polite to sort of keep some information type of cached that acting 'no' even though everybody knows and I think there will be new this kind of sort of politeness rules and then of course there will be scandals that come out of it when someone is not playing according to the...

Hayes: To the etiquette.

Bauters: Yes.

Hayes: Ah, a new etiquette for society will emerge.

Bauters: I would say so. Yes.

Hayes: How long away?

Bauters: I don't know.

Hayes: Very soon?

Bauters: Might be.

Hayes: ...and is it a new form of privacy and therefore is there an issue with privacy?

Bauters: Yes. At least for me.

Hayes: For you, it's fine, but in general across, well will there be some form of revolt or will people just passively...

Bauters: I think that depends also on different cultures. Some are more social and act more collaboratively anyhow, these kind of things are made smoother easier and there are others that definitively give a bigger barrier between you and I...

Hayes: ...and that is the crux of the interview. We are in a small room and we have run out of oxygen (laughing)

Bauters: (laughing)

Hayes: ...and as machines there is only so long we can survive without oxygen (laughing). I really appreciate your time Merja.

Bauters: Ok.

Hayes: ...and for me there is some important things to think about in there as well.

Bauters: ...and ah, in an etiquette I would say yes thank you very much for your nice words and then in my mind I am thinking "...yes but you say that to everybody"

Hayes: No no I haven't said that to everybody. I have interviewed people that the interview lasted just over 5 and a half minutes.

Bauters: Oh right.

Hayes: No matter what I said it wouldn't have mattered at all and in the context of that is there anything else that you would like add.

Bauters: No!

Hayes: ...to the hansard, to the record.

Bauters: No.

Hayes: You are happy with that ?

Bauters: Yes.

Hayes: Ok, thank you.