

The Data Hungry Home: A Post-Anthropocentric and Generative Design Framework

Transcripts

Participant 1 Transcript

KEY

Bold: Interviewer 1

Italic: Interviewer 2

Regular: Respondent

[]: Uncertain word(s)

W: High confidence

(): Medium confidence

{ } : Low confidence

[]: Grammar edits

--: Other information

We're going to start off with just a little bit more about yourself and, more specifically, could you tell me perhaps what interested you in the workshop and why you decided to attend?

Yeah. I'm a PhD student in [REDACTED]. I mean, overall, I always like to try different workshops and different topics, even if, apparently, they are not very related to my topics. I mean I try to learn from workshops even if— I don't know. You can learn from a lot of things, so that's the main reason because I just try to participate.

But after the topic itself, I was really curious about— Obviously I know you and I know a bit more about your research, I think. So I was very curious as to how you would translate that craziness (laughs) that you have in your mind into a workshop. So yeah, I think that was the main reason that made me like to try everything. Yeah, it's not related a lot with yours, but yeah, I think that was the main reason (laughs).

(Laughs) I like 'craziness in my mind'. That sounds about right. That's a good summary.

(Laughs)

Maybe that is a bad word but...

No, no...

...I mention it in a good way, because you're really always, all the time, very enthusiastic about what you are doing and I want to contribute. But I also like to be a witness to how you translate that into a workshop (laughs).

Oh well, obviously I guess we're going to find out how well that was (laughs) actually achieved. So, outside of perhaps talking to me, have you actually come across the term thing-centred design, or anything similar?

Not really. Can you ask the question again? Sorry.

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So I was just wondering, you said in your form that you are somewhat familiar with thing-centred design. Is that just because of our conversations, or had you heard of it from elsewhere?

I heard it somewhere before but, I mean – how can I say? – I have an idea about the general— Not the topic itself but smart technologies and personal technologies. Before starting my PhD, I was a lecturer in [REDACTED]. So at that time, that was like— Even the students all the time _cut in audio_ bring these types of products and services. So I made a little bit of research about that before, but not exactly on what you are trying to do. Yeah, I think I have a general knowledge about it.

Okay, great. So you said that you wanted to see how I got my crazy ideas out there. How did you actually feel in the workshop? What was it like kind of undertaking it?

I mean, at the beginning, not the first one because it was just some questions, but as soon as you brought the cards, I felt that I was a bit overwhelmed because there was a lot of content and I really wanted to understand each card. I mean the meaning of the card. So that took me a lot of time and then, at the same time, I know that we don't have enough time. I mean even two hours and a half. So at the beginning I said, okay, let's just tell each other our thoughts and feedback and don't worry too much to understand each of the cards.

However, I think that by the end of the workshop a lot of things that we checked at the beginning made more sense for me. So I was finally like, oh, broadly— I mean, if I do it again, probably I would choose different cards or say different things because, honestly, the final exercise really brings everything together. I mean, yeah, I think that by the end I really understood all the steps and all the different activities that we did.

Yeah, I imagine that, in a way, as I think I said, you could almost do a workshop on every single question I asked. Yes, it was quite tricky. So when the cards came up, was there a particular question that you were really interested in of the three? I don't know if you recall them. I can remind you of them if you would like.

Yeah, I think if you can show me, at least not all the cards but the questions and everything.

Hmm, okay, I'll try and get them up because— So, the first question was having a physical digital device that uses data to do something different. So, different activities, like there was— I'm just trying to remember them off the top of my

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70 **head. It's a good point actually, just breaking the fourth wall a bit. I think it's a**
71 **good point that I should probably have just the ability to show these cards and**
72 **stuff if we needed them.**

73 **So yeah, the cards were things like weather data, stocks colour, photographs,**
74 **planet positions, calories, texture, and running. And the activities were pick your**
75 **outfit, name your children, protect itself, grow plants, arrange furniture, alter**
76 **your dreams, relive your past, making music or art.**

77 Is that one of the second questions?

78 **That was the first question.**

79 Oh, sorry (laughs).

80 **(Laughs) Yeah, I appreciate that it was quite intense.**

81 Yeah. I mean, I remember that I struggled the most with the one that you asked us, like
82 what requirements or what bias you have to be treated like an elderly or a piece of art or
83 something like that. I think for me, I started to be a bit lost with that one because – I
84 don't know – probably since the beginning, or something like that, if we had the purpose
85 of that, that at the end you are going to design something and these are smart exercises
86 to start a conversation around those abstract concepts that can influence your decision
87 later or something, it could be a little easier because, at the beginning, I felt a bit
88 disconnected. But by the third and final exercise, I was like, ah okay, now I understand.

89 I mean, when I described my design, I even tried to use some of those concepts that you
90 showed to us. But yeah, the first half of the workshop I was just answering questions
91 without (laughs) a clear purpose or direction.

92 But broadly, that is what you want because, yeah, we are very... or myself at least. For
93 me, everything has to have an objective and if I don't have a bit of control or direction,
94 probably that is not like a nice feeling for me. It's like, what am I doing? I need a bit
95 more clarity of where this is going in order to be more helpful, because I want to be helpful
96 for you. I don't know if (laughs) what I'm saying is useful or not.

97 **Yes, you might say that it struggles when there's no explicit purpose or no**
98 **problem to solve. Then designing becomes a little bit more difficult, right?**

99 Yes, and I know that that is not— Because even in my research itself, I try to **make a**
100 **shift** from that problem solving in design, just like the different approach used to frame it

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101 and understand a more complex situation. But then again, I still have that mindset that I
102 need a problem or something to solve.

103 So yeah, in this one, that was obviously not a topic that I'm an expert on or something,
104 so I feel that need for me.

105 **Epecially with the system-wide thing, it's perhaps more acceptable to be like,**
106 **okay, we're just trying to understand, we're just trying to find new ways. But**
107 **the moment you get down into data and to devices, all of sudden they have to**
108 **have a purpose because we're so conventionally attached to purpose.**

109 Yeah, because for me, when I tried to answer the question, I was like, it all depends. That
110 'depends' means the aim of the thing that we want to solve or improve, or something like
111 that. And yes, I mentioned for me, when I'm thinking of systems, it's more obvious that
112 we can just spend time in understanding the abstract things of the system. But here,
113 because I know that was something more physical or tangible, at the same time I think
114 that needs to be more real or more understandable.

115 **Okay, that's great. I'm kind of curious. You know the final set of cards? I don't**
116 **know if you remember them where I said designing for existing devices that have**
117 **needs, fear, faith, being, companions, machinations and conspiracies. That was**
118 **probably something that was like, oh okay, that's a bit weird.**

119 Yes, but actually, finally, I think my mind was— That forced me to start thinking
120 differently, that okay, finally I know that it doesn't need to have a purpose itself. This was
121 to explore how an abstract being can be shaped for our needs and desires without actually
122 assigning (an aim) first.

123 I mean, probably I link this with faith and spirituality. That for me is something that only
124 beings, not really humans but in that sense only a property of beings. So it's like finally I
125 say, okay, these things have a soul. I'm creating something in the sense that, like us,
126 when we're born, we don't necessarily have an aim. We are just beings and, as we grow,
127 we start to take decisions and like to do something, some purpose, and then follow or
128 start to follow it. So I finally understand it's like this pre-conception or something,
129 according to your imagination, and after that thing is alive or something, let's see how it
130 shapes itself.

131 So I think that question was, for me, one that finally started me to think of the being as
132 something different.

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133 **Okay. So you think that when you came into it – because I actually had a quick**
134 **look at your design just before we had our interview – do you think that kind of**
135 **helped you create something? Can you just quickly kind of— Do you remember**
136 **exactly what you designed?**

137 Yes, I remember that (laughs). Actually, that for me, if you see my design, I think both
138 parts, the harvester and the being, are somehow alive because now in my mind it was
139 like, oh, these are beings and need each other. I mean that something needs the one that
140 will bring the data for the other.

141 So I tried to cut in audio the harvest – harvest? – like cut in audio not very alive. But
142 then it was like, no, no, no, I want this thing to be reactive and passive and things like
143 that. So yeah, after that, I could not attach myself to the idea that both need to somehow
144 be alive.

145 **Yeah, it's interesting because I know that obviously when I originally presented**
146 **it, it had to be the harvesting device and the being. But there's no clear rhetoric**
147 **that it has to be that way. It's more about people—**

148 Hm-hm.

149 **I quite liked the fact that it's kind of this subtle tablecloth-like being that then**
150 **kind of morphs into this thing when it does something. And the interaction with**
151 **that is really interesting. So where did that idea kind of come from?**

152 I think that you're talking about the table. Yeah, some of the comments from the other
153 participants, one that I agree with is that I don't want something that is needy and
154 everything. So, from the time that the being is like— I don't want to have the pressure
155 that I need to collect or I need to provide something for this being during the week. So I
156 tried to think of a physical appearance that is more subtle and that I don't necessarily
157 need to interact with or watch it during the week. But later on, like on the weekend or on
158 a day that we have this connection with the other part of the family or something, it's like
159 finally you realise that these things, potentially – I mean, it depends on you, but potentially
160 – can bring you something, some joy, some connection with the others.

161 I think that is, in itself, a reward and as an encouragement for the next week because you
162 want to have a different output and a different connection. That encourages you to be
163 more active next week, or something. But yeah, during the week, I don't want to have
164 the reminder. But actually, it's something that I want to do rather than by seeing nothing
165 I know that I need to do it (laughs).

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166 **Okay. So in a way, you would say that your design still sits in a— Humans still**
167 **have complete control over it. It's a choice to interact with this thing and it's a**
168 **choice to collect data for it.**

169 Not really because that's why the harvester starts to collect data itself in the morning, or
170 that's what can happen. Let's say that that is flying around also, at least the minimum
171 data for each day is collected. I mean, things are happening in the home, but it's up to
172 us when I, when you took **one of that piece and** bring to the rest of your day that happened
173 outside the home. So actually, it's different because a home is our private place. But in
174 this case, outside the home is the thing that you decide if you share or not with the others.

175 So it's, in that sense, like home because you are sharing— Well, I all the time think of
176 sharing with my family. So home is something – or things that happen at home, is
177 something like every day **living** that I'm not ashamed to share with my family. But
178 probably outside, I think sometimes that is not very meaningful for them. Sometimes
179 they don't **care of my _cut in audio_** or something like that. So that's why I decided that,
180 in that sense, the outside is the thing I will decide, or not, to share with the family.

181 So yeah, intimacy, I think, is the other way around that, normally, with my being. So
182 yeah, I think one part of what I did with **_cut in audio_** happened automatically at home,
183 and the other depends on myself, for sure **{to share?}**. And **also I** put different **(all the)**
184 a few harvests. I'm thinking, if I live with someone else, each of the family members, or
185 members of the household, can take one and also share what happens outside. It's not
186 personal. It's more like a family thing. Yeah (laughs).

187 **Yeah, I think your design was actually interesting. I really liked the embracing**
188 **of this passive and active data collection, and it's interesting that everyone kind**
189 **of— Well, at least a couple of you explored the wearableness. I haven't really**
190 **explored wearables as part of my work that much.**

191 **So would you say that through the activity of doing this and kind of thinking**
192 **about data and devices in this way, it kind of changed your opinions from when**
193 **you started and when you came into the workshop about how you see the point**
194 **of this data and devices that we surround ourselves with in our daily lives?**

195 Yes, because I think that before, all the time I've been very sceptical about technology
196 and digital devices. But now it's like, yeah, sometimes I'm not eager to share a lot of
197 things with my devices, if that is (laughs) a thing to say, but then it's like that made me
198 think of them only as a tool to make my life easier, which I think actually was my answer
199 at the very beginning (laughs) of the workshop.

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200 But now I think more of the potential, or not only influencing but that they can influence
201 my behaviour. I mean that is like another type of relationship with the technology that I
202 haven't thought, really, before. I'm like, okay, probably in the near future or something
203 there is something like this that cannot only improve my life but actually go deep into my
204 mind and shape how I see life or how **can I share things** and also have an influence on
205 them. So it's more like a symbiosis with this thing rather than just seeing them as
206 accessories for my life.

207 **Yeah, it almost shifts it from a predator/prey. I know this is a bit of a weird way**
208 **to describe it, but the objects we carry with us, we're the predators and they're**
209 **the prey that we kind of just use. But almost like a communal relationship,**
210 **something that you share a space with these entities or these beings.**

211 Yes. Some days I'm very afraid about sharing with the world and everything, but then
212 I'm like, okay, it's too late, you are living in 2020. So, I mean, it's impossible that
213 somehow your data is not exposed. So yeah, as I mentioned, I don't think that I share a
214 lot of things through my devices, but still, it's **[to] accept** the world that we are living in,
215 and we choose, probably, how we can actually make the most of these data exposure
216 (laughs), not only mine but the different people are having.

217 **Yeah, because when you said you were sceptical about data and devices, do you**
218 **feel that because of the way that, in theory, this approach to designing data and**
219 **devices works has a certain ephemeral nature to it? So the data is actually, or**
220 **at least it could be, erased in the entire process. So it's just like a tool or a**
221 **sustenance to make everything work. Is that why, do you think, maybe you're**
222 **feeling a bit better about it?**

223 Could you repeat?

224 **So, effectively, the way that part of this approach works, or at least it could work,**
225 **is that data can be destroyed in the process. I don't know if you remember me**
226 **saying that in the actual workshop, is that you can collect it and then you send it**
227 **to the being, but then the being erases the data. Because earlier you mentioned**
228 **that you feel sceptical about data and devices, is that part of the problem, is just**
229 **all this data on you and you don't like people having this data?**

230 Yeah, and I think that because— Well, I try to (laughs), in my design proposal, as I
231 mentioned, my data actually affects the device in the other home, and vice versa. So in
232 that sense, I'm building something from someone I choose to share for them and, as I
233 mentioned, it's **ephemerus**.

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234 I mean if you are there, because, you know, in technology and these things, I feel some
235 days we want to share and like to— I forgot the words in English, but a lot of people share
236 their lives because somehow they want some recognition in that evidence that I did this
237 or that. But with your project, it's a different way to think about sharing intimacy and
238 actually make a different bond with someone else.

239 I mean, through the being, you create something that only— Because actually, the
240 (change?) and all the outputs of the being becomes like a secret language between the
241 two families, or the two users. So, I like that because, even if I want to share things, we
242 are creating something that only we understand because we create it together.

243 So I think that is the fact that makes me change how I feel. I mean, yeah, it doesn't store
244 the data and it doesn't... you know, because we have also that understanding that, some
245 day, machines will be so smart that they will control us, or something. Now, here is
246 something that just helps us to communicate, to build something together, and that is—
247 Yeah, I think even if you don't like that we use that word, sometimes technologies, I think,
248 we see them as something perfect and a potential menace for humanity, but humanised
249 a bit with these vulnerabilities that they can have. I think that makes me trust in them
250 more than before.

251 **So, almost like if they seem imperfect and they seem fallible.**

252 Yes (laughs).

253 **You know, they can make mistakes and they can perish and, in a way, that makes**
254 **you more likely to build a bond and have confidence in them because they're**
255 **almost like us, or almost like other things around us.**

256 Yes. I know, for example, these things like when you ask someone to – I don't know –
257 not share a secret or things like that, normal technology or a normal thing, that works
258 automatically. So probably that thing doesn't understand 'don't say this to other beings'
259 but I see your way of approaching the being and everything and that's something that
260 actually can be treated using the language and emotions and feelings that we have as
261 humans. So yeah, I will trust, in a sense, sharing my data with those beings because of
262 that.

263 **Hmm, that's a really interesting point that I hadn't really thought about, just**
264 **trusting it because it seems flawed.**

265 (Laughs) Yeah, it sounds totally the opposite because if something is perfect and— I
266 mean, I trust my feelings, my emotions, my day-to-day, but obviously I wouldn't trust

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267 probably my finance or something that I did , to be very rigid about, to manage those
268 things in my life because, in those things, I want more accuracy (laughs) of the outputs.
269 But in things like this where I'm thinking more in personal data, yeah, I think that made
270 me trust more in them (laughs).

271 **Yeah, I'm going to have to go away and think about that for a bit. Okay, so with**
272 **that all in mind, and I appreciate that obviously your background and use of data**
273 **and devices and whatnot is quite different, but would you say that you're going**
274 **to actually do something with what I presented? Is it going to change the way**
275 **you work, maybe, or is it going to change the way you talk about thing-centred**
276 **design? Anything that you feel that you're going to apply in the future with this**
277 **in mind?**

278 Yes, I mean my plans are to stay in academia and obviously that involves, I think, teaching
279 again. I remember myself that, before, all the time in some projects I told my students,
280 "Don't bring me a new smart device," because I was so tired of the same or very similar
281 and they wanted to resolve everything in the same trend. But now I think this gives me
282 an opportunity. Even if they bring those types of products or something, it gives me
283 options around potential studies or something that I can apply to them to make them think
284 differently with the technology to explore that, because it's something so deep and
285 abstract that I would like it if they would arrive with these types of products and ideas. It
286 will be very helpful for me to have a really an approach for them to also try to make them
287 think differently about these things and all the potential that is there if they actually want
288 to focus on that type of project.

289 **Yeah, because we're not creating anything new. There's no new technology.**
290 **There's no new data. It's just a new way of using all of that and thinking about—**

291 Yes. Yeah, I mean, in my potential future thinking in my practice, that is more to help
292 other's practice but, yeah, all the time I want to bring human values and things like that
293 into my projects. So actually, I think they told me what practical application or something
294 about human values they want to translate human values into something practical. And I
295 think, somehow, at some point when we need to link these abstract human elements with
296 physical or tangible things, I think it will have more sense now for me actually why it's
297 important to recognise and talk about values if we are designing something. So I don't
298 know if that also helps (laughs).

299 **Oh no, that's great. I mean, there's no real prescribed way of interpreting what**
300 **I've presented (laughs). I don't even know what I've presented sometimes. One**
301 **day it'll be this and the next it'll be that. So no, it's good to hear. It definitely**

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302 **seems that it's been very useful for you and almost reignited some thoughts**
303 **about the stagnant smart technology world, in a way (laughs).**

304 Yes. What I'm afraid of is— I mean, yes, a designer or a researcher, sometimes we can
305 control that, but obviously I'm afraid of the knowledge that you are creating that can be
306 also used for, to manipulate how people want to control us. But yeah, I think sometimes
307 that is a bit out of our hands.

308 Yeah, I think that can be what you're trying to deliver, is something that also can be used
309 in the wrong way for trying to— As I said before, I don't want to share a lot of things to
310 more people to reach, or to reduce the gap between those users or potential users that
311 are out there with the technologies.

312 **So would you say that, in a way, there is a risk that if you blur the boundaries**
313 **between agency and between humans and technology and the exploration of**
314 **purpose, seemingly purposeless designs or objects or beings, in fact, that we**
315 **build these strange relationships with, the risk is that they can be manipulated**
316 **or exploited beyond ways we're even really recognising?**

317 Yes, actually. But I mean, yeah, information is powerful and new knowledge is powerful
318 and people can use it either way. Sadly, if we create it, it's out of our hands to do
319 something against those users.

320 **Yeah, I have similar concerns because it's dabbling in the world of care and**
321 **emotion. If we start becoming attached to them in a similar to, say, a dog or a**
322 **person, then you can ask them to do a lot. You can make someone do a lot. So**
323 **yeah, that is something that I've equally wrestled with (laughs).**

324 Yeah (laughs).

325 **It's going to be all nice and filled in in my reflection section, like, don't use this**
326 **for bad things, people (laughs).**

327 Yeah (laughs). I think as long as we have those ethical discussions as well with the
328 potential implications of our results, that is enough. But, potentially, do it at the beginning
329 at least (laughs).

330 **Yeah, and I think we're probably going to. I'm slightly curious about how much**
331 **more I should really talk about it because that's kind of what I was trying to**
332 **tackle with ephemerality. So if the data is destroyed in the process, there is no**
333 **data to be manipulated and then the memories of what you see on the device**

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334 **enter your brain. For example, with your design, if you had your family viewing**
335 **their table sculpture of your activities, that data wouldn't exist but they may**
336 **remember it.**

337 Yeah.

338 **Anyway, I don't want to get— I was explicitly told not to try and justify or explore**
339 **my work too much, even though it's very tempting with you (laughs) because**
340 **you know it a bit more.**

341 **Okay, I feel like we're more or less finished here and I'm going to see if Tracy's**
342 **going to nod at me that she thinks that was an okay amount of stuff. I have one**
343 **last final question. Don't feel like you have to give too much of an answer. Again,**
344 **in a way, just the kneejerk response (laughs). So, this is going to sound... and**
345 **don't worry about it. So, what do you actually think the purpose of my work and**
346 **the data hungry home is?**

347 I think the purpose is to show that people— Huh (laughs). I mean to show— Huh
348 (laughs). Yeah, I think that that doesn't necessarily mean to create evidence or to— I
349 mean, yeah, now that I'm working more in **healthcare and big data**, at the end the purpose
350 is to have evidence and help us to take decisions, mostly. And even here in your project,
351 I mean **data** is the aim, to promote the collection of data at the end and that **data** can
352 create different things, emotions, connections, bonds, and not necessarily to have
353 evidence or purpose. Normally when we're thinking that, I think that is what we are
354 looking for.

355 Oh, that was difficult (laughs).

356 **Yeah, it is supposed to be a bit of a difficult one. You kind of pointed out one of**
357 **the two bits of what I'm trying to get out of it, which is that this is almost like**
358 **anti big data. I'm almost fighting big data, in a way. And the other one is that**
359 **I'm kind of really questioning the point of technological objects. I'm like, okay,**
360 **they don't just have to be smartphones and all this kind of stuff.**

361 Yeah.

362 **Yeah, that will basically conclude the interview. I'll stop recording it now. Tracy,**
363 **do you think that's a good place to end?**

364 ***I think I do one more thing at that the end of interviews.***

365 **Okay.**

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366 ***Which is, is there anything else you want to tell me that we haven't already***
367 ***covered?***

368 **Okay. Is there anything else you want to—**

369 ***(Laughs) I always have that one at the end.***

370 Yeah, it's more now a question, for example, at the end. I mean, besides your PhD thesis
371 and all that, do you want **that, not probably that I told you my** potential use with students,
372 do you think that you will be keen to create something, more like academic teaching,
373 something **material** for— What would you like to do more of in a more practical way with
374 your research?

375 **So, I actually kind of know the answer because I'm trying to do postdoc stuff**
376 **now. But you're right, on the one hand, yes, I'm quite curious to see how this**
377 **becomes a broader, I suppose, method. We won't get into semantic arguments**
378 **about exactly what it means but a method to doing design or a lens to see design**
379 **through where it no longer has a purpose.**

380 **It's not necessarily about solving problems but, in a way, that's almost so far**
381 **removed that you're kind of saying, okay, I'm going to create an object that I**
382 **think is an interesting existence of an object and then, through its existence, see**
383 **what it does. So it's not about proving immediately that it has a purpose. It's**
384 **about having that purpose emerge through people interacting with it.**

385 **I think, like you say, if I could teach that to people in a way – and I suppose this**
386 **workshop is a good way of trying that because we tried in a very, very short**
387 **amount of time to condense, basically, three years of thoughts on how on earth**
388 **that is, and I didn't have to go into literature, I didn't have to go into all of this**
389 **background that it took me to get there. So yeah, there is that.**

390 **But the other side of it is what's kind of emerging right now, is how sophisticated**
391 **technological objects individualise themselves. So, how the lived experience of**
392 **an object makes it what it is. So the way I design it and the way I code it, its**
393 **experience of the world can change the way it is and make it unique. That's kind**
394 **of what I'm thinking of doing for my postdoc research.**

395 **So, one example, you know that [Himilco] thing I've showed you before?**

396 Hm-hm.

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397 **Imagine if you had a bunch of them and they could kind of communicate to each**
398 **other in a way we don't understand but, through that, they teach each other, like**
399 **songbirds, how to sing songs and how the songs change depending on who**
400 **they're with and what they do. That kind of really practical technological**
401 **exploration.**

402 **So as you can see, it's got this big split, and my thesis has the same problem.**
403 **There's this big divide between theory and practice – well, that's not the right**
404 **word, but we won't get into that argument – of kind of like, what is the point of**
405 **it all (laughs)?**

406 Yeah, it's also a really good provocation to compliment this consumerism age that we are
407 living in now, like different perspectives we like to look at with technology. So I think that,
408 yeah, ephemeralism nowadays is taken the wrong way (laughs). So I feel like, in having
409 these discussions through technology to make us consider them in a different way, it's
410 also very useful for our current challenges (laughs).

411 **Yeah.**

412 Yeah, yeah, so it was more a question than something else to add.

413 **Yeah well, I mean you're absolutely right. Funnily enough, it goes exactly back**
414 **to where I started this at the very beginning, that it's critical design. I'm**
415 **basically trying to cause a conversation about all the topics I'm interacting with**
416 **and, by the looks of it, I mean I will be honest to say that you've basically said**
417 **all the things (laughs) we wanted to hear when you responded to it.**

418 Yeah, you didn't {told me the} answers. It's my true opinion (laughs).

419 **(Laughs) Ah well, it'll be interesting to see if people who are less familiar with**
420 **my stuff say the same things. But yeah, that kind of challenging our fundamental**
421 **understanding of things is one of the things I'm hoping to get across. How on**
422 **earth I'm going to write it all, I have no idea.**

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KEY

Bold: Interviewer

Regular: Respondent

[]: Uncertain word(s)

W: High confidence

(): Medium confidence

{ } : Low confidence

--: Other information

So I don't know if you can see my screen that I've shared with you. What we're going to start off with— Sorry. Can you see the screen? Did it come up?

Framing questions?

Yes.

Yes.

Yes, great. So what we're basically going to do is we're not going to repeat the tasks but what I'm going to do is use these very few slides just to remind you a bit about what we did, because it's a little while ago now. Your session was quite a long time ago, almost—

Yeah, maybe two weeks ago.

Yeah, almost two full weeks. So I'm just going to go over each task a little bit to remind you and then just talk to you about how you felt about doing it and just get your feedback overall about that.

So the first task was the framing activity where I asked you these three quite broad and ambiguous questions and I asked you to respond to them for about four minutes. So I was really kind of wondering how did you feel about that? How was it answering those questions? Yeah, if you want to have a quick thought about that.

Yes, I agree with you, but now, because you defined the questions as vague, undefined, I'm thinking perhaps this is what you wanted in the first place. When I read the questions, I thought there were key terms that were too simple for me, and therefore I couldn't give you a straight and clear answer because I would have answered with a question.

For example, if you say what do you consider to be the purposes or value of physical digital devices, then I would have asked you to define physical digital devices first, to give you a proper answer. But now I understand from what you have said that you did it on purpose.

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34 **I did, yeah, and I was really just going for people's kneejerk responses, just kind**
35 **of how they reacted to it when presented in this way, not necessarily with the**
36 **time to really, really ruminate on it or anything like that.**

37 **Okay, that's great. So that was really just a quick stage just to get people**
38 **starting. So then if you recall we moved onto the focused bit where I asked**
39 **another set of questions. But, instead, this time they had blank spaces that were**
40 **filled by a number of cards. So these questions were increasingly, I suppose,**
41 **provocative, is a word to use about them, kind of going from almost what sounds**
42 **like a typical design question to something a bit more broad. Now, do you**
43 **remember these questions at all? Yeah or no?**

44 I think probably this is where I misunderstood one of the questions, I think.

45 **Okay.**

46 Is that correct? I can't remember. At one point in the workshop, I misunderstood one of
47 the questions, and I think it's probably one of these three questions.

48 **Yeah, remembering, looking back at it, it was the second question because you**
49 **thought we were asking about designing a device to take care of an elderly**
50 **person. Whereas we were actually looking for as if the device itself was an**
51 **elderly person and why you would take care of it.**

52 Yeah, I mean, if your question is about the clarity and the structure of the question, then
53 the answer is that, for me, the questions are too long. Therefore, if the questions would
54 be split into two sentences with the second being a real question and the first being more
55 like clarifying what comes after, then for workshops, for the really effectiveness of the
56 workshop, if you structure the questions in this way, participants can have a clearer
57 understanding of them and not feel anxious immediately to deconstruct the questions to
58 give you a good answers. Because the problem of when you do work with participants is
59 that they want to perform well, they want to give you the good answer or the bad answer,
60 or an answer that can help you in any way because, otherwise, what is the point of
61 agreeing to do that?

62 **Hmm, yeah, that's a good point. I think that's definitely something I will bring**
63 **up in my discussion section.**

64 You really had participants who did want to participate. You know what I mean?

65 **Hmm.**

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66 If you agree to do that, then you are somebody who's open to help the workshop.
67 Whatever is the aim of the workshop, you are happy to do it. Therefore, when you are
68 the participant, when you look at questions, you feel anxious if you don't understand the
69 questions clearly from the beginning because you feel, oh, how am I going to help him
70 now if I don't understand the questions?

71 So, when I realised that I didn't understand the second question properly, I was a bit
72 discouraged because I wanted to help you. But I missed the opportunity and then we
73 moved on to others. Which is fine because you need to stick with your time and your
74 schedule and everything. So that is no problem.

75 **Okay, no, that's a really good point. I appreciate the suggestion of adding a**
76 **sentence, perhaps kind of an introduction to the concept before getting to the**
77 **question. That's a good idea.**

78 **Like I said, I'm going to add a bunch of these things because it was quite an**
79 **experimental workshop. So, all of these ideas are going to get put into my**
80 **discussion section of my chapter, I imagine, kind of discussing different ways of**
81 **doing it and the limitations and whatnot.**

82 **So, just moving on, still within this task but if you recall, within these questions,**
83 **to fill in the blanks I gave you this array of cards.**

84 Yes.

85 **So the first two rows are in response to the first question. The second row is in**
86 **response to the second question. Sorry, the third row is in response to the**
87 **second question, and the final row is in response to the third question.**

88 **So, just thinking back to the activity, how did you feel engaging with these cards**
89 **and was there any kind of card or combination of cards that really stood out to**
90 **you or made you think, or that's particularly still in your mind?**

91 Because it was the first time for me to interact with something like that, I found it difficult
92 to remember the questions related to the colour of the images. If you put, next to the
93 images, the questions, I can immediately remind myself that the first row refers to
94 question number one and I can read the question again and again.

95 So, again, we go back to the wish to help the researcher. If I don't remember the
96 questions properly, I can't perform well in this workshop, and I honestly couldn't
97 remember the questions so well to be able to immediately— You know, if, on the same

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98 slide, I could see the questions on the left-hand side – maybe the questions could have
99 been colour coded – in the sense that if you wanted me to immediately visually connect
100 the first question with all the purple images, then even the words could have been purple,
101 and question two, blue with blue images. I don't know.

102 **Yeah, that's a really good point. As it actually stands, one adjustment I did make**
103 **after the pilot was that, instead of having the slide with the questions and then**
104 **the cards on the Miro, I actually started importing large versions of the questions**
105 **next to the cards. I found exactly that, that people were not remembering it**
106 **from the pilot. So yeah, that is something I actually did in—**

107 Yeah, if you combined the two things. The questions were too long and the fact that they
108 were in two different slides, then it makes it more difficult.

109 **Yeah, absolutely. Okay, that's really great feedback and—**

110 Actually, with me, the size of the font is too small.

111 **Hmm, yeah, Miro is quite challenging because you kind of keep having to zoom**
112 **in and zoom out a lot. You know, when you're in a physical space, if I gave you**
113 **a deck of cards, you can almost view them as you need to, whereas it's a lot more**
114 **scrolling on Miro. That was quite an interesting problem that we had to**
115 **overcome, really.**

116 Yeah.

117 **Still haven't quite got it right. I think this is one of the first virtual workshops**
118 **we've run out the [REDACTED] of this nature, so yeah, a**
119 **lot has honestly been learnt from it. So I'm hoping I can help people if they need**
120 **to do it in the future. Okay, that's really great.**

121 **So the final stage of this – the final task, I mean – was this adoption and**
122 **exploration part. So if you recall, I presented the data hungry home approach to**
123 **the group and I went into detail about some of my thoughts on thing-centred**
124 **design and all the metaphors or the perspectives, depending on how you feel**
125 **about it, of these technological beings and so on and so forth. So, using another**
126 **set of cards to build that framework.**

127 **I don't know if you recall the framework. It was kind of like two pairs of tables.**
128 **One was the harvesting device and one was the technological being. We kind of**

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129 **selected a number of cards as a group and then we went away and we designed**
130 **two objects, and then we presented them back to everyone else.**

131 **So if I could, first of all, get your feedback on that as a process, or that as a task,**
132 **then what we're going to do is we're going to go into a bit more about what you**
133 **actually designed and why you designed it.**

134 You're too quick. You are too quick.

135 **Sorry, sorry, I am—**

136 [0:11:09] the speed.

137 **Sorry.**

138 It's incredible! Oh wow (laughs), slow down!

139 **Sorry, I do get a bit excited. So let me just try that again. So the first bit is**
140 **reflecting on the task of doing the framework with the cards and designing the**
141 **harvesting device and technological being.**

142 Okay. I found it very confusing that I could see all the other participants moving quickly
143 on the screen, especially because I am actually very new to that kind of— Is that an app?
144 I don't know.

145 **Yeah, it's an app or a software, yeah.**

146 What's the name of the software? Miro?

147 **Miro, M-I-R-O.**

148 So, Miro is interesting. Actually, I'm grateful that I'm familiarised with that because of
149 this workshop, but I thought the screen was too small. I wished I could be in my office
150 because I've got a big screen. I used a little laptop, therefore I got a bit distracted and I
151 couldn't really concentrate on your question. On that occasion, I really thought I should
152 have done the workshop in my office.

153 **Yeah, screen size is an interesting one because, in theory, you should be able to**
154 **have it for any screen size. But there is a point at which it's quite difficult on a**
155 **really small laptop or something like that.**

156 Well, I've got a MacBook Pro and the screen is small, really.

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157 **Yeah, it sounds like my wife's one. It's only a thirteen inch, or something like**
158 **that.**

159 And so what you asked, really, was kind of a visual activity that needed a good sized
160 screen, for me personally. This is my personal opinion and perhaps other participants
161 thought something different. I liked that it was interactive with others, obviously. It was
162 a very interesting thing for us to work together, you know, to move things together, but
163 that confused me a bit.

164 **Okay. Once the framework had been finalised or picked, as it were, how did you**
165 **find designing the two devices?**

166 Well, unfortunately, because I'm not familiar with that software, I couldn't actually do
167 what one or two of the participants did, which was actually using the tools directly in Miro
168 to be able to produce the drawings. So I decided to do some sketches and show you the
169 images through the camera, which is not probably the best but, at the end, it was
170 interesting to imagine what shape, function and interaction with the audience this new
171 product could have.

172 I thought it was a good idea to jointly decide some of the characteristics of these objects.
173 So, you are not completely free but you are limited by certain specific aspects that you
174 have to embed into this object. So you need to design an object that corresponds or
175 responds or refers to one, two, three, and all the other things could be completely up to
176 you to be decided. But that was interesting.

177 I enjoyed seeing what the others proposed. I really liked their descriptions, and the variety
178 too; so completely different. I think it's very exciting to see that the result is always so
179 different, despite some common aspects that we needed to incorporate into the design.

180 **Hmm, yeah, that's definitely something—**

181 Very different.

182 **Yeah, something that's really come out of this workshop is that, in a way, it**
183 **would've been perhaps interesting if I could've used the same start point for**
184 **everyone and see just how different... because obviously each group picked**
185 **different things.**

186 Oh okay. Okay, yes, you're right. You're right. So you have— Exactly, yes, that's a good
187 point. Yeah, I didn't think of it, because then you have too many variables.

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188 **Yeah, yeah. But anyway, that'll be for my internal and external examiner to talk**
189 **about.**

190 **So, do you recall what you actually designed in the end?**

191 Yes, I do.

192 **Could you—**

193 I've got it here, actually, somewhere.

194 **Could you possibly give me just a quick description of it and perhaps a bit more**
195 **about what choices you made and why?**

196 Do you want me to look for them?

197 **Well, if you can send me a picture of it, that would be really great. But it's not**
198 **vital.**

199 They are somewhere. I remember designing two similar shapes and I thought they
200 actually needed to be very similar for the reason that I imagined a sphere that you can
201 open, because one of the keywords was taste, perfume.

202 **Smell was one of the modalities, yeah.**

203 Yeah, yeah, okay. So I thought of this trait. Do you remember?

204 **Yes, yeah.**

205 But actually, they are very similar. Also, I explained that, for me, one of them needed to
206 be suspended from the ceiling. I remember explaining that the second object could have
207 been worn on the body and connected to other people, and when these people acted or
208 did specific actions, you could have felt on your body that something was happening to
209 them because of the smell or movement, or the change in colour. Not the change in shape
210 because the shape that I designed is something that doesn't change.

211 So, the shape doesn't change but we were talking about taste and smell. Therefore it's
212 changing, probably, the texture. We talked about the texture a bit. So, when you opened
213 this sphere, you reveal one part of the sphere where you can touch the texture when the
214 texture changes.

215 **Yeah, yours was really interesting because you were one of the few of all the**
216 **participants that actually explored hanging or having some more in the ceiling.**

217 **But what was interesting was that you and another participant in that group – I**
218 **don't know if you remember the one that grew the beehive-shaped one – you**
219 **kind of both, for some reason, came at exactly the same point, which is really**
220 **curious.**

221 **So, kind of taking your design a bit further, how did you feel you engaged with**
222 **the notions of the hanging device being a being, not a technological object or**
223 **product?**

224 Well, I was impressed by the comment of one of the participants who kept saying that he
225 didn't want to have anything that requires attention. "Too needy," he said. Do you
226 remember?

227 **Yes, I do.**

228 It made me think about it, actually, because I didn't envisage that for my object at all. So
229 I thought, yes, I don't know how this new creature can live (laughs), can look after itself.
230 I really don't know that, but I didn't see me as the only person who has to look after this
231 new creature. I didn't see myself—

232 I think the comment was immediately like a self (laughs) reflection of feeling, no, I don't
233 want another person (laughs) in my family that I have to look after. I don't know, like a
234 newborn baby, if you know what I mean. But I didn't actually think of it for my object at
235 all. I thought it would be self-sustained, looking after itself, self-feeding, self-doing
236 everything.

237 **Okay, I'm quite curious about that. So you said that the harvesting device, which**
238 **was the smoother of the two kind of pebbles, as you described them at some**
239 **point, these kind of spherical objects, would you say that the reason you would**
240 **use the term self-sustaining is because the pebble is just kind of easily integrated**
241 **into yours and other people's daily lives, or is it because the being is basically**
242 **completely self-sustaining?**

243 Completely? I don't know. But certainly if it's a device that can be plugged into everything
244 that we have at home, electricity, heating, everything, the internet, everything, then I
245 guess it could be a kind of independent device, really.

246 **But what I'm quite curious about is you mentioned about a newborn baby. I**
247 **imagine, in a way, a newborn baby disrupts a routine, but if you're feeding this**
248 **thing data through a device that you've attached to yourself but you're not really**
249 **doing anything with that device and it's almost just part of your clothing, part of**

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250 **your attire or part of your house, is that in some way part of your reflection on it**
251 **being self-sustaining?**

252 Yeah, I guess. Yeah, yes. So, you are talking about your objects, okay?

253 **Hmm.**

254 So one – I can't remember the two names – is to capture data, and I thought that would
255 be the object that you wear on your body because you can go anywhere and you capture
256 data anywhere about body smell, even texture. I don't know how you can do it, but this
257 is the technological issue that we don't need to solve now.

258 **No.**

259 Then when you come back home, you see the other device, which is suspended from the
260 ceiling, and they connect to each other, they share. So, you use your necklace. Let's say
261 the pendant on your necklace would immediately upload everything, sharing all the data
262 that you have collected during the day. Or maybe you don't need to be in proximity of
263 that. Maybe it could be done when you are outside. You don't need to be very close to
264 the hanging object to transmit data, I guess.

265 There is a difference, perhaps, because the object that is suspended from the ceiling could
266 connect everyone who is in the flat or house, whereas you personally, you wear an object
267 to collect data and it's just you personally that can collect experiences. So it's everything
268 related to you and what you do.

269 So yeah, there is something odd here because if you connect the data that you have
270 gathered to the object that is suspended from the ceiling, that could communicate with
271 everyone who is in this house, and who says that everyone in this house would like to
272 know all the experiences that I've collected during my day. I think the question is, is this
273 device for you yourself, only in your private space, connected to people outside, or if it
274 could be also shared with those who live in your house.

275 **Okay, yes.**

276 **Different levels** of connectivity to these devices, I guess.

277 **Yeah, I mean, there's quite a lot of interesting thought in there and I'm looking**
278 **forward to unpacking that later on once I read the transcript.**

279 **So it sounds to me – but please tell me if it's otherwise – would you say that**
280 **through doing this workshop and through being introduced to the data hungry**

281 **home concept that you've kind of changed the way you think about things at all?**
282 **Perhaps the workshop has changed the way you think about physical digital**
283 **devices or the way we use data, or anything like that. What would you say is a**
284 **kind of key takeaway from the workshop?**

285 (Pause)

286 **No? By the way, 'no' is a completely valid answer. Honestly, I'm not here to**
287 **have my ego inflated. I am really just trying to find if people have actually had**
288 **any thoughts on it.**

289 You know what I thought, really? What have the other participants said, especially
290 somebody who does big— I thought of, actually, [0:27:42] when I saw that big—

291 **The glass thing with the—?**

292 Yeah (laughs). I was amazed because I {they} didn't think of anything wearable. This is
293 what I thought because it's my particular interest, and I thought they were actually
294 considering the body experience but not the fact that you can wear the device. That was
295 a surprise for me. Perhaps I expected all of them, maybe, to imagine something that you
296 wear on your body when you capture data. Yes.

297 **Okay. Would you say, going forward from this point onwards, that there's**
298 **anything from this workshop that you might apply, either from the perspective**
299 **of the methods or the data hungry home mindset that you might apply in your**
300 **own work or research?**

301 I mean, yes, one point is the two stages, the first where there is a co-creation and
302 participants together decide to select some characteristics of this object. That's
303 interesting. The second stage is when you ask each single participant to move on
304 individually to develop the shape and form of the object, thinking of these key terms that
305 we all together selected. So this is interesting, to divide it into two stages and see how
306 all the final outputs are identified by each single person.

307 So there is a difference, really. I didn't expect you to ask us to do something individually.
308 I thought the workshop was designed to work with all of the participants together, all the
309 time.

310 Yes, surely another point is that I can see the difference between a proper – not proper –
311 a workshop where you have attendants. I mean you have the physical ability to give the
312 cards to them, to interact. The opposite to the digital online workshop, really. I think it

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313 would be interesting to redo the same workshop with the same participants, in the future,
314 in a real room.

315 **Hmm, yeah, that's actually quite an interesting point. I don't know if I would**
316 **have time, but—**

317 No, no, but what I'm saying is that if I have to be honest and say what I think I could be
318 applying in the future that I've learnt or discovered throughout this workshop is that there
319 are some good points because, through Miro, we could work together even though we
320 were in different places, and we interacted. Okay? So it is possible to have an online
321 interaction on the same whiteboard, of course. On the other side – and this is obvious –
322 we don't know the kind of interaction we could have had if we were in the same room.

323 I guess you have pros and cons of both, really. What's interesting for me is what is
324 probably the expectation that I had before I started the workshop.

325 **Okay. And what would you have said that expec—**

326 You already know that it's going to be online and, as I said, I expected all of us to work
327 together all the time. I was surprised that you wanted us to work independently at one
328 point. Somehow, because it's online, you lose the connectivity with them because you
329 switch off, you go somewhere. Yeah, that point, probably.

330 **Okay, yeah, it would've been, ... to have a Group A, Group B kind of thing where**
331 **people design stuff together and people design stuff apart. But yeah, okay.**

332 **The other point** [REDACTED] is that I thought about what you said when you talked about your
333 idea that it could be a device that moves from one room to another. I was reflecting and
334 actually thinking of that aspect. If the object becomes more like a robot, then what is the
335 difference between the description of this hypothetical object that you were describing
336 that could move from one room to another and what we have seen in robotics?

337 **Well, it is quite an interesting one that I've encountered, is the separation**
338 **between the two. Sometimes I think that perhaps there is no separation, and**
339 **that's not necessarily needed. It's more, perhaps, intent, I think, because robots**
340 **tend to be framed in this purpose(ful) way, whereas I think that—**

341 **This was something I was going to perhaps ask you, but we haven't really segued**
342 **into it that much. When we explore these beings, they're not really purposeful.**
343 **They don't really have an intent that's human-centric. They're kind of just there.**
344 **I know it's kind of hard because we designed them and therefore we tend to**

345 **design them with an intent, but in a way, if we kind of imagine them as not having**
346 **an intent, or an intent or purpose that emerges through interacting with them,**
347 **instead of a robot which is more about it needs to Hoover the floor, it needs to**
348 **make a car or— I don't know. I think that's kind of where I'm at with it at the**
349 **moment and I would love to get your thoughts on that. But yeah, I don't know**
350 **if that helps clarify anything.**

351 I don't know, but I thought that, years ago, there was a toy that needed to be looked
352 after. I don't know if you have heard of it?

353 **Do you mean like the Tamagotchi's?**

354 Similar, yeah, yeah. Yes, it started with that, I think, and I disliked that very much.

355 **Okay. Why?**

356 I thought it was absolutely an alienation for children to interact with other real children.

357 **Okay. So is that because the device would get in the way of them interacting**
358 **with each other?**

359 Yeah, exactly for that reason. That's why, when I started thinking the other day, I actually
360 thought what if this little device becomes more like a little pet at home? The idea of having
361 a pet in a little robot is— But, of course, you need to look after a pet, so it is slightly
362 different.

363 If you are thinking of this completely independent entity that lives with you, then I agree
364 with you, because it's designed by us, we expect that object to have an intention, a
365 purpose at one point, somehow. This is always a question when I talk about jewellery
366 that would keep memories alive because, at one point in one workshop, somebody said,
367 "Can we design a piece of jewellery that can destroy bad memories?" And you know, this
368 is interesting because if you could design a device that has no purpose, then everything
369 that we have around us has got a kind of visible or tangible purpose.

370 **Yeah, and obviously we're going a bit beyond questions but just to add to that**
371 **train of thought with where I'm coming from. One of the things that really**
372 **inspired me and has confused me is that if you think about a houseplant – and**
373 **I'm looking at two that I have literally just in the corner of my eye – we attribute**
374 **purpose to them. We kind of say, okay, they filter oxygen, or it's good for our**
375 **health, but you could not say that they're explicitly designed with that purpose**

376 in mind. That purpose emerged just through happenstance, but also throughout
377 interactions and our bringing them into our homes.

378 I guess, in a way, I'm curious, fundamentally, about the technological equivalent
379 of that. So, the kind of silicon version of these bizarre, extremely ancient, in a
380 way, interactions with nature that we have and how to replicate the starting
381 point. So, having these almost independent but malleable... because, you know,
382 if you don't water a plant, it dies. I can never remember whether it's
383 rhododendrons or hydrodendrons, or whatever they're called. If you give them
384 different pH levels, they change their flowers. There's all this very weird way of
385 interacting with them that's just coincidental, not intentional.

386 Yeah, so (laughs) it's quite complicated.

387 Yeah, yes, I can understand. I can see that in the future you could actually buy lots of
388 different products, simply because it's a surrogate of an electronic device, or psychological
389 device, but there isn't a purpose for it.

390 Hmm, yeah (laughs).

391 Then it goes back to why do you buy it? Why do you want it at home? And it goes to the
392 concept of beauty. You are attracted by the form, the shape, and your personal
393 interpretation of beauty of it is different. So you just buy one object because you are
394 attracted by something that is embedded in that object. Even if there is no purpose, you
395 still see something in that object, otherwise you would not have it at home.

396 Yeah, and that's kind of how I'm using this data drivenness in everything because
397 it's interesting that if it was simply for beauty, we'd buy more plastic plants. And
398 yet there's something more inherently, especially in these times – I don't know
399 – not evocative but sentimental about plants.

400 Plastic plants are not beautiful.

401 But even if you could make the perfect plastic plant, it wouldn't change, it
402 wouldn't grow, it wouldn't lean towards the sun. It doesn't have this quasi
403 animacy about it, I guess. I don't know, I'm just kind of thinking out loud. I'm
404 not really following—

405 Well, I agree with you because if you know Ikea – I don't know if you have heard it – but
406 what they do is actually tweak how plants are depicted in their adverts. So all the plants

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407 are actually routinely designed in a way that looks like they are growing, they are older,
408 or they look for imperfections because we don't like the feeling of a fake, plastic plant.

409 **Hmm, and I guess it comes almost to a fallibility as well. I suppose, in a way,**
410 **fallibility is something I've started to think about because if my smartphone**
411 **starts acting up, that's a bad thing and I blame it for bad design or blame it for**
412 **bad coding. But if a dog does something I don't want it to do, I know you get**
413 **angry with them but you don't get angry with them in the same way because you**
414 **realise that it may have had its own reason for doing it, or it is a different entity.**

415 **I know that you get very close to that, oh, it's the AI singularity, or when do we**
416 **reach a sentient or sapient AI, but I'm not really that curious about that because**
417 **it's all so human focused. We're still thinking about humans, or a human version**
418 **of intelligence, or a human version of a being, whereas everything from a simple**
419 **single cell bacteria all the way up to us is alive. So I'm kind of curious about the**
420 **scale all the way back down for technology, but that technology is different. It's**
421 **a being; it's not just a tool. It's not just a sophisticated tool.**

422 **But yeah, I don't want to get too lost in that (laughs) because I can keep on**
423 **going. But that's kind of where I'm stuck. I'm kind of going over and over with**
424 **this.**

425 There is a very interesting research centre in Northumbria University for integration of
426 technology. Have you heard of it?

427 **Possibly, but—**

428 **Look at what it is they** - is doing a lot of really amazing projects. It's Northumbria
429 University. One of them, Professor Jane Wallis, is the person who's a professor in craft
430 and wellbeing and the integration of digital design. I work with her. But what's interesting
431 is that, actually, it's all about digital. It's all about the digital element that comes into
432 objects that are very personal to us, to see how the digital intervention could, in that case,
433 improve health and wellbeing but in the wider discussion, obviously. Everything that was
434 not digital, like a piece of **{jewellery...now}** with a digital element, has a different function
435 and it works in a different way now in society.

436 **Okay, I will definitely check them out.**

437 It's interesting.

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438 **Northumbria crops up occasionally on my papers and whatnot, so I'll have a**
439 **proper look at them.**

440 **Okay, just being conscious of time, even though it's very interesting to have**
441 **these kinds of conversation, and we can get back to them, I really only have**
442 **perhaps one slightly bizarre question that I still need to ask, which is, how would**
443 **you summarise my research in either a couple of words or a couple of sentences?**

444 Oh, that's your job (laughs).

445 **I know (laughs). I'm kind of curious to see how other people do it.**

446 [0:44:43] (laughs).

447 **You don't have to but—**

448 Ah, yeah. Hmm (pause). (Laughs) Well, I would say (pause) transforming useful devices
449 in {to} useless objects.

450 **Okay.**

451 Well, because you don't want them to have a specific use, a specific purpose, so you are
452 looking for what we define as useless. But I don't think you can design something which
453 is useless because it is, anyway, useful.

454 This is a big discussion in fine art because you have two worlds within the umbrella of fine
455 art. There has been an ongoing discussion between fine artists who've said, "Everything
456 that I do communicates to the audience," and then you have another group of artists
457 who've said, "No, on purpose, I'm actually creating pieces of work with no communicative
458 role and values. I don't want to communicate anything."

459 So we have the beginning of painters who started asking assistants to do their paintings,
460 to demonstrate that they were not actually embedding their emotions into the paintings
461 to contrast those who were saying, even if you don't want to communicate, you do
462 communicate because you transmit your emotions through the use of the brushes, for
463 example.

464 So, you are doing the same. You want to design something which is useless but, somehow,
465 everything that we design is useful because even if you design something that looks
466 extremely useless, there might be one person who looks at that object and uses that
467 object to do something.

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468 **Yeah, I think you've kind of hit the nail on the head there. From my perspective,**
469 **I know that there is kind of— It's similarly, in a weird way, in stoicism, called**
470 **the stoic sage. It's the ideal that you can actually never achieve, right?**

471 Yeah.

472 **But I'm interested in what I discover through the pursuit of trying to get there,**
473 **I guess, in some regards, because I've learned a lot and I've done a lot just trying**
474 **to work that out. And even if I know deep down that you can't ever make a**
475 **useless object because someone can find a use for it, or even, you could argue,**
476 **that the use was me trying to find out if it did have a use (laughs).**

477 So you're trying to build a utopic world of devices.

478 **(Laughs) I'm very scared of utopias. I don't (laughs) want to become blinded by**
479 **that ideal.**

480 But it is interesting, actually. It's a challenge, obviously. The workshop was very
481 interesting because you can imagine that the actual tool of the workshop gives you the
482 chance to discuss this with a lot of other people who, for different reasons, were attracted
483 by the topic of the workshop.

484 **Yeah, that was really a great part of it because we've had very different**
485 **responses. Some of them are very literally just objects that serve purposes,**
486 **some of them kind of blur the boundaries, and some of them have really**
487 **embraced seemingly useless devices. I suppose that's perhaps a better way of**
488 **describing them, or superficially useless. Perhaps, just by them being there and**
489 **us growing with them or interacting with them over time, maybe they then have**
490 **a use. But it's not so apparent, which I think is an interesting space.**

491 **Yeah, okay, so that's more or less the end of that. I mean, I would love to keep**
492 **talking about it, but I don't want to keep you any longer. I'm sure you're very**
493 **busy. So, if you have any more questions now, or in the future, please feel free**
494 **to just get in touch with me. I'm more than happy to talk about it more at great**
495 **length. But other than that, I've sent through your voucher and, other than,**
496 **thank you very much for your very engaging conversation and participation in**
497 **the workshop. I hope to see you around the [REDACTED]**
498 **when we're all (laughs) allowed to go back again.**

499 Yeah. I read what you published on your webpage. Very interesting.

500 **Thank you.**

501 When are you planning to publish some extracts of your research?

502 **I don't know if you're referring to the two papers I've already published?**

503 I've looked at the website and I've read what you published on there. So, you have
504 different things, really.

505 **Yeah, it's—**

506 It's divided into published work and other projects.

507 **Oh, do you mean Research Gate, or do you mean my website?**

508 It's written at the end, when you have the signature.

509 **Oh, let me just double-check what that actually is. Oh, there's a [REDACTED] called**
510 **[REDACTED] That's my website.**

511 Yeah.

512 **Yeah, that's kind of a like a combination of a design portfolio/research portfolio.**
513 **So I have published three papers in relation to this work but—**

514 But it's not on that website?

515 **Yeah, it's kind of in the deeper activities— Sorry, it's in the little sidebar. You're**
516 **right, I should probably make it more academic friendly now because it's an old—**
517 **It was originally my design because I'm a designer. I was even an industrial**
518 **designer for a year before starting my Masters. So it looks like what people**
519 **expect from a design portfolio, but I can send you the papers if they're of interest**
520 **to you. They kind of follow this trend. You can see at the very beginning I've**
521 **almost tried—**

522 **The paper is actually called *What Can We Expect from Navigating*, because that's**
523 **where I've started, strangely enough. I know this may seem like worlds apart**
524 **but the papers themselves are kind of me trying to work out as I'm going along**
525 **what this actually means, and it's getting progressively more and more thing-**
526 **centred and post-human and all that kind of stuff.**

527 Yes, please do send me them. I wanted to tell you there is something that you might find
528 interesting, actually, thinking about useless. It's a couple of designers, actually. They

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529 have a very interesting website. It's called— Let me see because I've written that here
530 somewhere. Do you know Dunne and Raby?

531 **Oh, Dunne and Raby, yeah, yeah.**

532 Yeah. Have you seen the work *Huggable Atomic Mushroom*?

533 **Yes, yeah, I'm very familiar with their work. I actually have their book,**
534 ***Speculative Everything*.**

535 I like the mushroom (laughs).

536 **There's this really dark one they have which is a radio powered by blood bags.**
537 **They play a lot with utopian dystopia and I think, in this kind of case, it was**
538 **there's no more power so you have to extract blood from your pets to power your**
539 **radios, or something like that.**

540 **They really are really great. Their ideas are really provocative. But the only thing**
541 **I always say to people is that the one thing they lack is they never explain their**
542 **process, and you really want to know how they got there as much as what they**
543 **actually produced in the end. But, you know, you can't.**

544 They are not academics, that's why they don't see the need to do that.

545 **True, but they're in charge of— Where are they? I think Dunne and Raby are**
546 **now in New Parsons School of Design in New York.**

547 Well, they will probably do that there when they have to but, at least the websites where
548 I've seen this work, it's just the actual work and the title. There is a little statement, such
549 a succinct statement that doesn't say a lot, you're right. I think the website has a different
550 purpose, but I think it's great. Some of the pieces are really – and I thought of your work
551 when I saw the huggable atomic mushroom (laughs).

552 **They are really great.**

553 Yeah, they are. It's good. Anyway, thank you very much, [REDACTED] All the best, and good
554 luck with your PhD.

555 **Thank you very much and thank you for your time. I hope to see you soon. Bye-**
556 **bye.**

557 Bye.

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KEY

Bold: Interviewer
Regular: Respondent
[]: Uncertain word(s)
W: High confidence
(): Medium confidence
{ } : Low confidence
__ : Other information

Okay, so what we're going to do is, first of all, if you could talk to me a little bit more about your background and also what interested you in taking part in the workshop.

Hm-hm. I graduated from an industrial design department, from [REDACTED], and then I right away started my Masters in Industrial Design again. And again, after that, I started my PhD in the same department as well.

After I started my PhD, I decided to work on the Internet of Things topics but, as a designer, I find it a bit difficult to understand some of the papers that I'm reading, this kind of stuff, and I would like to gain more information about the overall infrastructure. Then I started another Masters in Information Systems and I finished my Masters last year, and then I finished my PhD [REDACTED].

Ah, you did a Masters and a PhD at the same time?

Together, yeah.

Wow!

I don't recommend it.

No (laughs).

Don't try it at all (laughs).

I can believe that. Okay.

Now I'm a teaching fellow at [REDACTED]. I'm teaching Human Computer Interaction and Interaction Design to computer scientists.

Okay, right. So, not people with a design background then.

No.

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31 **A bit more technologically focused, okay. So what would you say, more**
32 **specifically, interested you in the workshop?**

33 In my PhD, I ended up working in creating an object persona to use the sensor data. In
34 order to extract meaning from the sensor data for designers, I used an object persona
35 and, for the object persona, I kind of brought together the non-anthropocentric design
36 approach and data-enabled design approach together. I saw the title of the workshop and
37 it interested me, so I'm glad that I attended because it was an interesting study.

38 **Yeah, I mean, you obviously are more aware of post- anthropocentric design**
39 **stuff than a lot of people that came to the workshops. So yeah, I'm quite**
40 **interested by object personas. Did you ever actually publish anything on that?**

41 Not yet, but it is in the process. At any point that I can publish anything, I will share it
42 with you, I hope.

43 **Okay, yeah, that—**

44 (I take note) of this (laughs).

45 **Yeah, that'd be great. Where were you thinking of sending it to?**

46 The Design Journal.

47 **Oh yeah, that's a good one.**

48 The first one in the Design Journal.

49 **That's a good one, yeah. I don't know if you've come across Transactions on**
50 **Computer Human Interaction, the journal that's by ACM?**

51 What is the name again, sorry?

52 **Transactions On—**

53 Transactions, yeah, yeah. I know that, yes.

54 **I'm trying to get one in there. Not yet. I haven't written it yet. But yeah, I need**
55 **to, because that's a good one. I like that. Anyway, we can easily get distracted**
56 **by (laughs) whatever we want to get published. Okay, that's great. So,**
57 **obviously quite a good fit for the workshop.**

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So what I'm going to do now is I'm just going to share— It's not really a presentation. It's just four slides. It's basically just a quick reminder about what we went through for the workshop. You don't have to necessarily remember everything that you said – it's not that important – but if I could just get a quick idea of what you felt about the actual task.

So we'll start off with the framing one where I just asked a couple of questions for you to each individually talk about. Then I don't know how well you remember it but there was the prompting stuff with the cards, and then finally the design process with yet more cards but cards within a framework.

So, just starting out with the framing one where I asked these three questions that I have up now, how did you feel about the questions and, just generally, the whole task itself?

You mean like I didn't find it difficult?

Yeah.

It was pretty straightforward. Sometimes maybe a little bit more **familiar with the** medium that you used than the other participants. I was just quite engaged straight away.

Yeah, okay, that's fine. That's fine. We can get through this as quickly as we can, so that's an absolutely fine answer.

So, I'm just going to have to show both slides at the same time somehow, but when it came to the focus and also these cards that were part of the focus, how did you feel about that? What was the general impression with these kinds of prompts and questions?

Actually, I found it pretty interesting. We didn't spend too much time on this. Obviously, it was just for prompting people in order to put their minds on the real questions that you were going to ask. But I really liked the idea because it gave an opportunity to think out of the box a little bit because, if I'm not mistaken, I chose an environment that was like a **pet, a house plant**, these types of things, by looking at the cards only. It was not what I had in my mind before looking at these cards. Yeah, I think they served the purpose well.

Okay, great. So the one that I think was quite... not difficult for people but kind of stopped people was when I put the final row – you know, the needs and fears and faith and stuff like that. Did that surprise you, or was that still kind of like

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89 **what we'd been talking about in line with some of the things you'd been thinking**
90 **about?**

91 No, I was actually hoping to find that (laughs) somewhere in the study again at some
92 point. That was why I wasn't surprised. No, I wasn't surprised. I don't know what else I
93 can say there.

94 **No, no. Again, that's really great.**

95 I know the process of analysing these talks, so I try to keep my words (laughs) concise.

96 **(Laughs) Yeah, I've got quite a few people to get through with my thematic**
97 **analysis and it's going to be really interesting if people have really varying**
98 **responses. I have no idea what my themes are going to be yet, so (laughs) yeah.**

99 Good luck with that.

100 **Yeah (laughs). Right, okay, that's great. So the final bit, as I'm sure it seems to**
101 **stick out more in people's minds because we spent a lot more time on it, was this**
102 **part where we kind of filled in the framework with these extra design cards and**
103 **then we went through the design or exploration phase of it. So how was that?**
104 **Coming to it, obviously you're from a design background, so maybe it was—**

105 I'm so sorry, I was a little bit distracted. Can you repeat the question again? Sorry.

106 **No, no, that's absolutely fine. I was just kind of saying the final process of this**
107 **was the design exploration phase, right? So I was just kind of wondering how**
108 **you felt about that, how you felt about the framework and the cards we used to**
109 **get to the objects we were designing, and just any impressions that are still in**
110 **your mind from that process?**

111 I was questioning the things that you showed us during the process because I was not
112 really sure if I needed to stick on the designs that you already showed to us. I was a little
113 bit confused in terms of how I needed to take these examples in the design phase, if there
114 should be an auxiliary element for us, or do I need to stick to the physical constraints of
115 the product that you already showed to us. Or it's just another example and I keep going
116 wild, type of thing. I was a little bit confused on that part.

117 **Okay. No, that's very reasonable. That was something that I was a little bit**
118 **concerned by because I wanted to show people but I didn't want people to be**
119 **absorbed by them, if that makes sense. Yeah, anyway, I've been told not to try**
120 **and justify what I did too much (laughs). I like to talk about it, so it's hard.**

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121 **Okay, so that's really just a review of the methods that—**

122 Can I ask a question, just out of curiosity?

123 **Sure.**

124 Would you like to develop what you've already done, with the help of the answers that
125 you collect from the workshop participants, or are they just some examples, proof of
126 concept type of things?

127 **That's a really interesting question. I haven't actually thought about exploring**
128 **what the participants have brought to me that much further, not yet, simply**
129 **because I haven't got the time.**

130 **So this workshop was a bit of a reaction to Covid. So, it wasn't really the original**
131 **plan. I think that if I'd done this a year earlier, it would've been a lot more**
132 **interesting to kind of take the ideas further. But no, it's a completely valid point**
133 **that I feel like I will have to think about more because obviously some of the**
134 **stuff that people came up with is completely unfeasible, technologically**
135 **speaking, and some other stuff is actually really quite doable. So 'no' is probably**
136 **the straightforward answer to that (laughs).**

137 **I'm hoping to maybe develop a toolkit or some sort of approach out of this, as**
138 **well as the other things that I'm doing, so hopefully maybe other people can take**
139 **it up. But we'll see. But yeah, I mean, your idea, for example, was quite feasible.**
140 **We're going to get onto that next, but I remember—**

141 You might need to (laughs) remind me what I've done.

142 **Oh okay. So, I don't know how much you remember of that bit but your group**
143 **picked the bathroom as their space for data collection, which was really**
144 **interesting. Your design involved, obviously, the harvesting device sitting in the**
145 **bathroom and it collected people's activities, I think, rather vaguely. It wasn't**
146 **really specific.**

147 Yeah, I remember it now. Okay.

148 **Do you remember the bit about the kitchen?**

149 Yeah.

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150 **Yeah, okay. So now that it's coming back to you, could you tell me a little bit**
151 **more about it? Maybe some of your choices or what you thought about it,**
152 **designing, especially, some of the features. I want to see what you say.**

153 I have the drawing. Right, let me see what I've done. As far as I remember, I just placed
154 the device in the bathroom and that was going to collect some data from the activities
155 that were going on in the bathroom. It shouldn't have to be human activated, I guess.

156 **No.**

157 And then the other technological being is going to sit on the kitchen counter, or something
158 like that, because we chose, I think, odour, smell and noise, these types of things. I
159 thought that it was going to be a really, really annoying experience if I just had this
160 unnecessary thing on top of the kitchen counter, so I needed to interact with that.

161 I just would like to create a meaningful relationship between the technological being and
162 myself, the user. That was my point, I guess, because I know that a technological being
163 is doing nothing; it's just a being, standing in there. But I still have the urge to find a way
164 to connect with this being, I guess. That is why I've done that.

165 **Hmm, it's quite interesting that you say 'unnecessary'. Do you recognise that**
166 **there is no— Like you say, it's a being, so it doesn't have any explicit purpose,**
167 **would you say, or something like that?**

168 No, I was trying to stick to the themes that we chose as a team, like **friendly, curious,**
169 **picky,** sound, colour, smell, and it is going to be **picky** and the device will be able to decide
170 what to do, to react or not. Then I was kind of, I think, annoyed with the idea that this
171 technological being will do whatever he wants, or whatever it wants. That is why I would
172 like to have a **_cut in audio_**.

173 I thought that maybe if I take the device and change the place of the device according to
174 the actions that it takes, then maybe it will behave the way that I want. Maybe it's not
175 the idea that you would like to emphasise but, I don't know, I was just maybe thinking it
176 should feel a little bit user-centric and try to create some meaningful relationships with
177 the objects and users. That's why I've done that.

178 **No, it's quite interesting that you adopted this, almost, learning. So it wasn't**
179 **something that you can just adjust. You can't just set it. You have to interact**
180 **with the device to then teach it, and you learn through it what's good and what's**
181 **bad. So why would you say that you chose that particular way of moving it out**
182 **and moving it back in to teach it?**

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183 Because I believed that this device would like to sit on the kitchen counter, a place of
184 attention, you know?

185 **Hmm.**

186 So, if it's a being, it probably will have its wants, its needs and its desires, like the urge to
187 be the centre of the attention, maybe. I thought like that. That is why, if I just changed
188 the place of the original place, then I'm kind of punishing the device by giving it the bad
189 smell while I'm cooking (laughs).

190 **Yeah, I noticed that you hadn't used very much— Again, maybe this is because**
191 **you have this post-anthropocentric perspective. You didn't anthropomorphise it**
192 **very much. There's no text, there's no smiley faces, it's all very— So why do you**
193 **think you chose those kinds of modalities to express it in that way?**

194 In order to think as a being, in order for me to interact with that, it doesn't need to have
195 a face or human characteristics, like physical characteristics type of thing. If I just give
196 the being – I don't know – some of the humane characteristics, like being educated
197 (laughs), then it is enough for me to interact like I interact with a human being.

198 **Okay. So—**

199 And I am also a bit affected by the things that I've read so far. Maybe that is why.

200 **Yeah, you embraced the concept of it quite well. I mean, we've kind of talked**
201 **about it a little. You didn't really get stuck on it having to have an explicit**
202 **purpose.**

203 Hm-hm.

204 **So, I mean, I don't know whether or not you have any thoughts on problem-**
205 **centric design or purposeful design as someone that's come from more of a thing-**
206 **centric background. I don't know if you've thought much about that.**

207 To be honest, I questioned the purpose of the thing. But then I think I understand what
208 you would like to do in the end, and that is why I just tried to adjust myself. But to be
209 honest, I questioned.

210 After the workshop, also, I thought about the things that we talked about and I think I
211 just think that, okay, he created this harvesting device and a technological being, and the
212 technological being doesn't have to do anything or doesn't have to serve any purpose for

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213 the humans. Then, okay, I need to take this as a separate being, not an object, not a
214 human, something in the middle.

215 I didn't think about it either as an object or a human but something that I can interact
216 with. Still, I have the necessity to interact with it and I just didn't want it to stay there
217 and do whatever it wants (laughs). I didn't want it still but, yeah, I thought it was not like
218 a dumb object. Not a human, obviously, but something that I can interact with.

219 **Yeah, something kind of hard to define (laughs).**

220 Yeah.

221 **It's interesting. How do you think that people interacting with such an object**
222 **would build a relationship with it?**

223 While I was doing that, also I was thinking about a study that I'd read before. There was
224 a study like— What is it called? It is like an extension cord or something that you put a
225 lot of plugs in. What is the name of it?

226 **Is it in a research project?**

227 Yeah, yeah. In the project, they just gave the object a wriggling effect that if you are not
228 using the device but it is still plugged in and it's in standby mode, it starts wriggling and
229 people started to think, okay, it is in pain, so I need to stop this pain. They can do this
230 automatically. It is a process that you can just cut out the electricity and just put the
231 device from standby mode to off mode easily. But people build a relationship with the
232 device because it is annoyed by the standby. It's not in use but it is taking electricity.

233 So, it is a purpose, again. I mean kind of directing people to a more sustainable behaviour,
234 something like that. But again, because of the wriggly effect of the device, if people think
235 that, okay, it is in pain, I need to do something about it, then it creates a relationship
236 between the device and the people. People don't think about the purpose of the device
237 too much, but they still build a relationship between them.

238 I was thinking about something like that. I'm not sure if we really need a purpose for the
239 device because creating a communication between the thing and yourself can be a purpose
240 as well.

241 **Hmm, yeah. When you were talking about it, I just looked it up in my Mendeley.**
242 **I think it's the Never Hungry Caterpillar, maybe.**

243 Yeah, yeah, this one. Yes.

244 **Because there's a paper called Products As Agents that came out in 2017 and it's**
245 **got a bunch of these things, some of which I inspired, like the toaster that sells**
246 **itself as well, the toaster that needs to be used.**

247 **Yeah, it's interesting that you talk about the way in which, as well, we build**
248 **relationships. So when you were describing the Never Hungry Caterpillar's**
249 **movement, it's not explicit. It doesn't say 'this is happening because...'. You**
250 **have to learn through it. And again, going back to your idea, there's almost this**
251 **learning both ways. So, I learn through it what it's doing and it learns through**
252 **me what I want, and the two-way, longer, slow— I don't know, you must have**
253 **come across slow design, that kind of slow interaction.**

254 Hm-hm.

255 **I think you kind of evoked a lot of that stuff in there.**

256 **Now, in this next set of questions, we can come back to anything if you want to**
257 **but the next line of questions is really about what you've taken away from this**
258 **workshop. Now, you're perfectly welcome just to say 'Oh, I've learnt nothing**
259 **really'. That's absolutely fine. I really want to know the truth. I don't want**
260 **people inflating my ego and saying 'Oh no, it was great, I learnt so much' because**
261 **I appreciate that you have quite a good thing-centred background. But going**
262 **forward after this workshop and after these kinds of discussions, has the**
263 **workshop changed any of your thinking on things like physical digital devices or**
264 **data?**

265 Since I have just finished my thesis, I am still in the mindset of organising workshops and
266 creating the studies, these types of things. I know we talked about the cards actually,
267 and I think it worked well because I saw how people, after some point, engaged with the
268 idea and understood. Because you are introducing something new to them, they really
269 helped. I didn't think about that while I was organising my workshops. I think it might
270 be a good idea for me as well. So (laughs) I thought about that.

271 I don't know if it is the type of answer you would expect, but I also think about, okay,
272 maybe we can organise something together. Maybe we can create something together
273 that we can both use the idea of object persona because, in the end, I created a template
274 where people just think about friends and enemies. You were also talking about that, and
275 it really helps people. In the workshops, I worked with industrial designers, but thinking
276 in terms of friends, enemies, the things that they like or they don't like, or the interaction
277 with the environment, the interaction with the other objects, these types of things really

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278 help create a design insight. We were actually, in the end, at some point trying to create
279 a design fiction scenario. So they are really cut in audio but they get on with it.

280 I'm also thinking that maybe by using this harvesting device, creating an object persona
281 for that and then thinking about, based on this object persona, creating the technological
282 being, maybe it might work. I was just thinking (laughs).

283 **No, that sounds like an interesting collaboration. I think that all this thing-**
284 **centred design stuff is really— It's not new per se, but there's a new focus on it**
285 **and people are talking about it a lot.**

286 **I don't know if you've seen a couple of articles from the Design Journal that's**
287 **kind of beyond human-centred design, but they're still talking about it from a**
288 **'how do we benefit humans'. Whereas, I suppose, if we look at it from just the**
289 **things and how we can almost benefit them, I think that's quite an interesting—**
290 **And then maybe, eventually, it comes back to humans. But starting from the**
291 **things is a really interesting question.**

292 **So, other than, let's say, the cards and the actual methods, do you maybe view**
293 **the purpose or the use of physical digital devices, or maybe data because even**
294 **though it may not have been as explicit, data was kind of a big conversation that**
295 **we had throughout the workshop, like how do we use it for all these things? Has**
296 **any of that perhaps changed through the workshop?**

297 No, I haven't thought about it, to be honest.

298 **Okay. No, that's fine.**

299 In terms of data, actually, because I was working with sensor data, I presented a sensor
300 data graph to the designers in order to extract meaning from the data, and there were
301 really nice arguments. And since one of the devices is in my home, I know that their
302 thoughts were actually very accurate.

303 At some point, for example, I connected my coffee machine with some sensors and
304 presented the data to the designers and asked them to tell me what they see, or if they
305 can speculate on the data a little bit. At some point, one of them said (laughs), "I think
306 there is a misuse in here because the user, without putting some water inside the coffee
307 machine, pushed the on/off button and it started to create heat. But after that, there is a
308 *puff* sound because there is water in it." And I really did that. I forgot to put some water
309 inside the coffee machine and pushed the on/off button.

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310 It was really interesting and, in the end, there was still speculation. We are not data
311 scientists but somehow they help in thinking about the practices that we have with the
312 objects.

313 **Hmm, okay. Do you think that maybe if data was perhaps more— I know that**
314 **we have this attention to data visibility and data legibility but is there any avenue**
315 **of thought about if the data was more invisible and not permanent so it kind of**
316 **is destroyed in the process? Do you have any thoughts on that?**

317 No, I actually think it might be a little bit easier because we thought about some colours
318 and smells, these types of things, but we never talked about what kind of data it is going
319 to collect. Some people, including me actually, are not really sure what kind of data we
320 can collect easily, or what is going to be easy to collect in the future, this type of thing. If
321 we see some of the ideas in some of the data, when we say sensor data, what we are
322 talking about? Maybe if it were a little bit more explicit, if we don't say just, okay, it's
323 going to collect data. I think you said that. Please correct me if I'm mistaken.

324 **Yeah, I didn't really give any specific data.**

325 Yeah, but what kind of data, how it's going to be collected and what we are going to see
326 through this data, because it's one of the problems that we have right now because people
327 are just data providers and we don't have any control over that. It is also a little bit
328 putting a distance in between these devices and humans as well. It makes it a little bit
329 difficult to accept new devices, maybe. If we see how our data affected the work that the
330 machine does, maybe the whole process might be a little bit different.

331 **Okay. So you'd argue that the harvesting device would have to communicate**
332 **exactly what kind of data it's collecting for the being?**

333 No, not exactly. But maybe like the cards, some of the cards might help us for— It might
334 be easier to think about it in terms of— I don't know. I'm not sure how I can define it.
335 Like I said, when I see the cards, it might be easier to build the relationship, the dots in
336 between the sentences. If I see it again.

337 **Hmm, Oh you mean like -**

338 If we have the {sentences} and we completed the dots with the—

339 **Yes, these, unfortunately, are on two separate slides but these are the questions.**

340 So how could a **physical-digital** device use dot-dot-dot data to dot-dot-dot? When I just
341 look at this, it is difficult. But when I see the cards, it gets a little bit easier because I see

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342 that, okay, this might be somehow related. But if I see the data and how it's collected or
343 how it's presented, then it might be easier to have a comment on that, to visualise in our
344 minds or to design for that, maybe.

345 **Okay, that's fine. I'm just trying to think where we are at. Right, so that's kind**
346 **of covered more or less what you think you might be taking on next. So that,**
347 **more or less, really brings us to the end of what kinds of things I was trying to**
348 **look for.**

349 **Like you said yourself, you're just fresh out of thinking about thematic analysis,**
350 **so I was really kind of curious about whether or not this is going to change**
351 **people's opinions on things, on data and devices before and after attending the**
352 **workshop. So that's basically all covered on my end.**

353 **I just have one last slightly bizarre question that I've been asking people, which**
354 **is, how would you describe, just in a few sentences, or even just a few words,**
355 **my PhD research or what I'm trying to do with it, or something of that kind of**
356 **nature, like what the point of what I'm doing is?**

357 I think you just try to take people's attention to the objects themselves instead of humans,
358 because I think it is like a **trend** as well. Now I'm working with computer scientists, they're
359 also thinking about if they are using user-centred design, even though they don't know
360 what they're talking about.

361 **(Laughs)**

362 That is why people have this idea, as we have, of something called user-centred design,
363 and it is a good thing. With your study, or with similar studies, we can just show people
364 that, okay, it might be also a good way, it can be an alternative or a supporting method,
365 but it shouldn't be an alternative. We are not, at least I wasn't, saying, okay, we need to
366 just abandon user-centred design and we need to focus on thing-centred design. I'm not
367 saying that, but it can be used as a supportive approach, maybe. I think your study will
368 reach something similar in the end (laughs).

369 **Yeah, I think you kind of pointed out something that I'm wrestling with a lot.**
370 **Someone else described it to me a little while back as the fact that I kind of go**
371 **all the way out to thing-centred design and then I try and come all the way back**
372 **into the human-centred, and then go back out again.**

373 **I completely agree with you and I think that part of the problem – I don't know**
374 **if I had this conversation with you before or not – is this talk of waves. We keep**

375 **talking about waves, like it's one, then another, then another. So everyone**
376 **thinks that if you have user-centred design, whatever comes next has to replace**
377 **user-centred design because it's the next wave. Whereas I think we're just**
378 **talking about streams or parallel lines that kind of jump between each other.**

379 Hm-hm.

380 **So, you can do pure thing-centred design where you just forget humans, I'm just**
381 **going to think about things, but that doesn't help. And if you do just pure user-**
382 **centred design and forget everybody else, including the planet or animals or**
383 **anything else, then you have bad outcomes that way as well. So yeah, that's**
384 **quite a good summary of at least some of the—**

385 There is also another study. Maybe it can help you as well, if you already don't know
386 about it. It is called Connected Baby Bottles, something like that. Do you know that?

387 **No, I haven't heard about that one, Connected Baby Bottles.**

388 I'm not sure about the exact— I will send you it later.

389 **Yeah, that would be great. I've had a couple of people point me in directions of**
390 **things I haven't heard of. So it's always useful.**

391 Because they're also just saying, okay, we can use data to enhance some of the products
392 that we are designing but, in the end, we are going to still need the human perspective.
393 If you don't use the human perspective, then it is meaningless. It's not going to end well.

394 **Okay. Yeah, yeah, it is a very valid point in something that I guess I'm really**
395 **wrestling with. Okay, so that's kind of the end. What I would like to ask you**
396 **now is if you have any questions for me, any kinds of things you'd like to talk**
397 **about more, anything like that? Other than that, we can kind of end.**

398 The thing that I asked you already, what is your intention with the devices that you already
399 created, but I think you don't have a concrete answer for that. That's fine. That's the
400 only thing I'm curious about, about the outcomes of these workshops.

401 **Yeah, I don't have a concrete answer but I'm hoping that I get to, at least in part**
402 **of my study, actually describe the objects that people have come up with in more**
403 **detail because I find that when you do design stuff, people tend to leave the**
404 **design stuff behind when they kind of say, okay, they've designed some things**
405 **in this – what did I call it? – co-design workshop and then they just kind of talk**
406 **about what people said afterwards. Whereas I want to try and describe them as**

407 **best I can in the actual study so that even if I can't take them on, then other**
408 **people maybe have some ideas from it.**

409 **But yeah, I'm hoping to do a postdoc, so I might try and pick up other ideas**
410 **further because I want to try and investigate some other bizarre elements of**
411 **thought that have come out of this, like individualisation in technological objects**
412 **and how their life experience makes them unique, and stuff like that.**

413 It is one of the questions that I'm asked in [REDACTED], what they think
414 about the topics of post-humanism, individualism, these types of things. Yes, it's also an
415 interesting—

416 **Yeah, I'm just trying to get my head around post-humanism because it's one of**
417 **those things that everyone calls everything post-human now.**

418 Yeah (laughs).

419 **It's like, what do you even mean? Are we talking about trans-humanism, post-**
420 **humanism? Oh, I feel like I'm going to have to write in my thesis, okay, let's not**
421 **get bogged down on post-humanism. I'm talking about this, ignore all the rest**
422 **of that (laughs).**

423 **Yeah, [REDACTED]. I don't know**
424 **if you've come across his work before. Does it ring any bells? His stuff is really**
425 **interesting and they kind of do a lot of purposeless objects. Not in the sense that**
426 **they're truly purposeless but they're investigations of questions.**

427 **They did one which was this table. It was literally just this table which was a**
428 **stack of paper on an aluminium frame, and it moved randomly, just throughout**
429 **the day. And they had another one where they had this bowl that would**
430 **randomly tilt. They gave it to philosophers for several months and they had all**
431 **these philosophers reflecting on all these different opinions.**

432 (Laughs)

433 **So the stuff is really, really interesting but it kind of pushes the boundaries of**
434 **what we're supposed to be investigating as questions, I think. I'll put his name,**
435 **Ron Wakkary, and one of his colleagues—**

436 Oh, I know, yes.

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437 **Yeah, I'm talking to both of them as well because I'd really love to do a postdoc**
438 **with them. But yeah, if there are no other questions or topics right now, then**
439 **maybe we can— Please send me your object persona stuff, and if there's**
440 **anything else that you want to know more of, or talk about any other kinds of**
441 **collaboration ideas, that would be really—**

442 Oh, you know this medium page where you can have a look at the workshops that you've
443 organised so far?

444 **Yeah, absolutely.**

445 One minute. (Pause)

446 **Talking Things, Organic Design. Have you seen the work of— I can never**
447 **pronounce her name. They did this thing where they put cameras on a kettle and**
448 **a scooter and all that kind of stuff to try and get—**

449 Hmm, **Giaccardi**.

450 **Yeah.**

451 Yeah, I know.

452 **Yeah, I think that's kind of what people think of when they think of thing-centred**
453 **design, and they're like, "No, no, no, that's not what I'm doing," (laughs).**

454 (Laughs)

455 **I'm not literally taking the perspective of a thing but, again, you can see how all**
456 **of these branches are emerging. I mean, there's no unified description of it. I'm**
457 **trying to maybe even just call this being-centred design because I don't see why**
458 **what I'm talking about can't extend to animals, for example. Why we can't**
459 **design—**

460 **I mean, have you ever seen the Dog Internet by Ben Kirk, or something like that?**
461 **It's an animal-centred designer thing. I'll just find the article about it. So, dog**
462 **internet. Oh, hang on. Oh there, power participation and the dog internet.**
463 **(Laughs) They're all really crazy. I don't know how they found all this stuff, but**
464 **there it is. I'll just send it to you. Yeah, it's just this wealth of really, really**
465 **interesting ideas that I almost get too lost in sometimes, just trying to review**
466 **them and find them all.**

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467 **But yeah, anyway, I think that's basically more or less the end of the interview**
468 **there. We can talk further about ideas on object personas and stuff like that**
469 **later, which will be really great.**

470 Let me know when you have the time (laughs).

471 **Yeah. I will be honest with you, I'm also moving house right now as well,**
472 **because it's the perfect time, right in the middle of a pandemic and whatever**
473 **(laughs).**

474 Yeah, you'll have a lot of time to move your house (laughs).

475 **Yeah, so much free time. So I think that, realistically, the bigger plans will have**
476 **to come next year. But that's actually not that far away, which is also very scary.**
477 **But yeah, I will definitely keep in touch and I will message you with any other**
478 **things that come up.**

479 **But other than that, thank you very much for coming to the post-interview and,**
480 **yeah, I will be sending out the vouchers soon. Thank you for that.**

481 Thank you. It was my pleasure, and best of luck.

482 **Thank you very much. Good luck with your work as well.**

483 Thank you. Bye.

484 **Bye-bye.**

485

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KEY

Bold: Interviewer
Regular: Respondent
[]: Uncertain word(s)
W: High confidence
(): Medium confidence
{ } : Low confidence
_ _ : Other information

What we're going to start off with is just talking a little bit more about yourself and perhaps a little bit about your background and what actually originally interested you in doing the workshop.

Well, I'm an artist. I did— Oh my God, sorry, because there are some words or some terms that I really have no idea how to translate.

It's all right.

Well, I stayed in the UK for four or five months and talked to a lot of people, but some basic things (laughs) I really have no idea how to do. We just noticed that when we are in another culture we have no idea how to say that.

But anyway, I'm an artist. I did my (when I was to the university it) was to an art class. I think it's fine art that you call it in English. Well, at the university, I realised that I really liked to research new things, etc, and then I started to get close to some professors and some people that studied. So, I got very interested and got to the Masters degree. I didn't want to study art because I was like, okay, I'm full of it I want to study other things (laughs). I'm very curious, so I started to study movies, animation movies. I love animation. So, the narrative, the animation, the use of stereoscopy. I don't know if you know what it is.

Is that the one where you draw on pictures?

No.

No, I'm thinking of something else.

For example, when you go to the cinema to see a 3D movie, right?

Right, right.

So, it's the technique of using a glass to create pretty pictures in a flat screen.

So I started to study animation movies with the narratives and with the design, the concept art and how the characters were made, and I realised that I loved it. (But to the

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34 **doctor)** But for my doctorate, I didn't want to study movies anymore, so I go to the
35 game play (laughs), and then I went to virtual reality.

36 Now I've discovered that games are okay, but with virtual reality, there are lots of things
37 and lots of new ways to go. So I expanded (laughs) the research field and I study
38 virtual reality and user experience in virtual reality, but all connected to the visual design
39 because, well, my graduation is on arts, but the visual part.

40 So that's the part that— I still like it (laughs), but when I knew about the workshop, I
41 just realised that it was something really different. In some way, somewhere, in
42 searching for some papers, I saw the term – but I've never looked for it – 'thing-centred
43 design'. Okay, it exists, but I have to use that experience.

44 So, when I saw the workshop, or when I got the invitation, I was like, okay, it sounds
45 very interesting. What is that (laughs)? Then I was thinking, can I use it somehow?
46 Maybe not now, but can I use it somehow in my life or somehow in my research? As I
47 said, I like to change (laughs), and then that's why I was so interested in doing the
48 workshop. I said, okay, it's four in the morning, no problem, I'll do it. I have to do it. I
49 have to understand what it is (laughs).

50 It was a really good surprise because I've never thought about it. I have no idea how to
51 say it other than it's blowing mind stuff, and I was really interested. So as I said to you
52 at the workshop, I would wake up at four in the morning again to do it again (laughs).

53 **Well, I'm glad you liked it that much (laughs).**

54 Yes (laughs) it's very interesting.

55 **It's interesting because I had to keep telling people that this is just one way of**
56 **doing thing-centred design because there are a lot of different people that are**
57 **like, oh, it should just be for improving humans. I'm like, oh no, let's just go**
58 **nuts with it and see what happens.**

59 **Okay, that's really great. I'm glad that it was (laughs), again, anything— I**
60 **mean, I was trying to think what would get me out of bed at four o'clock in the**
61 **morning (laughs) to do a workshop. So I'm glad that it was that beneficial for**
62 **you.**

63 (Laughs) Yeah.

64 **So what I'm going to do now is just move on a little bit to perhaps just going**
65 **over the workshop just a little bit with you. So I'm actually going to share my**

66 screen very quickly because I realised that perhaps it's been a little bit of time,
67 so maybe we just quickly go over what the different parts of it were. We're not
68 going to do it again. I'm just going to basically ask you what you thought
69 about each stage, how you felt trying to answer or tackle these questions, and
70 then we'll get a bit more into, later on, about what you actually did.

71 So, the first stage was the framing stage where I asked these three questions.
72 And again, just as it was in the beginning, if you can give me quick thoughts on
73 how you found answering these questions, maybe what you thought about the
74 questions and maybe what you thought about a little later on after the
75 workshop, if you actually **changed your views** or anything like that.

76 Well, to be honest, it's difficult for me to say **physical-digital** devices and not connect
77 (**instantly**) to the smartphones or computers. So I was trying to think of some different
78 things with **digital** that we do. For example – I don't know – anything that you can
79 program or use in a different way. So I was thinking something about it because – I
80 don't know – I was thinking, okay, I can do a lot of things with my microphone and my
81 computer, but what about the other things? So that was my first thought.

82 When I saw the word 'purposes', I was like, okay, purposes, but when I buy something
83 or when I use something, I have a purpose. For example, if I – I don't know – was
84 using a kettle, I know how to use it and I would do it (laughs). So that's the challenge
85 there about this question. I was thinking about, well, I have purposes, so (laughs) how
86 can I think of that in a different way?

87 When I thought about the value, I was more like, okay, is that valuing my life in my day
88 by day activities or its **value** somehow in my research or, I don't know, another way, like
89 money or heritage or something? So I'd got a lot of questions in my mind and I tried to
90 put it all together. So when I thought what I considered to be the purpose of **or value**
91 devices, I was trying to connect, okay, so I have a lot of questions and I'll try to make a
92 way to put all this together. So that's why I answered that.

93 I am not sure if I would say exactly the same thing because the workshop, of course,
94 opened my mind to other things. But if I'm not mistaken, I said about the physical
95 digital devices, the value. I think I said something about money, how you spend it and
96 use it. The purpose, I don't remember exactly what I said. I'm so sorry, I don't
97 remember.

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98 **No, no, honestly, it's fine. You don't have to explicitly remember what you said.**
99 **It's more about how did this kind of task make you feel. Was it quite difficult?**
100 **Was it a surprise? Or was it something you could just easily talk about?**

101 No (laughs) it was a surprise. As I said, I had a lot of questions, and I would explain
102 every one. I would like to talk to everyone. So I would probably spend the whole day
103 talking about it (laughs).

104 **Yeah, yeah.**

105 So it was very difficult, but I think it was more provocative than difficult. The
106 provocation helped me to think of the path that I could follow just with one question,
107 you know? It's difficult to define something but it's, at the same time, so simple. It's
108 just a question, you know?

109 So that's how I felt when I got it: Okay, how can I answer this? (Laughs) Is that okay?

110 **No, no, that's—**

111 Does that answer what you wanted?

112 **That's absolutely fine. Again, it's more about just trying to see how people feel**
113 **about the actual method of the workshop, as it were. That is something that I**
114 **try to get out of it, just to kind of provoke people with these, like you say, very**
115 **simple but very, very complicated questions (laughs).**

116 **Got it** (laughs).

117 **Yeah (laughs). Okay, so again, I'm just going to run over the focus bit a little**
118 **bit. I don't know if you remember it, how well you remember it. So it was just**
119 **where I asked three similarly simple but complex questions about uses of data,**
120 **uses of devices, and then what actually happened after that was I went on to**
121 **give you a bunch of these cards. I don't know how well you remember all of**
122 **them. Obviously, I'm not expecting you to, but these were all the cards I gave**
123 **you in relation to that.**

124 **So, is there any particular point in that, or any particular provocative card or**
125 **any particular question, if I just go back to the questions, that you were like, oh**
126 **wow, this was really tough, or it's really easy? Just let me know your opinions**
127 **on what you felt about this stage.**

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128 Well, I don't remember anything like that pops out **you know**, but I remember the
129 feeling when I saw the cards and I saw the pictures you were showing and how you
130 wanted us to put it together. I was thinking something like, oh my God, how can I do it?
131 It had so many possibilities and I couldn't just choose one, you know?

132 So when we started to talk about the beach, I was like, okay, well, here in Brazil –
133 unfortunately, I didn't know the beaches in the UK – we have so many and it's so
134 different. How can I use it as we use it for trying to get it cleaner or to get it better, or
135 maybe to study animals or – I don't know – beings on the beach, or something like it?
136 So I was like, oh my God, there are so many possibilities (laughs).

137 **Okay, well that was the third stage, though, if you recall. Not that it matters**
138 **because we'll be getting onto that stage very quickly, but this was the one**
139 **where it was more about provoking on the cards. But again, would you say**
140 **that this stage, you don't particularly remember it, or is it—?**

141 I remember not very well the order. I remember you asked questions and you showed
142 some pictures and other questions, but I don't remember exactly the order. Then I
143 remember doing the practical part.

144 I'm sorry. I'm terrible with orders and (laughs)—

145 **No, no, no, that's absolutely fine. That's absolutely fine. So, with that in mind,**
146 **I'll just quickly move on to the bit that you were actually talking about, the**
147 **adoption and exploration. It's not terribly important. So this was the bit where**
148 **we picked out the property cards, and I appreciate that there were a lot of**
149 **cards involved (laughs) in this workshop. So, we picked out the property cards**
150 **and then we went to the designing of one harvesting device and one**
151 **technological being.**

152 **So, just remembering that now, how did you find picking the cards and the kind**
153 **of structure of that framework? How was the actual task of being sent away**
154 **for half an hour or so to actually design two objects? How did you find all of**
155 **that?**

156 Well, it was a challenge, of course (laughs). As I said, I'd never thought about the thing
157 itself. I always thought about the user first. So, how can I think about the thing itself?
158 How can I think about it and how can I use it, how the thing will feel between **quotes**?
159 We use it, so I was trying to think about how a person would feel in the place that the
160 thing is, you know? So I was really trying to do this exercise, but what I have to say
161 about this part, about the first part – I'm so sorry, I just skipped one part when you

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162 asked it – about the cards and **when you showed us**, I remember that I was thinking
163 there is so much stuff and how can I use it technologically. So, what technology do I
164 have to use to make them communicate with each other, how much engineering I have
165 to have behind it, behind just the visual, how much it will cost, how much it will be
166 affordable. So I remember thinking about it.

167 So, just going to your question, as I said, I was trying to think about the thing as a
168 being, but more of an animal. Not a pet but – I don't know – something that has
169 feelings (laughs). So I hope, that time, I have answered both your questions (laughs).
170 I'm so sorry. I'm still trying to understand how I felt because there was so much and it
171 was like, okay, how I felt in that part.

172 **Hmm, that's absolutely fine. I mean, your thoughts are exactly what we want**
173 **to hear. I don't mind if they're still being worked out in the process, so to**
174 **speak.**

175 **So, what I find quite interesting about what you said just now is that you were**
176 **a little bit fixated for a time on the practicalities and the technologies and the**
177 **costs. Were you trying to imagine it really existing in the world, so to speak?**

178 Can you say it again in another way?

179 **Sorry.**

180 No, no problem. It's my English that's a little bit rusty.

181 **So you mentioned practicalities and technologies and cost. So those were kind**
182 **of part of what you were thinking; okay, how am I actually going to make this**
183 **work?**

184 Yeah.

185 **Right. But then you also said that you kind of thought of it as a being.**

186 Yes.

187 **So how would you describe trying to think of it as a being? When you typically**
188 **think about the way you normally design stuff, how did that have to make you**
189 **think differently about designing?**

190 Well, I don't know. I was thinking, well, kind of a god (laughs) because how can I create
191 something that would have feelings, as I said feelings between **quotes**? We know it's

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192 programmed but I don't know how I would feel if I was the thing, how I would feel if I
193 was in that place, if I was seeing that, if I was made to respond to that and if people do
194 not look at me when I was responding. So I was trying to put human feelings in the
195 thing.

196 About the technology, it's like, how can I do the thing, the object, to feel that. Of
197 course, not feel like a human but to express that feeling to a human so the human can
198 understand that. So that's why, when I designed it, I was thinking about something
199 jelly. I don't know if you remember.

200 **Yeah, I do (laughs).**

201 Yeah (laughs). I proposed something jelly because I was thinking of something like,
202 okay, if it's more organic, it's easier to get involved with. So, if it's changing the form, if
203 it's changing the smell – I don't know – in my mind it was easy to express.

204 I'm sorry, I forgot to say I'm a drawing teacher, so I study a lot of expression, people
205 expression for drawing. So I was thinking something like, okay, if it's sad, I can try to
206 make it look sad because any person, any child, could understand that it's sad. So,
207 anyone can understand when you see a person that's not happy, that's sad or angry,
208 and usually we can say how the person's feeling. So I was trying to use that in the
209 thing, the object.

210 When I said about the technologies and how can I do it, what I have to use it [for], the
211 materials, the receptors, how can I send signals or how can I receive signals, how can I
212 do it, how can I fix it if something goes wrong, in a way we say things break every day,
213 so how can I fix it in a quick way for it always to be working? I don't want it to be just
214 broken and I put it away, because it feels, it's expressing feelings.

215 I wouldn't do it with a dog, for example, my pet. I have six dogs, so I wouldn't do it
216 (laughs) because I love them. What if it's the thing— I don't know. I always consider it
217 like a pet, as I said, between quotes. Not a pet like I have to pet it, I have to take care
218 and give some love or something, but I was thinking that I have to give it attention. So
219 that's why I was thinking about the technology behind it and about the cost part. That's
220 a problem – not exactly a problem, but a difference – that I saw between Brazil and the
221 UK. In the UK – well actually, in loads of other places – the technology is affordable,
222 you can have it, you can buy it. In Brazil, it's not that easy to buy. Usually they put a
223 lot of taxes _on it_. So we can actually buy what we want but sometimes it's very
224 expensive.

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225 So for example, the Rift, the Oculus Rift, when it was released in the market – I don't
226 know if that's the right expression – but when you could buy it some years ago, it was so
227 expensive that it was like, okay, I have no money for that. To translate it, it would be
228 like, probably at that time – I don't know - £200, something like that. Of course,
229 translating the price like a raw translation, you know, just thinking, but it was too
230 expensive and people here don't get that money easily.

231 Sometimes the technology here is a problem in that way because we have to buy it but
232 not everyone can buy it. It's not everyone that can have it. Cars here are extremely
233 expensive. So, people work a lot and, here, it's very common to use credit cards for
234 everything because you can pay in part. So, for buying clothes, for buying – I don't
235 know – everything you can buy on a credit card. That is very different in the UK. People
236 usually get money and can afford things.

237 So it's a very different reality and I think that's why I always thought about the price
238 itself, because I was thinking, how can I do it without it being like something – how can
239 I say that? – very expensive. How can I do it to be an affordable thing for people here
240 because we also can use it. It's something that we also can think about, and can I bring
241 it and use it here, using what we have? So, using something that's not very expensive.
242 That's why it was always in my mind.

243 I'm sorry. I talk too much (laughs).

244 **No, no, I'm definitely here to hear your thoughts. It's interesting you say that**
245 **because, as I've kind of progressed through this, I've been thinking about,**
246 **basically – privileges is the word I've been currently using in talking about this**
247 **kind of research – from a privileged perspective because I can ask these kinds**
248 **of questions. So you've raised quite a lot of interesting points, and I'll try and**
249 **come back to some of them, but I'm going to start with one you've just raised**
250 **there.**

251 **So, when you were talking about the cost of these things and the design and**
252 **the coding and everything that would be involved in making something like this**
253 **idea work, how would you go about— To people around you, let's say, how**
254 **would you go about justifying the need or the desire to have this kind of**
255 **approach done in design? What would you say would be your thoughts on**
256 **that?**

257 Okay (pause).

258 **Do you want me to try that again?**

259 No, no, I was thinking how to—

260 **Oh okay. Sorry.**

261 (Laughs) No problem. I think I would probably justify the usability to the people. I
262 know it's probably the opposite of the idea because you want to design the thing and
263 everything related. I think for a person to use it, you have to justify how useful it is, at
264 least here. So you want someone to get some money to buy it, justify the use and
265 probably make some other person, like a celebrity, use it so (laughs) you can sell it
266 here.

267 For example, for a friend or for family, if I had to explain or try to sell the idea, I would
268 probably say, "Here, look, it's useful. You can use it. It works that way, so you can use
269 it that way and it will benefit you somehow." I know it's probably a very old idea but I
270 think it's the easiest way to sell an idea, to tell how to use it, to explain how to use it.

271 **Yeah, because looking back at the topic that your group basically picked,**
272 **there's a certain practicality to it. It has a larger good because it was quite**
273 **community focused, wasn't it? It was very much about what everyone is going**
274 **to benefit from in interacting with it.**

275 **The other point I was going to try and get you to discuss, which is in a similar**
276 **line of the usability of the device, is the way that you chose to express the**
277 **device. The being's existence was quite focused on having it be**
278 **understandable by other people. Maybe not directly through tests, because**
279 **obviously you used kind of organic matter and organic smells and shapes and**
280 **stuff like that. The justification for choosing those approaches, what would you**
281 **say was behind that?**

282 You mean like the way I designed it, right?

283 **Yes, yeah, the way you designed it.**

284 Okay, okay. Well, I think the first thing I thought was how can I make it express its
285 feelings to anyone so a child could understand it? A person that doesn't know how to
286 read or a person that – I don't know – has some limitations somehow will understand
287 that, because it's how we understand the other person. Of course, the thing I designed
288 is limited to express itself because it doesn't speak. It has the **movements (movies)** and
289 the changes calculated, but anyway, how can I make more people understand it? So if I
290 just write, people have to stop to read it. If I just put smell or if I just change the
291 colours, what would the colours mean?

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292 So that's why I thought of something very organic so you can put something more like a
293 person's expression. If I'm sad, usually I'm serious or my mouth is not smiling, so that's
294 why I thought it's melting, more like melting (in the) on the platform. So it's melting,
295 it's stinky, it's something that's a dark colour to show that something is not good here.

296 **(Laughs)**

297 (Laughs) That was my idea. When everything's okay, it's moving, it's vibrating, it's
298 trying to look curious. Well, it comes from the animation study but you can put some
299 "feelings" between quotes, again in animating. For example, a pillow, you can make a
300 pillow express itself. You probably saw something like it in cartoons when they animate
301 objects. So I was thinking of something like it.

302 It's easy to understand and it's easy to express a message that's not necessarily a
303 straight message. Like a direct message, for example 'I am sad', but something like, oh
304 okay, something is not okay with that, so I have to pay attention because it's not okay.
305 It's more like that kind of feeling I had.

306 **Yeah, and I feel like you draw a bond, kind of almost instinctive ways in which**
307 **we interact with nature itself. So, you know when you see a blue frog, or a**
308 **black frog, you're kind of like, oh, I don't want to touch that. I don't even have**
309 **to know why, but I know that's poison (laughs). It's those kind of—**

310 Yeah.

311 **Yeah, yeah, okay. So yeah, that's really great to get your thoughts on that. I'm**
312 **kind of interested because you really engaged with the workshop. I'm really**
313 **curious to know how, if at all – I mean, please tell me if it hasn't – this has**
314 **really changed your way of thinking about— Well, basically, if the workshop**
315 **made you think differently on anything, and what that was?**

316 Yes, to be very, very honest with you, it made me think about a different way to think of
317 things (laughs). Of course, as I said, I have this background about user experience, so I
318 try to bring everything to user experience. But I was thinking something like, how can I
319 use it in different ways to show different things, and even to educate people in different
320 ways?

321 For example, as we design, we are thinking about the environment, health and
322 something like it. I'm sorry, it's probably not the right expression for that, but to solve—
323 Sorry (laughs).

324 **It's all right.**

325 Because of pollution, or animals, or garbage we discard at the sea, these kinds of things,
326 how can I educate people for these kinds of things? Not just that, but how can I use it
327 at schools or at different kinds of courses, or graduation? Or how can I think about
328 beings, beings in the case of the things? How can I think about these beings to help
329 humans in different ways? More like the feeling and not just the message.

330 For example, a teacher says, "You have to do this. You have to do that. That works this
331 way," but no, I'm seeing something that's reacting to it, that is pointing me in a different
332 way. Sending me a message but it's not talking or not writing. It's more like instinctive,
333 as I said. So that's why I was thinking something like that, and how can I use it. And
334 I'm still thinking about it (laughs). I was thinking of how to use it in virtual reality, or
335 how can I use it for different stuff.

336 So that's what changed it, to see the design of things. How can I design intelligent
337 things, smart things? Not necessarily useful between **quotes** again because, for
338 example, a television or a coffee machine or something, it's not that, it's something that
339 will give you a message but not the message we usually get, not the message that we
340 usually see or have but a message that's more **an inner** message. It's in the instinctive
341 part. So I was thinking about how to use it and how to **(use lots of things)** (laughs). So
342 that changed a lot.

343 I don't know. I saw so many possibilities and I spent days thinking about it. I'm still
344 doing it. But I spent the whole day of the workshop thinking something like, okay, what
345 if we use it (laughs) in somehow... you know? Oh, we can use it doing this, or doing that
346 (laughs). So it changed a lot and I think – I don't know – it changed how I see things,
347 how I see simple objects in my day by day.

348 So yeah, it helps me, and I think probably, in some way, I will use it in my future
349 research because it's very interesting. I know that I went to a point of view that tried to
350 put objects, like useful stuff, and I don't know if I understood it right but I don't know if
351 that's the right way to think. I don't know. Well, I don't know if it's right. So, can you
352 please enlighten me?

353 **Do you mean about whether or not it's supposed to be useful?**

354 Yes, yes. Okay, I can just have it. It doesn't have to have a background of useful stuff
355 necessarily.

356 **Yeah, you've kind of hit the nail on the head. Part of my exploration of this is**
357 **that boundary, or even beyond usefulness.**

358 **There's another group. I don't know if you've ever heard of someone called**
359 **Ron Wakkary or William Odom? They kind of explore this concept of**
360 **purposelessness. That's a really horrible word but it's basically what can we**
361 **design and what can we create when there is no purpose?**

362 **So you've kind of already picked up on that, that it's kind of— I keep going out**
363 **and coming back in because I'm kind of interested in designing a purposeless**
364 **object and then finding the purpose that emerges through its use, if that makes**
365 **sense.**

366 Yeah, yes.

367 **So yeah, that's basically (laughs)— Yeah, you've already really picked up on**
368 **some of the stuff I'm trying to explore.**

369 **I'm kind of curious, in a similar parallel, because obviously you're thinking a lot**
370 **about the physical digital devices, the physical objects and stuff like that, but**
371 **what would you say are your similar thoughts on maybe data and how we**
372 **interact with data, or the purpose of data?**

373 Sorry, data?

374 **Yeah.**

375 Sorry (laughs) I don't get it.

376 **Obviously, you know how we've been exploring these kinds of devices, these**
377 **beings as they were, but the fundamental food or fundamental thing that**
378 **makes everything work is data.**

379 Okay, yeah. I'm sorry (laughs).

380 **It's okay.**

381 I'm sorry, what do you mean?

382 **So would you say you look at data differently now? Is there anything— Yeah.**

383 Yeah, it (pause)— Okay (laughs).

384 **(Laughs) Okay.**

385 Because of the use, as I said, I understand that the idea in some way is not being useful,
386 and I like it, I really like it. I was thinking about, okay, so why do it? I'm sorry if it's a
387 little bit not polite but...

388 **No, no.**

389 ...something that's not useful (laughs).

390 **That's exactly the kinds of questions I want people to ask me and that I've**
391 **been asking myself, is what is the point of doing it? I don't know if I really**
392 **have an answer yet, but what I would say is that part of it is just research, it's**
393 **discovering what it is, but I am also interested to see—**

394 **So for example, with yourself, I'm interested to see how people react to this**
395 **and what can be learned from that. So you've already pointed out things like**
396 **thinking about it from a cost perspective, or what cultures or what economic**
397 **situations could allow these things to exist, and that's all really interesting**
398 **stuff. But obviously part of it is questioning data, you know, what we should**
399 **use data for, how we can look at data differently, as well as the kinds of devices**
400 **as well. So that's kind of it, yeah.**

401 Okay (laughs), that's a completely different perspective. Ooh, it's interesting because,
402 well, I don't know, but in some way, if you design it, as you said, the things will say use
403 something, even if it's not very useful between **quotes** again because I think we can
404 always use what is shown or – I don't know – what we feel about it.

405 Yeah, I don't know, but it can show something different and you have to learn with the
406 object and what it's showing to you. It's a completely different perspective (laughs). I
407 love it (laughs).

408 **(Laughs)**

409 I imagine it's something— I don't know. For example, both the objects you showed us,
410 the one that changed the— I don't know. I can learn about the change in colours and
411 how it's— Not comp— Oh, sorry.

412 **It's okay.**

413 How it's working, what it's showing me, and how can I learn with that. Okay. Oh my
414 goodness (laughs), it's very interesting (laughs). So it's kind of shown me, or shown

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415 people, what's happening. So, how the object's feeling, and I have to understand that
416 feeling or understand that **signals**, understand that— I'm just saying nonsense things
417 here but I'm just trying to put this information together. I was thinking something like,
418 as I said, to show people other things in other ways.

419 So I think it fits quite well because even if it doesn't have a purpose to be in a school or
420 public place so people learn about something or know how something is, for example,
421 the pollution, but what if I go there and I see it in a different colour than yesterday, or a
422 different place than yesterday **and it changes by itself**? So, it's vibrating a lot quieter, so
423 I'll have to learn to understand that object. (Laughs) That will be blowing my mind
424 again.

425 **(Laughs)**

426 So, oh my goodness, it's great. Actually, it's great because it's a new way to interact
427 and to learn how to understand it.

428 I completely forgot the question because I was—

429 **(Laughs) That's okay. It's all right.**

430 Okay. Can you please ask again?

431 **It was only really because you clearly have been thinking so much about the**
432 **devices and you can talk at great length, I was wondering if you had any**
433 **thoughts about how you can see data differently through this, or not?**

434 I think you can. You can learn how to read this data differently. It's not just the data
435 itself but how you learn to read it. So for example, you have letters, you have words,
436 you learn how to do it. It's an abstraction, a human abstraction about things.

437 So I think it will be in the same way because the thing will send you a message and, at
438 first, you probably will not understand it very well. But, with time, you understand it
439 better. It's like learning a new language, but not exactly that because the language...
440 well, you know how to speak the first one, your native language, so you just learn
441 another. It's more like you learn how to interact, understanding a thing, understanding
442 data that's shown to you in a different way. Not just a line of code or writing or
443 someone saying to you what's happening, but it's a different way.

444 I think humans will learn to understand machines in a very different way and I think it
445 would be— Oh, I'm going to the useful part again. I don't know. I think you can put
446 that in all the devices we have (laughs) because we learn how to interact with that in a

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447 different way, not just pushing buttons but how to— Okay, that's not right. Okay, my
448 television doesn't like the way I'm looking at (laughs), so what can I do for it?

449 But I think it will be a different way for humans to understand data, more instinctive and
450 in an abstractive way, like what this colour means. Okay, I think red is not good. So,
451 okay, I'll come there and see what's showing me the red light. It's there or it's not
452 there. So I think it will be a different way to learn how to understand data. I mean,
453 from the computers to – I don't know – everything (laughs), there's a different way to
454 communicate (laughs).

455 **(Laughs)**

456 Oh my God (laughs), it's blowing my mind again. But it's a different way for
457 communication, it's a different way to use things and use technology to communicate, as
458 I said, in a more... not exactly instinctive but also instinctive. Also, you will make the
459 human learn how to understand that **signals**.

460 So I think it's a different way for communication (laughs), like – I don't know – an alien
461 language (laughs). It's fantastic.

462 Did I answer your question?

463 **Yes, you did. And to be honest, any answer is— I'm much more appreciative of**
464 **the fact you're just kind of really thinking this stuff through. You're not just**
465 **kind of say, yeah, it's different, and that's that.**

466 **I'm just conscious of time because we're in our last ten minutes. I think we've**
467 **kind of covered everything that we wanted to go through, so what I was going**
468 **to do now was to give you an opportunity to ask me any further questions that**
469 **you might have, and then that will be the end of that.**

470 Okay. Yes, actually, I was thinking about that when we were talking, about the useful
471 and useless, useless in the way that I don't have an actual task for it. It just interacts
472 but I don't have an actual task. It's just something that's interacting with me.

473 So you said that it goes through this line, this line of what is useful and what is not. I
474 don't know, it's more like to point you to something. I don't know if you thought about
475 it but, considering this idea of communication, have you thought that anything would be
476 useless? I mean, you always can understand or use it somehow, so it's almost— I don't
477 know. I think it's impossible to be useless because somehow you use it, you understand
478 it, you use it for something, even if it's just a little thing. You will be understanding how

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479 to interact with it, so it gives you something. It's not something that's just, okay, you're
480 no use for anything. Have you thought about it? I don't know if I'm making myself
481 clear.

482 **Yeah, you did. I think you're basically asking can anything truly be useless.**

483 Yeah, yes.

484 **I definitely agree with you that, ultimately, nothing is useless, but I think that**
485 **what I'm trying to do is tackle our assumptions that everything has to be**
486 **obviously useful.**

487 Okay.

488 **If I show you a book, you know what it does. If I show you a smartphone and**
489 **someone says, "How do I design a better smartphone?" well, it has to be more**
490 **useful, it has to be faster and it has to do all these very straightforward**
491 **practical things.**

492 **So I'm kind of embracing what might be described as a slower way of**
493 **interacting with things. As you already observed yourself, this longer process**
494 **needed to learn what does it mean, what is it doing, how does it feel, and all**
495 **those kinds of things. So yeah, in a way, it's more like the usefulness of it**
496 **emerges through time. It doesn't just kind of smack you in the face and say,**
497 **'this is what I do'. And that's really interesting.**

498 **So I think you're absolutely right, there is no such thing as a truly useless**
499 **object. And, perhaps, the other way round, there's no such thing as a truly**
500 **useful object. Everything has its flaws, maybe, on the other way round. Yes**
501 **(laughs).**

502 Yeah, you're right (laughs).

503 **It is an interesting one though because I do get, occasionally, people going, "If**
504 **it's not directly useful, how can we say it fits within design?" I think that**
505 **people are still too attached to this useful problem-solving perspective on**
506 **design. I mean, it's good, it's needed in many, many situations, but I don't**
507 **think it needs to be everywhere. Not everything we have needs to be a**
508 **problem-solving object.**

509 Yeah.

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510 **So, there's one little question I wanted to ask you, and then I forgot about it.**
511 **Feel free to answer this however you want, or maybe not at all. In a few**
512 **sentences, how would you describe my PhD work, or this research?**

513 Okay, a few sentences. Well, not actually a sentence but the first word would be— Oh,
514 I don't know if it's the right word but I'll explain the sense. I don't know if the
515 translation is right, okay?

516 **Okay.**

517 I mean intriguing, something that makes you think, something that's not like 'I see that
518 and that is it; so, okay, that's my research'. It's more like that's my research but
519 (laughs) have I thought about that? So, okay, I am thinking about that. So I think it
520 makes you think differently.

521 At least for me, it's very interesting in that way because it makes you see the words that
522 surround you in a different way. What if this thing was interacting with me in another
523 way? For example – I don't know – I have something that's just a glass thing here, just
524 to put on the table, and it's beautiful. So, I have many of them here and what if those
525 things – I don't know – were interacting with me differently? I mean not just being here
526 but – I don't know – if it had some lights according to something that was happening in
527 another city, in another place, how would I feel about it?

528 So I think the first thing that's in my mind is 'intriguing' in that way. Does it make sense
529 in English, this word?

530 **Yeah, yeah.**

531 Okay. It's a good thing, okay (laughs). I'm so sorry.

532 **No, no.**

533 Some words just escape me.

534 **Yeah, I understand that (laughs).**

535 But I think that's the first word that defines your research and your PhD research.

536 In some sentences, I think it's more than that. It's your discussion about what is
537 completely— Sorry, it's not completely. What is this boundary about useful and
538 useless? As you said, anything is useless, but what is— How can I put it? Is it useless
539 or it just – I don't know – pops a light somehow, or not? So you make the people –

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540 well, at least for me – think about it, and this communication is very interesting. How
541 can we learn about it? What can I learn about it? Is it just to learn how to interact or
542 am I learning about other things and I don't even realise that? So I think this point is
543 more important for me, but it's what defines your research for me.

544 So, the new way to interact with things, the new way that things can say other things to
545 me and how will I learn to understand those and how it will change my perception or my
546 thoughts about something. So I think it's a totally different way to send a message
547 (laughs). It is a totally different way and I think it's a very useful way. I mean, you can
548 say a lot of messages without really saying it using the design of things, the design of
549 the objects. It doesn't matter if it's a clear message or not but you are saying
550 something.

551 So I think that's more than a few sentences (laughs).

552 **(Laughs) No, that's great. That's a really great answer.**

553 Yeah, but I think your research, for me, these points are the more important and I think
554 it is more like to communicate. So, how can I communicate in a different way? How can
555 I make things communicate in different ways? So I think that's the most important part
556 from my point of view, the communication itself, things communicating with humans
557 (laughs).

558 **Okay, yeah.**

559 If you have any other questions, I don't have anything to do right now. So, if you have
560 any other questions, I can spend some minutes. But I don't know if you have other
561 things?

562 **I don't immediately, but we're actually more or less finished. There are no**
563 **more questions from my end, unless there's any more from yours. I'm happy to**
564 **continue chatting but, also, if there is any particular topic that's of interest, I**
565 **can send you a bit more about the slow design or the purposelessness, if that's**
566 **what you would be— From other people, not just me. There are other things**
567 **that I've looked at that are kind of similar but different to what I'm doing, if**
568 **that's of interest to you.**

569 (End of recording)

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1 **KEY**

2 **Bold:** Interviewer

3 Regular: Respondent

4 []: Uncertain word(s)

5 W: High confidence

6 (): Medium confidence

7 {}: Low confidence

8 __: Other information

9 **Okay, so obviously I'm not expecting you to remember the workshop in great**
10 **detail, so I'm just going to talk to you very quickly about some of the stages**
11 **and get some feedback.**

12 **Oh sorry, I've forgotten the first bit. First of all, let me just ask you a bit more**
13 **about yourself and why it was that you were interested in doing the workshop.**

14 Okay. So, I mean, about me, I can say that I'm working as a human-centred computing
15 researcher at [REDACTED] where I'm also working on my PhD at the same. But
16 I'm primarily working in the research area of privacy and digital help. Also, tangible
17 computing has been one of my core areas of research, so that's why this workshop got
18 me interested because it sounded a bit similar to what I have been doing, like with my
19 **card-based ideation** workshop, and you also attended. So yeah, thing-centred design or
20 tangible computing was in the same area, so that's why I thought it would be interesting
21 to see what the researchers are doing there.

22 **I imagine, in your tangible world, you've come across the work of Hiroshi Ishii,**
23 **right?**

24 Yeah, of course.

25 **Yeah, actually, I met him for five minutes once. He's really an incredible**
26 **person, yeah.**

27 (Laughs) Yeah, I also met him one in a **CHI** conference and then in TEI. (Laughs) An
28 interesting person, actually.

29 **Yeah. Okay, great. So, obviously I'm quite interested in how on earth you**
30 **manage to do a PhD whilst also working. Do you do part-time?**

31 Yeah. Actually, I enrolled as part-time. So, basically, the thing is that there were big
32 overlaps with what I was supposed to do in my research job and with the PhD. I mean,
33 quite often they were different, but I think that's why it has taken more time for me. So
34 I've been working at the [REDACTED], so trying to **_cut in audio_**
35 (laughs).

36 **Yeah, that's completely understandable.**

37 Yeah. But yeah, it has been quite long (laughs).

38 **Well, this is a bit random but [REDACTED] is doing, or has done, a degree at the**
39 **[REDACTED]. It's a broad thing, isn't it? It crops up in**
40 **various countries.**

41 Yeah. I mean, they're mainly online teaching but I'm not associated with it actually. So
42 I'm in the research centre, so I'm doing all the research only.

43 **Okay, great. So we can just turn our attention back to the presentation I put**
44 **up, for the lack of a better word. So the first task, as you may remember, was**
45 **about these somewhat ambiguous and somewhat provocative questions. We**
46 **don't necessarily have to go over your thoughts on them per se, but I just**
47 **wanted to know how you felt in answering, how you felt as part of the**
48 **workshop, or just any general opinion you had on that.**

49 Yeah, I mean, I found it interesting. It was interesting that you divided into... or you
50 showed a framework and then you spoke about the first part and the second part. As far
51 as I remember, there were two things.

52 **Well, there were three; the framing, the focus and provocation, and then the**
53 **adoption and exploration.**

54 No, what I mean is, in the framework. So I'm just trying to recollect the framework that
55 you showed.

56 **You mean the bit at the very end where we put the cards on to design the**
57 **devices?**

58 Yes, that is the bit that I am remembering most because (laughs)—

59 **Yeah, yeah, I'm with you now.**

60 But yeah, I think— Okay, I have to rearrange my thoughts and I should come to that bit
61 later.

62 So yeah, we were doing this. We picked interesting cards initially. I mean, of course it
63 was a bit random. It appeared to be random. So, questions like how you came up with
64 this card were coming to my mind, but they were definitely provocative. But there's
65 another thing that—

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66 I mean, it's possible to get people provoked by any combination, so I'm not
67 understanding how you chose or decided upon those cards, or how you were valuing the
68 provocative message you had. So those kinds of things were coming, but yeah, I mean,
69 overall it was nice.

70 I think the initial steps were sort of priming and getting into the flow of thinking about
71 different aspects, like features of a thing, or something like that. Yeah, so that was
72 good, actually.

73 **Okay. So I think the bit that you're remembering the most then of the**
74 **grounding bit is this bit with the cards where I was— Because there were a lot**
75 **of cards. As (laughs) a fellow card-based workshop researcher, you can**
76 **understand that there are cards for everything. But it sounds to me that the**
77 **first bit that's kind of sticking out in your mind is this part about tying these**
78 **different functions or imagining devices in different ways using these prompt**
79 **cards.**

80 **If you're kind of curious as to where they came from, some of them came out of**
81 **just research, some of it came out of my actual design process that I did at the**
82 **start of the study, and then a little bit of it was just kind of ideas that I'd had.**
83 **So yeah, they're kind of a mixed bag of justification, I suppose.**

84 **How did you feel this led you up to the final design task, as it were, which was**
85 **the adoption and exploration? Did you feel that it kind of brought you into**
86 **that?**

87 Yeah. I mean, it did prime me to get into this thinking mode and, generally speaking,
88 about the ideation bit of it. It was quite open and flexible in the sense that we could
89 create any combination and then create, basically, the two devices. Now I'm
90 remembering, sorry...

91 **No, no, it's absolutely fine.**

92 ...the ideas, really. I'm (laughs) hampered my memory. But yeah, this harvesting
93 device and technological being, different combinations I was able to think about. So that
94 freedom and flexibility was there with the toolkit, which is good.

95 Of course it has also, I think, within this sort of flow, you can have different sets of
96 cards, depending on what the organiser wants people to do or to think about. So it can
97 be domain specific, it can be open, so that's good. Yeah, I mean that was good. Then
98 presenting to everyone, yeah, that was also one by one.

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99 But I think, at some point, I felt a bit of a lack of group collaborative work. Although we
100 were presenting and doing feedback, maybe a bit more working on the idea together or
101 something. So if every person is allowed to give their individual ideas and then if they
102 combine together and come up with one idea at the end, that could have resulted in
103 being more of a collaborative approach. But yeah, I mean, in the end it depends on
104 what the motive of the toolkit is also.

105 **Yeah, you raise a really good point and I'm going to definitely take that up on**
106 **the reflection discussion section of this chapter that's related to this. So, I'm**
107 **going to say that.**

108 **So I was really trying to balance – not to try and justify it too much but just to**
109 **kind of say that your point is really valid. I think if I'd been able to extend it**
110 **further, that would've been a really good thing, and I didn't really know how**
111 **long people were willing to be part of these workshops for (laughs). How long**
112 **is too long? But anyway, it's really good feedback and I'm glad that it**
113 **prompted you in a very good way to kind of get you there.**

114 **What we're going to do now, I think, is move on a little bit more to discussing**
115 **what you actually designed in the time that you had and perhaps some of your**
116 **thoughts on that. So do you want me to remind you of the design you created,**
117 **or you do remember it?**

118 Just a second, I'll get my notes that I have kept. So yeah, I have it. So one more thing
119 I would like to say is that the workshop was not tiring, which is really good. So the
120 change of steps and flow were good and it was interesting, basically.

121 **That's good. I'm glad to hear that, yeah.**

122 Yeah, okay. So yeah, I remember my idea, yeah.

123 **Okay. So, kind of looking over that, what would you say was your main avenue**
124 **of thought? What were you really trying to get out of designing these things?**
125 **Yeah, just kind of reflect on that.**

126 What I was trying to do, I mean, as a team, we picked two words. So, initially that
127 framework helped us to set the context and set the important features, I guess, which
128 was good, picking on that. Then we came up with the design concept. So **its all sound**
129 **and flow** was good.

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130 So I was just trying to do (a thing that was) at least feasible and also could be
131 innovative and not the usual, for example, display or an app. So I was thinking beyond
132 all those things because, yeah, I mean it could be because of the toolkit, it could be
133 because I also like to think about tangible computing and things being augmented with
134 technology and all. So I don't really know about the distinction, and then, yeah, I mean,
135 whatever.

136 **Just kind of thinking about what you did, I mean obviously one of the topics**
137 **that really stood out with me was this kind of engagement with this religious**
138 **symbol or deity.**

139 Oh okay.

140 **Yeah, then you really—**

141 So you want to talk specifically about this?

142 **Yeah, anything that you really kind of think about, or the decisions you made, is**
143 **really interesting to me, but also—**

144 Oh okay.

145 **Yeah, stuff like that.**

146 Sure. So the thing is that I was thinking about something that is engaging because, in
147 my opinion, engagement is one of the biggest issues. We were thinking about this
148 community thing. So, people don't get engaged, people easily (... personal) things, but
149 this community needs to be engaged. They really need to be motivated in a way that
150 they are able to relate to it. That person needs to motivate them whom they are able to
151 relate with.

152 So the (lead) person or some symbol or (laughs) anything, like whatever works for a
153 community, that is really important in this case because, otherwise, there are millions of
154 technology inventions happening and these things get lost. So it needs to be visible, it
155 needs to be peripheral, but it should not be like a pressure as well. So, it needs to be in
156 the environment and available to anybody. Also, there should be some feeling of a
157 reward or this kind of thing so I'm able to do something. If I want to make some
158 changes, I can have that gratification when I see something happening, like on a statue
159 or on a symbol, because of me.

160 So I did some action and then it turned the thing in the certain way because many times
161 this happens that when we do community work we are not able to see the real change.

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162 Many times it happens. I mean, for example, if you donate something somewhere, I
163 mean from personal experience, I feel much more **motivated** to just donate a few
164 pounds because I don't where does it go. Will it really **(change)** someone's life? Will it
165 really affect any part of their life? So I'm just trying to connect this action to some
166 feedback, emotional feedback. Of course, I mean the thing can give the physical digital
167 feedback but also the emotional feedback. I was trying to capture the engagement,
168 emotions, that kind of area.

169 **Yeah, it was like when you mentioned Loch Ness, it's like this cultural icon**
170 **almost that people can really associate themselves with, I think. Yeah.**

171 Absolutely, and also, it's so much culturally dependent. So for example, if we talk
172 about— And I think there are statues and these cultural symbols everywhere. If you go
173 to India, for example, you will see so many statues of either Indian gods or some
174 freedom fighters from freedom struggles. I mean, similarly, different places have
175 different **(touch)** points, and I think people get really affected if whoever they are **(cut**
176 **in audio_ respect _cut in audio_)** if that symbol is getting bad or going in bad shape or
177 something. I think that it has very strong cultural **annotations** to this, so it made me
178 think about all these things.

179 **That's a really interesting avenue that I haven't really explored that much**
180 **myself. So how would you describe, if it did at all, adopting this thing-centred**
181 **perspective or this device being or technological being perspective in helping**
182 **you with the exploration of those ideas?**

183 How would I...? Sorry, what was—?

184 **So, with the adoption phase of it, we were looking at adopting this data hungry**
185 **home, technological being perspective, or a very literally thing-centred**
186 **perspective. Would you say that that helped you in the exploration for these**
187 **ideas, or not at all? Please feel free to be honest. If it wasn't really that**
188 **helpful, that's fine. That's one of the things I'm trying to look at.**

189 You mean that toolkit?

190 **Yeah. So it kind of invokes this idea of a thing centredness where it's the**
191 **existence of the being. Would you say that that was helpful in the exploration?**

192 I see, okay. So the being part, I think, yes, because I can relate to this part. Because
193 you were talking about a being, maybe that's why I thought emotion was important
194 because it is a living being and people— That's why this idea also nicely integrates, in

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195 my opinion, to give a life to some— These are non-living objects. So, to give life to
196 them, to consider them as beings, consider their health and wellbeing or whatever,
197 because people do connect with non-living objects, for sure. I mean people love their
198 cars, people love their phones or whatever, so there are strong emotions possible there.
199 So I think this being concept is good to present it explicitly.

200 I mean, if we don't talk about explicit things that are (themselves and things), like
201 people do attach emotions to something that is interactive. I mean, a person who is
202 living alone can have emotions attached even to a voice agent, to Siri or to Alexa or
203 whatever. But putting it as a being makes, I think, more people think about it, to have
204 more emotions, more designers to think about in that perspective, yeah.

205 **So it's somewhere between a metaphor and an approach to creating an**
206 **emotional attachment to an object that's just beyond its usefulness, perhaps?**

207 I think it does definitely motivate, at least to a certain extent, to think more about the
208 emotion and to give it a bit of life, to treat it in a more superior manner as compared to
209 an ordinary non-living object. I mean, that makes it useful, so I don't think that that
210 should be separated.

211 **Okay, so you're very much interconnected by viewing it as something that's a**
212 **being, or possibly even to our typical understanding of products.**

213 Yeah, and also—

214 **You're not saying it's not useful.**

215 Yeah, absolutely, and it also could open up discussions on philosophy or something when
216 you start considering these things as being. You design them in a more empathetic
217 manner to have a more harmonious interaction between the augmented object and the
218 user. So it could go in that direction, I suspect, yeah.

219 **Does that maybe represent a change in the nature of the partnership that we**
220 **have with technological objects then, if they become beings?**

221 Yes, it could do that for the user. It could also do that, I think, more for the designers.
222 So they need to feel, maybe, that they are designing something like a real being for the
223 user, and that's why they need to have that empathy or heart in the thing that they are
224 designing so that it understands the user. I mean the thing that has been designed
225 understands the user later, when the user uses it. Do you get what I mean?

226 **So you're almost trying to put empathy in the designer and in the object?**

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227 So, in the design and in the object, yeah, because I think that if designers or developers
228 have this feeling that they are developing or designing a being, a technological being,
229 then I think they may make it more empathetic to the user when the user uses it. So
230 yeah, I think that is— Then it will be more useful to the user. It will be more like a
231 friend rather than this master/slave relationship, or a machine dominating the human,
232 this kind of relationship dynamic. It could be perceived more as a friend or something
233 like that, yeah.

234 **Yeah, I think you've kind of picked up on a point that I'm equally interested in,**
235 **this idea that when you've got something like a smartphone, I'm kind of like**
236 **the predator or, like you say, the master, and this is kind of like my slave. But**
237 **if it's in a more communal, more balanced, almost symbiotic relationship, it's an**
238 **interesting thought.**

239 I mean, for example, a simple idea might look like a modification, but even for the
240 robotic vacuum cleaner I just got recently, it does everything on its own. So, when the
241 bin is full, maybe if it showed a sad smile or, I don't know, whatever, then it could just
242 prompt me to take care of it and then empty it in a more empathetic manner rather than
243 getting frustrated and 'why the hell is it not cleaning now?'.
244

(Laughs)

245 So I don't know if this could change the user experience, something like that, yeah.

246 **Okay, no, that's a— Almost you can imagine maybe the vacuum cleaner kind of**
247 **finds you and starts having the sad face and kind of wiggles at you to try and**
248 **gain your attention.**

249 (Laughs) Yeah.

250 **And then all of a sudden it's more animated and then more— Yeah, okay.**

251 **So, I'm quite curious because obviously you've engaged with this in a really**
252 **interesting way and I'm going to have to think a little bit more about this whole**
253 **deity and cultural icon aspect of this further. But I was wondering, would you**
254 **say – and obviously 'no' is a completely valid answer – that through doing the**
255 **workshop it's maybe changed your thinking on things like data and physical**
256 **digital devices?**

257 Not a lot for me because I have been in tangible computing research for quite some
258 time. I mean, I agreed with this even before (actually). So yeah, for example, I'm not

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259 one of those people who always thinks that the solution for something is always a digital
260 app. I think more from the perspective of making **everyday** objects more interactive.

261 **Okay, no, that's absolutely fine.**

262 This supports my **(thinking)** (laughs)—

263 **(Laughs) Okay. I mean, that's great. It's good to know that it's— I always**
264 **kind of wonder how people will take this because some people react it to very,**
265 **very strongly, in varying ways. But just being reassured that, no, no, it does**
266 **make sense (laughs), you know what I mean?**

267 (Laughs)

268 **So okay, with that in mind, would you say that because you kind of talk quite**
269 **frequently about the toolkit itself, kind of the structure and everything that I**
270 **built, is there anything from that that you might take away, might apply in the**
271 **future or perhaps suggest to other people that you kind of found through doing**
272 **this process?**

273 Is it possible to access your chat board now? I just want to have a—

274 **Oh yeah, absolutely.**

275 **If you can paste the link in** the chat box.

276 **What was it? Which session? I think you were session two, weren't you?**

277 Two, I guess, yeah.

278 **Just give me two seconds.**

279 Just want to have a quick look so that I can say better.

280 **I'll post the link. The password is still— Oh, I'll do that. Just give me one**
281 **second.**

282 Okay.

283 **Oh, Miro is being very slow for some reason. I think because it's an online**
284 **platform, if it goes a bit messy—**

285 I think everybody's using it now (laughs).

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286 **Yeah, the whole world's on Miro. It's crashing the service.**

287 Yeah (laughs).

288 **Wow, it's actually freezing. Okay, here we go. This looks more promising. So,**
289 **open that and then copy the board link, put it in the chat. Okay, so that's the**
290 **link, and the password is thingdesign2. Okay, I'll just try and dig out the stuff.**
291 **I can't remember what state I left this one in. Oh no, it's all complete. So**
292 **yeah, the framework is still on the worktable actually, although I've also copied**
293 **it to the bottom.**

294 Yeah, okay.

295 **So yeah, you guys—**

296 So I— Sorry?

297 **I was just going to say, I remember now that you guys picked sarcastic and**
298 **judgemental. Because I haven't had the full time to really go over all of it, I**
299 **just kind of listened to what you were saying in response to questions and stuff**
300 **like that. But sarcastic and judgemental is a really interesting idea (laughs).**

301 Yeah (laughs). Also, the step before this— Sorry, what were the steps before this?

302 **So the first step was just the question prompts. The second step was questions**
303 **with blank spaces with cards that we could fill in. And then the third was the**
304 **framework building. But I'm not necessarily saying you have to literally apply**
305 **the toolkit. I'm more wondering if you can also think about whether or not the**
306 **broader perspectives on technological beings and harvesting devices, whether**
307 **or not that— Is there any of that that you think you might change, or it might**
308 **have changed the way you see physical digital devices or your thinking in**
309 **general?**

310 Yeah, I do like the framework. It helps to add things one by one, which is good, and it
311 covers the space that's happening at data property. So these things are good, yeah. So
312 that is a good way to make people think step by step. So that's why I do like that.

313 What else? I do like the division between, as I was saying earlier, the harvesting device
314 and the technological being. It separates the (sensing) and the device, or the
315 interaction interface. It separates them and people can combine them but yeah, it helps
316 to separate them because sometimes people get stuck with thinking about how the same

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317 thing will look like. So this gives them the possibility to think about design and the same
318 thing. That was good.

319 Yeah, I'm not sure if there's anything coming to my mind that I would change, but—

320 **No, that's absolutely fine.**

321 I mean, the cards, again it goes back to the cards, like what kinds of cards, because it
322 can bring out any output. So if it is considered as an ideation thing, then I think it is fine
323 how it looks. Yeah.

324 **Okay. I mean, that's all great. I mean, like you said yourself, we're in a similar**
325 **vein, so perhaps there's not so much provocation going on here because we're**
326 **all in a similar space. So it's not that surprising to one another.**

327 Yeah.

328 **But again, that's absolutely fine. I really do appreciate honesty over people**
329 **just telling me what I want to hear (laughs), you know?**

330 Yeah.

331 **So okay, that's more or less basically all the kinds of things I wanted to look at,**
332 **kind of like changes of opinions and what you found about doing it and what**
333 **you actually designed and what you thought about that. Basically, I've just got**
334 **one more question that's maybe a bit strange sounding but we just thought it**
335 **would be an interesting thing to get people's opinions on. What would you**
336 **say—**

337 Sorry to interrupt, but I just wanted to add to the previous part because I've been
338 thinking.

339 So, one thing that could be added, or another way to look at it, could be to give them a
340 problem statement. For example, if I had a problem statement on a storyboard to start
341 with, then giving people the framework or the possibility to design and then seeing if the
342 being can resonate with them or not. Or if we have to design a being, then if there is a
343 particular problem statement, then we can see how well there's been concept to get
344 supplied for the particular problem. So that could be also one way.

345 **So would you say – it's quite an interesting thing that I've been wondering if**
346 **people would bring up or not – that when you're designing these kinds of**

347 **technological objects that use data or create data, do they have to have a**
348 **particular problem in mind?**

349 I mean, yeah, it depends on— There are two ways. So, one could be like a general
350 purpose thing so it can be customised by the user later. Yeah, I think more focused
351 effort happens when you have a particular problem statement or something to design
352 for.

353 I mean, in the end, although we did decided of course about a sustainability and
354 community thing, I would like to see if you start with that itself, like a particular problem
355 space, if that would change something or give more time for more brainstorming about
356 the design of the being. Rather than users or participants selecting the areas of their
357 choice, your focus is on the being, right, rather than us choosing that problem. So why
358 do you give us time to choose the problem? That's what I'm now thinking.

359 **Oh yeah, I guess I was just trying to see how people kind of react to it. I'm**
360 **curious in a bit more detail about this problem-centric element of it. Do you**
361 **think – and perhaps we can elaborate on this a bit more – it's possible to design**
362 **objects that interact or create data and use data that are inherently**
363 **problemless, or almost purposeless or useless, at least immediately, and how**
364 **that could actually work in a design context?**

365 I mean, that is possible. For example, just to have smart displays, let's say flagged
366 displays on my board, I could program it in a way that, okay, if, let's say my child wakes
367 up, in my study room the light then changes and I get an input, **ambient input**, or subtle
368 feedback **that {occurs}**, it could be something totally different. For example, if my data
369 or if my privacy is at stake, or if I'm visiting a bad site, then the display becomes
370 different and it gives me some visual feedback.

371 So, in that way, yeah, things can be designed, but I think more association, more
372 emotional engagement will happen if there is a particular problem that they're trying to
373 solve for me rather than making it general purpose, or something like that. Yeah.

374 **Okay. Sorry, but I'm going to drill down a bit more into this. I'm quite curious,**
375 **and obviously there are no wrong answers. My background is very similar to**
376 **yours in the sense that we come from this problem centric world. Why do you**
377 **think that is, especially when you consider that we do have other organic**
378 **entities around us, like plants and animals and all these other things that we do**
379 **interact with in a way but don't necessarily solve problems for us? Even**
380 **though you can argue that they make us happy or make our wellbeing better,**

381 **but obviously they don't directly do that. Why do you think, for technological**
382 **beings or technological designed objects, it has to be so problem centric?**

383 Because that is the motivation for people to buy them or use them. I mean, generally, if
384 it has good aesthetics for decoration purposes I'll buy it, but it has to have some utility
385 for me. A plant is for decoration, for oxygen, but it has also some utility. I think
386 everybody has some utility in life. Even human beings (laughs) fulfil some utility. My
387 partner has some utility for me (laughs).

388 **(Laughs)**

389 So yeah, it can go beyond. So I guess there is an element of utility that I'm trying to
390 cover. It maybe doesn't need – **challenging the plant can serve** the decoration and
391 oxygen purpose, right? So it has this utility. So I don't think that there is any example
392 you can give that has no utility, and still, I'm using it.

393 **Yeah, I'm not trying to say that there's— I'm perhaps being a little bit**
394 **hyperbolic but I'm not perhaps saying that there's no true uselessness. But**
395 **there's a big difference between something that's like a hammer, for example,**
396 **that's designed for a very specific thing, and then there are more things that**
397 **are more ambiguously useful.**

398 Yeah, yeah, I do understand. In the end, it depends. At least, I mean for the
399 technology so far, people buy it when they see some use to it, that is for sure, otherwise
400 it looks good and, yeah, these kinds of things. So there could be generalness in that,
401 but people have to find some use to it, in the end. Yeah, I can't disassociate myself with
402 utility, I guess.

403 **That's completely fine. No, I understand that as well. It's basically very drilled**
404 **into us, isn't it? Especially as designers, it has to have some—**

405 Yes. So even if it has been designed for a general purpose, not any specific purpose,
406 just like I was talking about the smart LEDs, the smart lights, then the onus falls on the
407 user in how they want to use it.

408 It could go both ways. So if the user is competent enough and they know how to put life
409 into it or how to make that being, I (laughs) don't know if they can do it. But then
410 there's a shifting of the responsibility of making that piece of tech a being from the
411 designer to the user, I guess, if you get what I mean.

412 **Yeah, yeah, you're basically providing a user with a raw material, almost.**

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413 Yeah, yeah, yeah, that's what I mean. So, if there's no specific use for it, then okay, use
414 it for your choice. That's fine, but how will you make it a being?

415 **Okay, that's a really interesting set of observations there and I'm glad that**
416 **we've— I don't want to lead people into the utility discussion, but I'm glad we**
417 **had it because I was quite interested to see what you would think of that.**

418 **So my final question is – like I said, it's a bit of a strange one – how would you**
419 **describe what my research or what my PhD is kind of seeking to do, in just a**
420 **couple of sentences or a just a sentence, or even just a couple of words if that's**
421 **better?**

422 Yeah (laughs) that's quite an interesting question. That's quite a smart question so you
423 can get all the inputs and ideas from the participants (laughs).

424 **Yeah (laughs).**

425 So, you're trying to design a framework or a toolkit or something so that designers are
426 able to build technology, more thing-centred technology, and consider the things that
427 they are building as beings. So, to put more life into tech. So I think that emotional
428 (this component) is going to be strong motivation for your emotional engagement, and
429 these kinds of things are going to be strong in your argument section (laughs). I mean
430 more division and argument.

431 So yeah, that's what I'm thinking. Then maybe there are going to be some design
432 recommendations that are going to be a framework, some prototypes on how to do it.
433 Yeah, these kinds of things.

434 **Okay, great. Yeah, I mean, that's certainly something that I'm trying to reflect**
435 **on. In effect, the workshop was almost an experimentation in how to present**
436 **the concept in a way that can be digested in a very short space of time because**
437 **you don't have days and days and days to explain all of this background and all**
438 **of this literature. So yeah, that's a—**

439 So what I'm saying, is it in the right direction or are you doing something totally
440 different?

441 **I've still got one more year, so my write-up should, in theory, happen.**

442 Oh yeah.

443 I was originally hoping to put the device beings and the harvesting devices in
444 people's homes, just to see what they do with them.

445 Sure.

446 I don't know if I said this to you or not, but I was originally going to do it for a
447 month or two per participant, but now I don't really know if that's going to be
448 possible. Maybe I can do it for a week, if I'm lucky. But yeah, a kind of
449 generalised framework, like you say, or toolkit or method is something I'm
450 thinking about.

451 I'm also trying to think a bit more about challenging the boundary of our
452 discussion around what a being can be. But I don't know whether or not I'm
453 going to be able to do that. But yeah, you're in the right ballpark; I'm certainly
454 thinking about that, because everyone likes a good framework. Everyone likes
455 to say, oh, I produced this approach, or this method, and that's a really good
456 thing to have as part of a PhD, the production of something new. But yeah, no,
457 absolutely.

458 So the final thing is, basically, do you have any more questions or any
459 questions at all for me that you wanted to ask that came out of this discussion?

460 No question in particular but I would be interested to see what kind of prototypes you
461 make. One of my colleagues was doing a PhD at [REDACTED] and he had this
462 mood— He built a device – so, like a _cut in audio and unclear_ device. His name was
463 also [REDACTED] (laughs).

464 A common name (laughs).

465 He gave that device to a participant and they were supposed to capture the colour and
466 also things that they liked during the day.

467 Oh okay, that's very interesting.

468 So yeah, it had some meaning but, I mean, personally, I did not find it that engaging
469 because the question that used to come to mind was why I should capture the colour,
470 why I should carry this every time, these kinds of things. So I'm just talking about this
471 because I think giving it a purpose, a general purpose, I think it really needs good
472 brainstorming and thinking or some iteration such as workbooks.

473 **Just as an aside, I'd be really interested to know who that was, if you could**
474 **potentially email me their name, if they've published anything, because I've**
475 **been scouring, trying to find people that use colour collection.**

476 Yeah.

477 **Did I show you the devices I made – I can't remember – in the workshop?**

478 Yes, yes.

479 **Did I actually show you on a camera?**

480 Yeah.

481 **Oh okay, yeah, because I sometimes wonder whether or not people think I've**
482 **actually built them (laughs). Because they seem so odd, I wonder if some**
483 **people think, oh, that's just some CAD that I've photoshopped into something.**

484 Oh yeah (laughs).

485 **But yeah, you're absolutely right, I am similarly curious about people's**
486 **motivations and I thought of maybe exploring this avenue of acquiring data 2**
487 **functions so that it would literally stop functioning permanently, kind of like a**
488 **death – but I don't really want to call it that – to see if that motivated people.**
489 **But then like you say, the combined almost aesthetic quality, or the relationship**
490 **you build with them over use, whether or not that kind of creates that desirable**
491 **perpetual loop of them creating and destroying data with the interaction with**
492 **this device.**

493 **So yeah, that's kind of one of the many facets that I have to (laughs) kind of**
494 **think about.**

495 Sure. I've just sent his name.

496 **Yeah, all right, that's really helpful. I'll look him up.**

497 Yeah, I'll also send you the— Actually, I'll send you the link to his paper. I'm not a
498 hundred per cent sure if this is the same paper that I was talking about, but it's called
499 [REDACTED] and it was in TEI. So, the conference on tangible **embedded and**
500 **embodied interactions.**

501 **Yeah, I keep thinking about submitting papers to TEI but I'm really picky**
502 **because I keep thinking, oh, I'm not really touching anything (laughs). You**

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503 **know, I've got the object that you use to collect data, but I suppose it's**
504 **probably more related than I think it is.**

505 Yeah.

506 **Okay, that was really great.**

507 Okay.

508 **Thank you.**

509

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KEY

Bold: Interviewer
Regular: Respondent
[]: Uncertain word(s)
W: High confidence
(): Medium confidence
{ } : Low confidence
__ : Other information

Right, so if you can see my screen, I'm just going to go over a little bit of what we did and ask you to give some feedback on each stage about things, like how you felt and any other thoughts you had about doing the activities.

So just to kind of start of with the first part that we did, I'm not asking you to answer these questions again, so don't worry so much about that. But as you may remember, what we started with was this framing activity where I asked you to answer these quite open-ended questions, which took about four minutes. I was wondering what you felt about those and if you could give me any feedback on that?

Oh okay, now you're testing me because I do have to kind of remember back (laughs). I remember I did it really fast. I was surprised. It was like forty seconds instead of four minutes. Let's see.

So I guess it was a little bit difficult to try to describe it and put it into words, and I didn't really know why. It shouldn't be that hard. But even today, it kind of continues to be something that's a little **interesting _cut in audio_**. I think with human, devices and data, especially in the CHI and HCI community, is something that we talk about a lot. But at the same time, I think because we talk about it a lot, we know the complexities involved with it. So it's hard to perhaps conceptualise it in a short period of time. To me, it's kind of an all or nothing discussion around some of those topics in, like, forty seconds (laughs).

Yeah, that's fair. I mean, the original kind of purpose of this was just to get the kneejerk reaction because if you give people too much time they kind of reflect on it and they write these long poetic or important sounding things about it. But sometimes it's just great to hear what people say when you kind of surprise them with it.

Yeah.

But yeah, okay, it was a bit daunting but, overall, you were very succinct (laughs).

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(Laughs) Indeed, and I don't remember what I said at all (laughs).

I have a few notes. Your focus mostly was on convenience, learning about users through data and invasive, ubiquitous computing that kind of functions in the background but doesn't invade privacy or anything like that.

Okay, yeah, that's {probably right?,} that resonates, I'd say something similar today, I think (laughs).

Okay, great. So just kind of moving on to the next bit, this is over two slides, so I'm just going to quickly remind you of the questions that we had on what I termed the focus section. So this was a bit more of a provocation, a bit more asking to fill in the blanks here with the cards. I'm just going to leave these questions up for a little bit to remind you of what those were.

What I gave you to fill these blanks in were these different cards, and the first two rows are to do with the first question, which is using data to do a certain thing. The third row is the second question, which was kind of like an assortment of metaphors as to how we could design devices to make us care for them in different ways. And then the final row was much more provocative, imagining if certain devices had these traits and how we could interact with them or how we could design objects to work with them.

So just as a general review, is there anything even then or now that kind of stood out either from the cards or from the questions that you particularly remember, and how did you feel overall doing this activity?

I'll probably go backwards in answering the questions. I really liked this activity. I thought it was nice to have the visuals that prompted me to have ideas. I think I immediately was kind of talking about the weather and then moving around the furniture, and then I think I just said that to kind of get things going. But as the other participants were talking, then quite a few other ideas popped into my head.

I think we probably could have landed on this for quite some time and talked about the interesting insights that could come by combining different things, but yeah, this got the ball rolling really nicely in getting us to think about how one piece of information, or a bit of information in general, could feed different outcomes. I think that really was a good facilitation to what we ended up doing towards the end. So yeah, I thought it was really effective.

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Okay, that's really good to hear. Do you feel that when it was first presented it made sense immediately, or was its purpose more apparent when you encountered the final task?

It was a combination because I think the title that you even used for the event was pretty representative of what we ended up doing. I can't remember if you described— You might have planted a seed and said something like, "This is going to directly relate to what we're doing later." Maybe that happened, but probably not because you were probably being a little bit more... playing your cards close (laughs).

Yeah, yeah.

Yeah, I don't remember, but it seemed logical to me.

I've used Miro in a variety of ways in the past six months and I had seen card sorting being used, which I would count this as. I really liked this because I thought it was one of the better ways it was done. And the fact that you had that middle layout area where you would just pull things and then have us all just continue to look in that place, I thought that was really helpful and it got me able to focus on the subject at hand instead of being distracted by all these other moving parts, which sometimes Miro boards end up doing to me.

Hmm, yeah, they can be very intense. I've been in a couple where there's just a flood of things that you have to keep moving around.

Right, exactly.

Yeah, whereas this was, I guess—

You lose your train of thought.

Yeah, which I guess this is almost like a theatre where they keep putting different backgrounds in, or something (laughs) like that as part of a show.

Yeah, exactly (laughs).

That's a weird way of thinking of it. Okay, that's great. So maybe just talk a little bit about the final row because, from my perspective, that was something that was the most provocative, I suppose. Do you remember anything that really struck you or anything that was really interesting to you from the final row?

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Oh, the final row. No. I liked the idea of the companions and the machinations, as we talked about, and the conspiracy. So I think it was an interesting combination of positive and negative depictions.

At the very bottom, right, the needs, fears –?

Yeah, yeah, yeah.

Okay. Yeah, I don't think we spent a lot of time on that but I think it also conveyed the idea that there are explicit purposes and intended consequences of a lot of these things. But then sometimes there's a dark approach to life, kind of like the black mirror things, and perhaps that was intended to be as such. So I thought that was a good way to start thinking about things.

Okay, great. All right, we'll speed on to the next bit then.

So, after all of that, I kind of dropped you into the adoption and exploration phase, which was the core design part of the workshop. I gave you a framework, more or less really just a table with yet more cards, because you can never have too many. What we did was we kind of discussed them, the different categories of cards, and then just placed them on this framework to give us a grounding for what the technological being and the harvesting device were going to do and what the traits were. Then you all went away and you designed it for... I think about half an hour was about the time you had, maybe a bit longer, and then you presented it back to everyone.

So just kind of thinking back to all of that, was any of it particularly good, bad, daunting, or any of those things?

I would say, at first, it was a bit daunting just to design something because I don't know if I consider myself to be a true designer. So, to think about having to design not just one but two things could be a little intimidating, but I think it was presented as not being something to be intimidated by. And I think that helped a bit too. Then after a while, it was fun to see how we could play with things. That's why I named mine because I thought that that would be an interesting way of approaching it. It seemed like a similar take to how you had done some of the examples that you shared with us, so that made it more practical and also whimsically fun for me.

Yeah, I felt like I understood what we were doing too, because the fact that you did have those cards and we understood the players and the venue and all those different objectives that came into play with the two types of objects, I knew that I was

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functioning within some good constructs and was able to not get too overwhelmed by the task at hand. If it had been more open-ended, I think it would have been tougher.

Hmm, okay. No, that's really great. It's interesting that you describe yourself as not a designer particularly. Would you say that your background means you don't really design very much at all? Is that what you would describe yourself as?

I guess so. I think now that I'm officially in a school of design, I see that as very different than what a lot of the designers are. You know, the people who {cut in audio assuming word is_ use} software all day every day to actually create prototypes and that sort of thing. My design approach is much more strategic. So I do a lot more design strategy than anything but, conceptually, I feel like there are a lot of design things and designerly ways of thinking that I practice on a day-to-day basis.

Okay. A question that I kind of forgot to ask at the beginning is, what would you say was the reason that you were interested in this workshop?

I think because of the thing-centred design element. That's something that I've been curious about. Then for me, the fact that I've gone back to do a PhD after working for a while, I really just want to learn as much as I can about theory and different conceptualisations that are out there to see what could potentially play into some of my research.

I'm just checking back on what you submitted on the Google form. You said you're familiar with thing-centred design. Was this kind of what you were expecting from a thing-centred perspective?

It was. There was a slight difference because sometimes with the thing-centred design I've encountered examples where you think of yourself as the thing, and I didn't do that too much when I was at least doing this design of the two objects. But no, I think everybody approaches it slightly differently, and for me it was understanding the nuance that you were approaching this with.

So when you say thinking of yourself from the— I can never remember how to pronounce the name, but are you talking about the work from TU Delft where they put the camera on the thing or they get the actors to act like the thing? Or is it something else?

Oh, a combination of things. Sometimes it's that and sometimes there are some different interview techniques that you can use where people think of themselves as a

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device or a place, and then you can interview them as if they were that thing or that place. I'm sure it would take on that kind of approach, I guess, or if it was just designing for the thing and the objectives of the thing.

I'm quite interested because obviously not that many people will have put 'familiar' or 'very familiar', so I'm kind of picking a little bit at this.

Sure.

Would you say you've come across maybe the work of people like Ron Wakkary and William Odom from Simon Fraser, or is that not so familiar?

You see, the problem is that I don't know a lot of the names. I can name a lot of the projects, just like we talked about Roomba moving the furniture and the things that we shared back on forth. I've encountered a lot of these but they've also been very concentrated in the recent past for me.

So yeah, it just depends. So much of what I do is the smart building work, so I think I would say I'm very familiar because I do a lot of that. But when it comes to things that are more open-ended and the variety that that covers, it's hard to say how much depth I can truly say is there.

Yeah, it's a tough one. I've been trying to find—

More breadth, I think (laughs). Shallow breadth (laughs).

Yeah, I've similarly been trying to find examples of what my work does, and sometimes I don't even know what to put in as keywords. I mean, how do you describe this? But anyway, okay, that's really good.

So, with that in mind, kind of the process, I thought we could move on to discussing what you actually designed and perhaps go into more of a deep dive as to what you chose and why. Do you remember what you designed?

Yes, a buoy-shaped thing (laughs).

Yeah, the buoy thing and the kind of walk through experience of water. So perhaps if you could just give me a little bit of a summary of what it was, and in that, or outside of that, we can talk a little bit more about your decisions and other themes around that.

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Okay. So the first thing that I did for the harvesting device was the buoy-shaped transponder of sorts that would float in the water. I named it L'eauPro, a play on water in French – I remember that – and yeah, I had the water come in through the floating object and then it could be analysed by a data logger.

Oh, I think (laughs) the other people were saying mine was really technical, my explanation. I didn't really intend it to be, but yeah, that's how I envisaged the water going through, being analysed and then being able to then have the output through a transponder on the top.

Then for the technological being, I made a similar shape so that the reference was clear that there was some kind of water analogy. That would be at the top corner of a room and then, from there, there would be a speaker and then an output for a fog machine of sorts. I think I suggested not just the fog but also to have some kind of colour and – what was it? – a smell (laughs). Then with the speaker, I thought it would be helpful to perhaps have the sound of water so that you would also hear that as a sensory reminder as to what the subject matter was.

Okay. So what would you say kind of governed your decision-making on the ways that you interacted with the parts there?

For me it was reference. So, just trying to think of something logically that would make sense for me. That's why I chose the buoy shape, and then even to do it on both sides.

On top of it was the card that we had identified, so I knew that we had to stay within the confines of the cards. So it had to be something with water, sustainability, and we had discussed incorporating smell. I don't even remember the other ones because I knew, as I was thinking, I was brainstorming other things. I suggested kind of alternative options, like an additional display on the wall, and then moveable little micro beans (laughs) on the ground that could be concentrated if there were more of them.

Hmm, yeah, I remember those, the kind of...

They were ultra...

(Overlapping speech 0:15:58)

Right, exactly. That was because I think I had a little extra time at the end and I was just playing with that.

Yeah, your group picked an awful lot of traits. So you had sarcastic and judgemental, curious and indifferent, animate and inert, calm and angry, and abstemious and greedy.

(Laughs) I forgot about that, yes.

But you didn't have to stick to it like glue, so to speak. It was, hopefully, more of a starting point. And I think that did work.

Okay, so I'm quite interested in your reasoning behind what you described as the technological being. How would you say it fits in with the environment that it's supposedly existing within?

Well, for me, I was picturing it as— I believe it was described as a civic centre, or something like that. I was picturing it similar to the city [REDACTED]. They have city halls and then they oftentimes have the museums with them. So they would have something that would be an experience and a room you could go into, but it would relate to the city and things that are of importance to the city.

So I envisaged somebody talking about sustainability as a principle that we hold dear here, wherever you are, and then you had this display going on over there and you can go and experience the water pollution levels for the day. So, conceptually, that's what I was thinking with that and I tried to, again, considered only the technological being as being the fog machine, sound machine, smell machine, at the top right corner of the room. I was primarily just picturing an empty room and then that would be the thing that would basically fill the room and enable somebody to experience the pollution levels.

So the people that will interact with this being, how will they actually see it? Sorry, in the sense that what role will it fulfil for them?

Yeah, I think for me, I wasn't even really picturing them seeing it all that much. The only thing that I considered them seeing was the buoy reference. So, having it in the shape of something that was providing output data relating to it. But otherwise, it was more the value in what it provided, the actual environment it was creating. So, because of the fog it produced and the noise and everything else, it was the overall experience within the room rather than just looking at the device.

Okay. So I think I may have misunderstood it initially. So let me just double-check. What you're saying is that the technological being is only— What you've kind of drawn as number one on your little diagram – I don't know if you

have that to hand – is the little buoy-shaped thing that's sitting in the corner, and then room, as it were, is almost its environment that it exists within.

Yes, exactly.

Right, okay. So I'm quite interested to kind of pick apart some of the choices that were made by the group and the overarching theme of it. It may not be so problem solving as the design world tends to see things, but there's definitely an intense utility to describing pollution to people. Do you think that that's a typical thing that should be approached in design?

Yeah, I think it's really valuable. There's a lot of interesting ways of having this sort of subject matter resonate with people, and oftentimes it needs to have different ways it's communicated to get through to the populations that should learn about this. So I think it's nice to try something different because not everyone is going to want to see a report or look at a dashboard output like that.

So, to have an experience where people can not only get the information in a different way but experience it in such a way that, if there's fog, they feel like they're kind of coughing on it. So, they see a different sort of pollution and it becomes more visceral. I think that's really valuable.

Okay. To not try and go against what you've just said but how would you imagine a way in which we could do the opposite, almost a purposeless form of design?

Ah, that's just bad design, isn't it, if people do something and it doesn't have any intended output or anything helpful? I think a lack of good design is bad design. (laughs).

I was kind of curious as to why do you think that not having an explicit or, I suppose, obvious purpose is bad design?

Oh, I see. This probably goes fundamentally to who I am because, for me, a lot of things are purpose driven to have value. So I think it comes down to probably how you value things. I'm a lover of many things art, and oftentimes people could argue that art doesn't really serve a true purpose. It's not like it has a job. To me, art has value because it normally produces some kind of feeling or may motivate you or empower you or inspire you.

So, it's hard to say. Maybe design that not only does a job it's intended for but also doesn't inspire would probably be a bad design, or a design not worth doing.

I know I'm drilling down quite a bit into this but this is something I'm quite interested in. So I'm curious as to what your reflections on objects such as houseplants are, or pets, because I know that obviously you can simply say back to me, "Well, they have a purpose. They filter our oxygen," or, "We like to interact them," or, "They look good in our houses." But that's a strange human emergent purpose. It's not actually their explicit purpose. I'm wondering what you think about that?

Well, for me then, this is probably going to be a slightly different answer than many people. Because I focus on design for health in the built environment, things do have a lot of purpose for me because of the biophilia that the plants influence for the room and how a lot of people respond well to that from a social and emotional and physical point of view. So it's not just the physical element with the oxygen. It's just being able to have – what do they call it? – the different patterns and things we really relate to well as humans. That's where the biophilic design comes into play.

So even though, again, it might not be the plant's purpose necessarily, it's oftentimes put there by a human because that person wants to experience the plant's influence or the benefits of it. So yeah, that's different.

Pets are similar. I feel like it's the same sort of thing where they're driving a health response and, oftentimes, that's really valuable. *_Cut in audio assuming_ {and that isn't}* discussed all that much but I still think it's worth having.

Do you think that you can kind of extract what's happening there and apply it to the technology you designed? So, it's not so much about giving it an explicit purpose but giving it something where a purpose can emerge from the ways people interact with it differently?

Yeah, I think so. And even going back on the design that I did, I probably could have made the technological being more human. Not human necessarily, but more of an actual character rather than just something in the corner that doesn't really do or look like much. If it had a little bit more sass, for instance – now that you've reminded me about some of the attitude things we talked about – I think that could be really fun.

I'm reminded of the other participant who did the goo, or whatever, for her design. Maybe it's somebody, or a being, that is passing judgement when it goes very high in pollution levels and spits out goo, or has almost like a temper tantrum, the tech being,

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and does something really erratic and crazy. But that's its response to whatever has happened and then that would make it seem perhaps more emotional and more human-like.

Okay, yeah, it's quite interesting to unpack the purpose-centric or problem-centricity of design. So, hmm, I'm just trying to think how to seamlessly segue into the next section.

So, I'm quite curious. Obviously, your background and the purpose of this workshop are similar, but also somewhat at odds. So I'm curious to know, do you feel that having done this workshop, it has changed the way you think about things?

Ooh, I think so. Yes. I think I should answer yes or no, right? Yes (laughs).

Yes is a good answer because you're going to get the follow-up. How do you think it has, notably perhaps, with things like how does it change your thinking on data or physical digital devices or our relationships with them?

I think in terms of data, I probably feel like that hasn't changed very much for me. It's more how the data can be shown in terms of the device being more of a being. I think even just the use of the word 'being' changes my thought process a little bit. Then therefore, how we design for that and then how we can maybe portray some of the data differently.

Okay. With regards to data, how do you react to the concept that the data could be completely destroyed in the process of its collection and visualisation or physicalisation, or whatever you want to call it?

I don't know (laughs).

(Laughs)

That's a hard one. Can you repeat that question? I want to make sure I understand it.

So how would you react to me telling you that the data could be collected and then given to the being, and then through the being's use of this data, it actually destroys it so there's no memory of it, it's not on a server, that kind of idea?

Yeah, I guess that happens. It's just the nature of data and how it's transmitted. I guess it's one of those answers where I have to say 'it depends'. So, it depends on the

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importance of the data. Is it something that needs to be kept? If not, maybe it's okay for it to be destroyed. God knows, we have far too much data that we're capturing on servers for ever as it is right now, and that's contributing to the sustainability idea we talked about with the server farms.

Yeah, maybe that's a means to an end. Maybe by destroying the data, the being represents the data and then destroys it immediately afterwards, and that's okay. Or maybe its reaction to the amount of data coming in is the destruction of the data. I mean, it could be incorporated into the process but, yeah, it's tough. If it's valuable data and it's destroyed and the being is the reason that it's destroyed, then that's probably not great. Otherwise, maybe it's okay.

Or perhaps the data can be transferred into, I suppose, our collective memories because we've got very efficient servers, or hard drives, and we don't really take that much energy to store that much information.

Yeah, true, and there would be interplay between the beings and us. Then the onus is on us to remember.

Okay. So like you say, you've kind of described how things have changed a little bit. Well, some ways a lot, some ways a little bit from having taken part in this workshop. Do you feel that you're going to take any of the notions or ideas, or even specific tools or approaches, forward from this workshop, a kind of method that I used in the workshop but also an idea from the data hungry home approach?

Yeah, I think approaching some of the work within the home, using smart devices in the home, I think the approach of the data hungry home is an interesting one. I like even just the term. So I think that would be in the back of my mind.

I think from a methods point of view, I liked how you used Miro, and that's something that perhaps I would try to use in the future because I found it was really effective, like I said, without being overburdening for the participants. Which (laughs) is always a really difficult balance to strike.

Okay, that's great. Okay, so more or less, we're basically at the end of all of the little bits and bobs I wanted to talk about. So, I have one final, slightly odd question, and then you can ask me any questions that you have. So my final question is, how would you summarise my research in a couple of sentences, or even a couple of words?

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Hmm, I'm thinking (laughs). I think it's understanding and designing technologies so they serve a purpose but are also interesting in the design. Yeah, I think that's not something that many people do. Oftentimes, it's one of the other. So I think there's a good balance between the pragmatic and the very creative out there approach to it. So, really useful.

Okay, I like that. The joke that I've been saying after people have been answering is that I'm looking for my abstract. So I can just write that in. So, get someone else to do the abstract for me.

(Laughs) There you go unclear.

You just crowdsource it, right? You get twenty or so people trying to write an abstract, and somewhere in all of that—

Right, you just cobble it together and you're good to go (laughs).

I know this is a complete tangent but I remember watching something about mathematics the other day. You know when they have those 'guess the number of x in a jar'?

Yeah.

If you can get the record of loads of people doing it, almost always the average of all of those guesses is really, really close to the actual number.

That's so fascinating. Yeah, I think those studies are always so amazing because how can people just throw a number out there? It's not really based on much.

I think what they were saying is it's the combination of all the over-estimations and under-estimations that you tend to get it right. I just don't understand how that can possibly be true, but the guy who was presenting it showed how it worked and I just... maths! (Laughs).

You know, it does sound unbelievable. Yeah, it doesn't seem— The people who even guess those sorts of things, how do they even have that distribution, like higher and lower and the scale?

Yeah, and then—

Yeah, that's pretty interesting.

In the same documentary, they showed how all these different types – I think they were cicadas, but it doesn't really matter – had all synced up, different breeds have synced up how to come out at different times. They use perfect sevens, or something like that, so they would never really clash with one another. I know, again, it's—

That's mind-boggling. Yeah, that's amazing. It's like the perfection of **phi** and all those different things that they talk about. Yeah, **_unclear_ {way smarter than}** all of us (laughs).

Anyway, the final thing is if you have any questions for me? But other than that, we are basically at the end.

I'm trying to remember how much more you have. You have a few more months, right, and then you're finalising?

Yeah. So my write-up phase, if such a thing can happen in these times, is supposedly starting in January, but I haven't actually done my third study. So I'm going to have to try and find a way of squeezing it in there, if I can.

Okay. No, that's good. I think some of the questions that I had I was able to ask during the session, or even just ask for some of those references afterwards, because I think you and I compared a few different notes and then— I'm trying to remember who else was on the call, but we brainstormed a couple of things that we had seen elsewhere and made some of those references, which was nice to see us do that, have some of those **that were the same.**

Yeah, yeah, it's always great when these things work beyond just a fleeting encounter of people talking about stuff and then going on to do other stuff.

Right, exactly. Everybody seemed to get a lot out of it, which was really nice for the group.

Yeah, that group was the most time-zoney. So we had you and someone from [REDACTED], and it really stretched the globe on that one.

Yes, exactly (laughs).

(Laughs) Which is really fun.

Yeah, it was interesting. I mean, good on her for getting up at 4 a.m., or whatever it was.

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Oh yeah, yeah.

Amazing (laughs).

Okay, so if there are no other questions, we can consider that to be the end of the workshop. Oh sorry, I've got so used to saying workshop that I say it all the time now. Interview.

(Laughs) Okay.

So yeah, if that's all okay, I'm just going to stop.

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KEY

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...just share, not really a presentation, it's just a couple of slides just to remind you what was kind of undertaken at the workshop, as it's already been quite a while.

Right okay, so just to give you a quick overview of what we did and perhaps just ask for, you don't have to remember, re-answer the questions or anything, but just...

Thank god (laughs).

But just to kind of like, just a bit of a discussion about how you felt about the tasks, specifically you know, the three main tasks that we went through and yeah just your kind of like general thoughts on that kind of stuff.

So the first one was this kind of framing activity where I asked at least three questions, quite open, quite ambiguous, but how did you feel about trying to answer those?

I think it was sort of nice because – I guess something, perhaps most of us, I felt something in the subconsciously you are sort of battling these questions, or at least you're busy thinking about them somehow but perhaps not very actively. And now it was sort of confrontational to have to frame what you are thinking at this point in time, and we've sort of known that that relationship is probably going to change throughout my life, but no, the sort of that, nice to have to say it out loud.

Hmm, okay so yeah, so like you say these things, they're kind of underneath the surface that we're dealing with every day and the confrontation of actually having to think about it may not be something we're always too happy with I guess, or...

Yeah (laughter).

Okay, no, so that sounds good, obviously it's something we can think about, that's not too daunting but still quite interesting.

Okay so just really quickly moving through onto the next bit; again this was the, what I called the focus bit where I kind of had three similarly provocative, or at least, or perhaps even a step up, more provocative questions that had blanks in them, and you know, these are the questions here, but again they're not, it's not so important if you remember what these were, and of course we had these cards that are used to kind of help people populate those questions.

So do you remember anything particular from this activity, or does any of these, any part of that kind of stick in your mind, both the actual activity itself or what was picked?

Yes, I think, I was very much – personally, I clearly preferred sort of the more absurd cards, like planning positions and stocks, the photograph should clearly have an idea for how this could be something that she encountered in everyday life, but something now, not a lot of people name their child based on the stock

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market, at least I hope. So (laughs) I think that was fun and I like it when cards sort of push those boundaries of what you already know, so that's what I like. And I think perhaps for me personally when I see this I'm like, I'm gone, I'm thinking about weird stuff. So for me it's always sort of opposite, hard to stay focused.

Okay, that's interesting, so you kind of almost get lost in the thought of them, and then – yeah, because some of them are quite provocative, I don't know if you noticed that, make art/music one, I can't remember the name of that artist now, but he does these really interesting kind reproductions of classic looking paintings with modern technology and stuff like that, it's really fascinating and I get lost in that, that in itself is kind of like, oh I really like that.

Anyway yeah, so when it came down to like the kind of final two rows, especially the last row, these – how did you feel about engaging with these kind of ideas to frame or to understand physical digital devices?

So that **needs, fears, and _unclear_**?

Yeah.

I think it's interesting and very sort of needed and, for example with conspiracies, especially now it's sort of getting out of hand, so I think it's a discussion we need to have and we need to – I think it sort of helps to accept when you are designing an artefact, they probably don't think about the, oh my god, conspiracy theorists are going to use it, but in the end they might use it or faith might use it or **beingness** might use it, so I think it's good to include it, to sort of make people aware that there is this possibility of this really high level, yeah, stuff.

Yeah this high level, almost emerging – I'm even lost for words myself clearly; emerging activities or emerging properties I suppose of technology as it gets more sophisticated.

Yeah.

So did you find that this task made sense at the time, or the whole **(kind of task) of this with these cards, or was it kind of a jarring kind of shock to you?**

I think a bit of a sense, it was a nice sort of warm up to sort of get, okay, this is what we're talking about, this sort of framing of it, the sort of a tool to help you, you know, to get some boundaries in such a boundary-less subject I guess. For me yeah, I thought it was a nice way of framing the challenge and your thoughts.

Okay great, I'm glad it worked. So with that, so once we'd finished that kind of very rapid fire task, we moved onto the much lengthier process of adopting and exploring the kind of data-hungry home approach or notion that I'd put out after the focus section.

So if you recall in this part we spent quite a lot of time kind of building on a framework that I put out that are using more cards and kind of constructing the, the suggestive properties or the suggestive data that I – for the actual technological being and the harvesting device that you were going to go ahead and design, and then we all went away and all designed both of those things, and then you presented back to everyone.

How did you find, if you can recall it, how did you find kind of that task, more specifically like the framework building and then the actual designing parts?

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Yeah, I think perhaps, for me the frame building was a bit harder because I'm not used to, I'm not really used to sort of these – they were not strange sort of, but somehow they felt as if there were constraints and on one hand that's very helpful, but on another hand it was also, sort of ideas that are really (popped up), were like, okay, no, no, no, no, which of course isn't a bad thing.

Then designing it, I think it's always fun and I think it was a fun challenge to design for, because I never ever thought about, not considering the user or not really designing for the user, but more designing for the artefact and how artefacts would have this relation with each other, or how they would handle each other and – so yeah I really liked the challenge.

I'm glad. So I'm going to pick up on something you said earlier just about the framework; would you say that – it seems that perhaps it prohibited you in some ways, would you have perhaps preferred it not to be there, or are you still kind of the opinion that it was a good thing to have?

Yeah, I think it's a good thing to have, but I think I come from a very open background so it was like, yeah go and input how you want, so perhaps with that sort of training, it's oh wow, okay (laughs) a clearer assignment. But no it's very helpful.

Yeah I can understand that; I have quite a designery background so I'm not particularly afraid of a blank canvas. Speaking of which, I actually, because I don't know why we – sometimes I do this, when I interview people that we straight into it because clearly there's a difference when people, how well they've engaged with it I think. I've completely forgotten one of the stages; I was supposed to ask you a bit more about your background and a bit more about what interested in the work, so we could, have a complete tangent and go back to that, that would be great.

Yeah.

Sorry.

(Laughs) no problem. Yeah, so I've got a background in design, interaction design and yeah so, and that I've spent a lot – I was at [REDACTED] and they are also very interested in IoT and they're interested in tangible and embodied interaction and I like them both, so that's what I've spent, or I had a lot of focus on IoT products and tangible and embodied interaction, and now I'm in a project and we're focusing on data physicalisations.

So because – and then someone was kind enough to send forward this workshop and I was like, cool, I really want to hear what other people think about data and how they use data in every day, and homes, and what they think about it. So that's...

Yeah, that's great. I mean we could easily get lost in a discussion – I've done a lot of these now, not the interviews, I've actually only done a few, but I've done a lot of these workshops now, so I can't remember who I have and have not talked to in depth about my kind of literature grounding. But data physicalisation makes a big kind of inspirational part of this, I don't really know how much I'm contributing to it, but like, the kind of, the device, you know that big, well it's not that big, but that thing I made that was really grounded on data physicalisation as a starting point.

But yeah it's a really interesting topic and it's really fun. But yeah, okay great, thank you for that; a slight tangent. We may get back to some of those points later.

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We were talking about framework, okay; so perhaps if we just, because obviously you're quite comfortable with the tasks coming from a design background, so perhaps if we just kind of move steadily onto the actual thing that you designed.

Now I don't expect you to remember, but do you remember at all what you designed and kind of your thoughts behind it?

I do.

Okay. Would you say that's because, is it because you're just very good at remembering or was it more that you actually have been thinking about it a bit more?

I guess I've been thinking about it a bit more, because I don't know, somehow I was just, I think it's – it might be because I made, I designed it, but no, I think it was sort of a funny idea and I was sort of wondering how I would live with such a device, but just nosey and going through my stuff and sending it off to my mum it would be pretty weird.

But I also got sort of, slightly frustrated with myself I guess, because I made this, I mean these products clearly have this very weird relationship with each other, which I wouldn't say it's healthy. But still it's this relationship and I don't know if objects are really going to have such, a sort of humanised relationship but then again I probably mentioned earlier, I don't know what it is to be an object, so sort of, I got a bit lost in that thought of how it would be to be an object. But no answers from that.

No, we can only imagine right.

Yeah.

Have you ever read Alien Phenomenology by Ian Bogost, or something like that; I can never say his last name?

Yeah, I love it.

Yes, I think he – he talks about that kind of, imagine, speculative imagination of the life of things. But I always find with object-oriented ontology, that people kind of use what they want out of it and don't really go down – because when you read the kind of, what's his name, John Graham isn't it, you know the kind of original writer...

Yeah.

Yeah, if you actually read his stuff it's basically not what anyone in the design world is really talking about with, kind of just like, oh yeah object-oriented ontology, perspective of things, not going to get into the whole phenomenological stuff of that.

But that's the boring stuff, nah I don't want to, yeah.

Yeah. Anyway, so okay, so could you perhaps describe just to me in a little bit more detail what your ideas were? Because I do remember them and I have got a few notes on them, but I would like to kind of, to hear you talk about them a bit more.

Yeah, so about concept or about the ideas behind the concept?

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Perhaps just a quick bit about the concept and then perhaps if you're able to, a little more of a reflection on maybe why you picked those things.

So that was just one device which would, it would have its camera and would have wheels, so either I use it to collect data about my life, how it's going with me and then it's being sent to a friend or, you know, the other person with a sort of hearing device, which would receive all the data.

The hearing device is very sensitive, it's a lovely device but if it hears that I'm doing poorly it will run away and if it doesn't get information then it's also not great, then will start to disintegrate and smell and lose its shape.

So sort of a gathering device, it's put in this struggle of, okay I'll have to send good data and I have to make sure that data is being sent and done sort of, is this relationship okay, is it going to fake, manipulate data, is it going through my stuff and find data, it's going to make up data and what would then the hearing device do, kind of pick out this kind of data and what happens then.

I guess I was sort of inspired, it's all in the home because I guess we're all stuck in the home, so inspiration and, I don't know why, but I like the idea of technology having a very unhealthy relationship, because normally it's all, sort of the idea of technology is that it works seamlessly, it's fast, it's efficient and I just like the idea of technology not being efficient and not being fast, and also having these sort of moral dilemmas, which you have to solve.

So they're almost, to kind of, just playing off what you're saying there, you're almost fallible in a way.

Yeah.

Just, they're kind of like the rest of us.

Yeah.

So I mean would you imagine, how would you imagine interacting with a fallible object and how that would potentially change the way we see them, what could you imagine?

I think the interaction would be, become more human. I mean now if a product doesn't function, it's like stupid product you're not functioning, argh, but if you know it's sort of part of their character, their sort of consciousness perhaps even, then it becomes more of animal you're taking care of, I mean you're not becoming angry if your dog makes an error, or perhaps you'd become angry but then you forgive them. So I think we get much more, perhaps it's patience, sort of tenderness, I guess, you'd get that. But perhaps not with these devices, because if something is being nosey then clearly are becoming reactive.

It's quite interesting that you use the word, forgiveness, that's quite an interesting idea. Do you think you could perhaps expand a bit more on ways in which we could forgive technology?

Oh god, (pause) that's a good question. Perhaps now it's almost as if we are punishing, or at least, sometimes I have a, for example, if the printer is not working I might pull the plug out of it or I might say, fuck you printer, which is all very aggressive; but if it would sort of have this character then perhaps I would, ah I don't know, I wouldn't do the same things.

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I think, I wouldn't just pull the plug out of it, perhaps I would have this dialogue of, oh okay, why are you not functioning today, is it a blue Monday, what can I do to help you, should I send you a Word document and not a PDF.

And do you think that, especially in the context of things like data physicalisation in the use of data, how do you feel that it should communicate these things to you, because I mean obviously you use kind of the terms, decay and smell but you're not going with these kind of text based or very explicit ways of communicating. Can you maybe think a bit more about why those were of interest to you?

Yes, because I think that (laughs) I, personally I don't really like the idea of efficiency, I guess. I think with text based, you think very much, perhaps if it could speak, but again that's, I feel it's very much Siri like, it's very technological. So I think I sort of want to step away from that and bring it more back to what I would consider it a **bit more perhaps** life-like.

I mean **I don't have text on my head**, for instance, I feel sad to today, I probably have – I would also showcase weird behaviour probably if I'm sad or angry, so I guess I've wanted to play with that a bit.

Okay. And this may seem like a slightly bizarre question and I'm trying to phrase it in a way that isn't too leading, because what I really want is an honest opinion and an honest discussion about it. But how would you describe the way in which, or at least from, because you're from a design background you probably have to encounter this a lot; what would you say the purpose of these objects that you've designed are? Or do they not have one? I'm trying, basically I want you to kind of think about that, about the kind of, the purposeless or purposefulness of them, and whether or not they can have that.

I think they have a clear purpose for each other and I think one cannot really deal with the other one. For me, as a human, even though they don't sort of, they don't get me into account but for me it could have a purpose, as in it's sort of way to update people without being active in the update or how it's going with me. So perhaps it could help or could ruin my relationship to someone else.

Okay, you seem to have quite strongly adopted and picked up the kind of, the thing centeredness of it, because your immediate response was that, the purpose is between the two objects and then, when you say, could, the purpose could happen, how do you feel the purpose would maybe be made apparent to the humans, if there even is one?

I think if they, I would like them then to also interact with me as a human. So for example, now it's all sort of happening, or I mean I can use the device and then I'm actively sending out data. But it can also do that behind my back when I'm unaware of it, so I think I have to be aware of the fact that this object is there and that it's informing me or it gives me an update, okay I'm just going to make some data about you.

It makes you aware, does it wave at you, yeah, I'm going to do something now by the way, you can't stop me.

(Laughs) Maybe I'd just wanted to send out a middle finger, like fuck you, whoo.

So I mean just to pick up again on the way you're kind of describing the relations between, the collecting but also the kind of technological beings, it seems more, it seems that we've moved a bit beyond the way perhaps we interact with them, like the smartphone or things like that where

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you're sharing a space instead of being in charge of this thing, you're just in the same space but your actions affect its actions and things like that.

Do you have any kind of thoughts on what that might mean or what that, how that could have a wider implication in the way that we interact with technology?

Yeah, I think it's, it's going to be very weird (laughs) to not sort of be this master anymore. Even though I guess as a human you really want to have this master position because otherwise technology might do stuff which you don't want, even though we now currently have this master position and they still are doing lots of things with our data which we don't want, I guess.

So perhaps on the one hand if this object is very clearly there and has sort of this will of its own and life of its own, then perhaps it's sort of clear that at least there are things happening behind our back, so I think that would be good.

But I think it's going to be very interesting, sort of the handovers of controlling your everyday life. I mean there's this object which is there, and it's having its life, you probably still have to care for it. So it's going to be interesting of how much care am I willing to give to the object and what can the object do to sort of ask or demand care.

Hmm, so like the care, it's kind of almost going back to the cards, the care comes from, or could come from the interaction.

Yeah.

You're an interaction designer, so that's perhaps not a surprising thing to say but, so it's almost the way it acts or interacts with you and the kind of, the relationship that you form with it is then, creates that feedback loop of care in a way.

Yeah.

Okay. It's all really interesting, really good and I appreciate the fact that you are actually going to deep dive into the thoughts of this a bit more.

So just kind of, moving on a little bit I suppose, a more final phase of this. So you obviously were interested in IoT and things then, and this kind of thing, centred design, but what would you have said was your familiarity kind of coming into this, of what thing centred design was?

Uh yeah, I knew of its existence and I think I really like the idea, but I've really never had a chance to design anything, thing centred, so I think that was-

Okay, yeah that's fair. I mean obviously as I kind of said at the beginning of the workshop, this is my interpretation of things at design, I don't really think that it's a universally understood thing, it's got lots of branches and lots of different ways.

So having now done the workshop and kind of talking and thinking about, through your designs and all that kind of stuff. How would you say, if at all, I mean obviously I'm looking for an honest answer, I don't want you to just guess, how would you say, if at all, this workshop has changed your perspective on things and what you might be doing kind of moving forward and moving beyond this workshop?

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I think it definitely has made me aware of a possibility in the future, and I'm sort of hoping this as well, because I don't know, I think, I saw this project one time and it was about an object which would update another object and that we constantly update each other, which I thought funny, you know, if you break a mug then it would send the other mug to the 3D printer and then would fix the mug. So I think it makes me aware of the possibility of it, because I sort of knew, oh yeah of course this is a possible future if that's an answer.

No that's fine, it's kind of, just to kind of drill down a bit more into that; how would you perhaps describe how the workshop has maybe changed your thinking on physical digital devices, or data, those kind of particular topics?

Yeah I think for me of course data is, not so much a physical digital device I guess, but on data I did, because now I was very much thinking about data should serve me, it should have purpose, it should help me tell my story somehow. But perhaps it's also fun if it's not all about me, but also – or what an object might think of me, but as long as I know what the object's sort of thinking about me, not the sort of relationship we have currently where we've got no idea what our digital data is saying about us.

Right, so if there is elements of kind of clarity, we kind of want to emerge out of interacting with data.

Yeah.

How would you, how did you feel then about when I said in the workshop, I don't know if you recall, that actually what, you could see this as a process by which the data is generated and kind of destroyed in it, so there's no legacy, there's no history, what were your kind of thoughts on that?

I liked the idea, but I think it's also, I think it's sort of fascinating that data can be so much, for example the cave paintings we still see and have, but other things are lost. So I like the idea of, and our digital data is becoming, of course hard drives will die one day and we need to find solutions for that. But it's sort of very permanent and I like the idea of, you know, reintroducing this fragility to data, that indeed you might lose it, it might be gone, or very purposefully it can be gone.

If that were to occur, how do you think, again as a designer, but also as a person that interacts with this stuff quite a lot, how would you begin to cope with a fragility or an ephemeral data?

I think I would take better care of myself (laughs). Yeah, I don't know, perhaps you know, if you really, really want to get rid of some data you just neglect it and ignore it and ("die") you. I think - to care.

Okay, that's interesting, as you kind of take care of yourself, that's an interesting kind of reflection because I know, I'm quite curious I suppose in a way about, if the data's being erased, like how would you – so to try and give an example, let's say for example that you were to take a photograph of something, but that photograph may have, may fade away within a certain amount of time, what kind of, what would you do to try and remember it, or if you take something more ambiguous like interacting with the objects that you describe and the way that they do stuff, if you can't just go back and recall that, there's no grand database, but how would you, what techniques would you use perhaps to try and recollect or engage with these things differently?

(laughs) I think I would be very boring and just sort of try to catch what I can remember and keep that. Or perhaps you could sort of make traps to catch the device and able to record the device which is sharing you,

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because that would be too much of an effort. So yeah, I think I would be old-fashioned and get some kind of paper.

Okay I like, I know, like you say it'd be too much effort, but the trap idea is really interesting. Just kind of like, you're just going to set up a camera on a trap and it would capture it for a bit. Okay.

Right so just kind of, there's the whole other thing of that, I don't want to get too much into it, but I imagined a design fiction that I wanted to write where you imagine that machines basically evolved at the same time as humans and that we're constantly living with these wild machines and what kind of machines they could be, and they're just doing their own thing, and what kind of emerges out of that.

I really want to put that – I don't know if you, you might've come across DIS, the DIS Conference, D-I-S?

Yeah.

Yeah I really wanted to put it in that, but I'm not entirely sure where it's all gone. I can't remember whether that was your group that we had that conversation?

We did yeah.

Yeah I really want to put that in.

It's shit (laughs).

And I was going to do it in a David Attenborough script style, so you'd have to imagine it all in the voice of David Attenborough. But anyway that's too tangential and I could easily get lost in that.

Okay, so we've kind of basically, we're approaching the kind of natural end of the topics that I wanted to kind of pull out of this, and hopefully I wasn't too leading on some of them.

So just kind of, a couple of more, just things, so you know, just some very quick questions about, do you think that you'll be kind of, not applying, applying the data hungry home is probably a bit harsh, but just kind of, using any of the stuff that you've learnt from this moving forward; I may've already kind of asked that, but I just wanted to double, kind of clarify that with you.

Yeah I think, definitely think so, because I'm currently not really designing anything for a home, but I can see that in the future I clearly will be, I think in a couple of years again. That's the planning (laughs).

So then I think it's going to be very interesting to at least use this to sort of verify the concept and want to clarify but sort of push the concept and see what's possible and – because the idea's going to be this data physicalisation **which** people are going to use in their everyday life, in a home. So I think it would be a good perspective to put on data physicalisation itself.

Okay, so yeah that kind of ties back, you do see this as something that, it has something that is useful for data physicalisation or is part of data physicalisation.

I think it can be very useful, because of course data physicalisation are these sort of, especially if they are I think dynamic, they sort of have this life, there's this mystery, so I think it's a good match for think centred

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design. It's already this sort of object of mystery which is there, it's being useful for you or it can at least be useful for you, but it can probably also be useful for another object.

Okay, and when you say mystery, is that because you don't necessarily understand them and you need to engage with them to know them better, or is it more that you can't understand them or anything like that?

I think, because this technology of course which, probably it's hidden, say that, gives its mystery and I think because, you know, with a table or with a graph you get the exact values and that's what the data physicalisation of course lacks.

Yeah. I mean data physicalisation is an interesting one, because I've found that, you've got the people that are literally just making 3D bar graphs, and then you've got the people that are kind of like, oh I mean if I liked a plant based on certain data it will do something different, and then you kind of, you know, these worlds apart, but they're all kind of in the same bubble and they're all really interesting.

Anyway yeah, you can see that I really, I think about it a lot.

Anyway, okay that's all really great, and so there's only one more question from me and then if you have any questions for me we can then go onto that and discuss any of those.

So how, this is a bit of an odd question, but I've been asking it of people, how would you describe something like what my PhD is or what I'm trying to do with my research in just a couple of sentences, or even just a couple of words?

(Laughs) oh god.

Yeah, that's the typical reaction that I've been getting so far.

Okay that's the quote, oh god. Based on what I experienced, and that this of course is not a lot, thinking of what's all behind it, I would say sort of creating (pause) creating a relation between objects or, yeah, perhaps it's, I don't know, perhaps it's very human to think of sort of that, a sense of life is to have this, your will and relationship with others, but sort of to give that to objects.

Okay yeah, that's – sorry, I may have cut you off, but is there any, would you say there's any more to that, there doesn't have to be any more to that, I'm just...

No, no.

That is a good, that's a good answer and I think it is something I'm trying to play around with. I don't know if I mentioned it in your group, but I always find it fascinating the fact that, we're so obsessed with human intelligence in objects, we don't often, and if we go beyond that it's normally animal intelligence, but we don't often think of things like plants, which are an intelligent in their own right, in their own way, but they kind of are so far removed from the way we see things, so I guess it's natural for us, even the way we describe the way things are from a human perspective, so yeah.

Anyway, no that's really, that's a really good answer, and in a way what I'm looking for is exactly stuff like that. I don't, because I find that if you explain, if I go too far into explaining what I'm

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trying to do, people will just say that back to me because I've spent all their time explaining it to them.

So I want the kneejerk reactions, I want to see what people actually feel the moment I just throw it out there. So that was a, it's a very good answer.

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KEY

Bold: Interviewer
Regular: Respondent
[]: Uncertain word(s)

So first of all what I would like to do is, just ask you to give a little bit more about your background, and who you are, and if possible kind of a reason why, or just a bit of a thought on why you found the workshop interesting or why you wanted to attend it rather, if that makes sense.

Okay, so my background is, I, ah god, so my background's very much art and design, I'm just about, almost ready to submit in the next couple of weeks if supervisors allow me, submitting the PhD, which is at an art and design school. However, I've had a passion – my career history's very weird, so my first job was [REDACTED], then my line manager got a job at [REDACTED] and dragged me over there, so that was like three years of my life. My first life as working was in research, which was great, but as a designer.

I then, as a designer, went off and worked for corporations, so I've worked at [REDACTED], I've worked for agencies doing websites and stuff for [REDACTED], mobile phone design apps, general things like that. We also did some work with, I can't remember, the American version of [REDACTED], so we did some IoT systems at home for electricity and heating and stuff like that. I can't remember what they're called, but you know, we were part of the marketing process to see how that actually could be presented to participants, or to consumers should I say.

I think I've probably been doing my PhD part-time for, god, it's getting up to a decade now, so doing that plus I've also been working, and I've got two mortgages, you know, it's, I've had a life in between. Also had health issues, had cancer twice amongst other stuff, so it just keeps getting – so yeah.

So I've got to the stage now where the PhD's almost done, I've had a couple of good papers and I'm actually a [REDACTED] now. So I'm quite grey-haired on that sense, but you know, I've had a bit of a life.

So yeah, so I'm now working on a project called [REDACTED], which is talking about internet IoT systems within the home for specific health conditions. So for me, I think IoT has been in, it's been in a couple of different places, so I worked on a project back in the day called the [REDACTED], when I was at [REDACTED], so I designed that. So IoT's always kind of been, how you put technology in the home has always kind of been in the background.

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So when it came up and it was like, oh design focused IoT, yeah I'd be part of that.

Yeah, I mean it makes sense; you've had quite a history there.

Sorry, you said, you asked for it.

No, no, I mean that's really interesting. Funnily enough [REDACTED] is something that I've always been interested in and I'm not entirely sure whether or not I'd suit it because I'm quite, I don't really know how much physical stuff they do if that makes sense. I know that, obviously the [REDACTED] is a physical thing, but it seems that every time there's a postdoc opportunity of things like that they're very much focused on kind of AI or machine-learning, or you know, that kind of more software based stuff.

Yeah, it's been a long time, I think the [REDACTED] was what, 2007, so that's over a decade and it's probably changed a lot since I was there. As I say, I was there as the designer not a researcher, so yeah I think if you are there as a researcher then things were probably very different to what it was for me; I was there to assist the researchers, so it was a different entity.

Yeah. That's a really interesting past.

Okay so what I'm going to do now just to kind of, just after asking you a bit about why you came along, is I'm just going to show you a screen really quickly. Now this isn't really a presentation, this is just four slides just to – what I'm going to do is I'm just going to remind you a bit more about what we did, just in case you've forgotten, because it was...

I have forgotten, there's lots of things have happened in between, including study.

Yeah, that's completely understandable. What I'm going to do, is I'm going to remind you of each task and perhaps just get a little bit of feedback if you can remember on how you felt doing it and kind of things like that.

So the first task that we undertook, which was really brief, was a framing exercise where I asked you to answer these three questions; now I'm not expecting you to answer them again, I've got all that on record, but if you can remember doing it or specifically how you felt, or how you thought this task was in the kind of grand scheme of the workshop.

So I remember you making me go first, that's the one thing I do remember. It was quite hard, obviously you've come into this – we came into the workshop, I hadn't really

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put much forward-thought into what I needed to do, it was in the middle of other things, so I just had about enough time to do the workshop. So yeah, I was very much thinking on my feet here about how to answer these questions.

But yeah I just felt, I felt, oh god, it was making me think, making me actually interpret all the stuff I've done in my past thinking, okay what exactly are these answers and I was sitting there thinking, god I wish I read more (laughs).

That's fine, I mean I felt, at least when I was coming to it, I wanted to actually get kind of what you just described, that kneejerk reaction instead of just this long, like highly referenced, highly refined opinion that people tend to put out. So it was really good to get that kind of straightforward opinion, and I think you talked a lot about enabling people and I think you even described the third question as, just effectively your job, in a nutshell. So yeah, no that was really good.

So I'm just going to quickly move on to the second part now; again this bit was more about focusing down on some of the points that we were, maybe not directly, but subtly addressing in the actual design part of the workshop. So I asked you these three questions and I'm going to move onto the cards that you actually used to fill in the blank, I'm just trying to, just give you a moment to look at these and maybe familiarise yourself with them again.

Yeah I don't remember these at all, so I'm going to have to re-read them.

No, that's okay. So they were basically just prompt questions about using data and devices differently, but also framing the way we could see devices and data differently. Then if you're happy for me to move onto the cards...

No, go for it.

We used these prompt cards to kind of fill in, the first two rows at the top were for the first question; the third row for the second question; and then the final row for the final question.

So again, I don't know how much of this you remember but maybe just looking at it now and maybe remembering it a bit, does anything – how was that activity?

Okay, so I think that activity I was drawn, I was kind of split on how to do it and I kept thinking, okay I'm coming up with preconceived ideas and thinking, oh I need to choose

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a card that does that, and then I was actually having to stop myself and go, no, no, this is not the way this should be done. I ended up just choosing cards that I thought would be fun to do, so that would help me think outside the box, get different ideas, rather than, what I initially was like, oh well I could do that, no, no, you know, coming up ideas whilst I was choosing the cards. So I kind of tried to just go in with the, no, need to think about this, I'm just going to think about something that's really interesting and not try to take the next step where I'm automatically thinking of solutions. So yeah, it was just a bit of the – I think that was that point, but yeah.

Okay, that's good. I find it interesting that you talk about kind of, moving away from, not moving away from, but kind of, not immediately focusing on solutions or maybe the kind of, the problem-solving nature that we as designers are quite, you know, leading with as it were, we have to solve problems.

Yeah.

Was there any particular row of cards that were particularly difficult, or that you found really kind of thought-provoking or anything?

I can't really remember that much that far back I'm afraid. I'm just trying to think; no I can't, I can't remember I'm afraid.

No, no, that's absolutely fine.

So after we'd kind of done that activity, the final activity as it were, was, I presented to you the data hungry home, that kind of thing-centred approach to designing and framing devices and data, which we then used a framework, a little table that I'd built with more cards to kind of build what kind of objects we were going on.

Just to remind you, I'm just going to pull up your session on Miro because I have it to hand, just to tell you what the actual cards were that you picked.

It's interesting that they chose Miro to do the workshop, I have been looking into doing that one myself.

Okay. Have you thought of any other ones or?

There's a few that are similar to Miro, like Marrow, Mayro, or something like that, which is maybe a little easier to use, I think Miro's quite technical, so yeah. But with Covid times we do have to do things differently don't we?

Yeah, and it's worked out well because, I don't know if I mentioned it in your workshop, I've gotten quite a few international people, which is something we don't normally get to do in the physical workshops, because obviously they can't travel in, so it's been good in that respect at least.

So looking at your choices, you picked, for the kind of spaces you picked just the house, kind of speed stuff, because I think that was just confusing stuff; and the actors, which is the kind of data collecting triggers were household events.

And then we used traits for the device being, for the technological being as greedy or abstemious, which is a word I had to look up to get, which basically means you abstain from food. Tender and harsh, picking it omnivorous, and the data was in household events and the modalities was smells, shape and mobility.

So just trying to, as much as you can remember of it, obviously it's not too important, how did you find that framework and how did you find the design activity?

So I found the framework, the two different things to be quite refreshing, the fact that you were able to, you didn't come in with any preconceived ideas, you were very much starting from scratch and you then had to think about these things through. I did have a bit of an issue between the, obviously there's two different devices, there was the one that was capturing the data and device, and the cards. So in the device I remember having things like picky in there, and I kept using those cards and putting them into the data capture as well. So those kind of merged between the two for me, and I just remember thinking that that actually, yeah, because I think the one I, one of the concepts I did come up with was with the data capture would actually choose what activity you had to do; so it was being picky in that sense.

So yeah, so I just remember those three merging across the whole process. I don't know why, maybe you'd inspired me to be a bit more emotional and a bit more playful on those particular things. So you know, for me it was like, uh how can I make a data capture that's picky, oh interesting. I found, so I know, I think it was thirty minutes was it, or twenty minutes for the session?

So it was an hour kind of session, but I think if I recall the framework building took up quite a lot of time, like twenty or thirty minutes, so you only had twenty, thirtyish minutes to design the objects.

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Yeah, so for me that was too short (laughs), or maybe too long, I can't remember, you know. I'd obviously come up with some initial ideas, it was like, oh right I can do that quite quickly, and then I put those to the side and started thinking a bit more deeply about it; how it can be done. And I just spent a lot of time just in my mind, I wasn't writing this down, I'm afraid, I was just going through, okay it could be doing this, it could do that and I was just kind of going through scenarios and outcomes in the head of how it could potentially work and what we could do.

So I was questioning quite a bit there on how, what the purpose of the product could be, could it be, do something, could it be playful, or could it solve a solution. And I wanted, I kind of decided to go for the playful bit in the end, but yeah, so I think in my head I kind of went through, probably ten minutes of back and forth there on that sense.

Then I remember at the end I was just like, oh god, I've got two minutes, let's just sketch down what I've got and send you what scribbles I had. Yeah, so either it was too long, because that meant that I would have, I kept thinking too much; or it was too – it was too long, because otherwise you would've had the first things that came to mind, which probably wasn't exactly what you wanted. Then it wasn't long enough, because I kept thinking about other things that we could do, so yeah.

Yeah, I will admit that it was a tough one in terms of timings, because I didn't want this to be half a day or a whole day of this, because even you yourself, as a perfect example of, people can just about squeeze in two and a half hours within their busy schedules. But yeah I would've definitely liked to have done much longer ones as well.

So just to kind of, picking up on – and kind of seamlessly transitioning into the next bit of this a bit, where we kind of talk about what you actually did design. Do you remember what it was, or would you like me to kind of go through it?

I remember not being particularly happy with it, I needed more time to actually get them right. I think the data, oh god, I think I came right through, four different ones wasn't it, it was just an idea generation.

I think one was a tile or something that goes on the wall that kind of, is picky on how you interact with it, so you have to interact with it, you know, touching it, or heat or cold, or something like that, which I've no idea where the heat and cold came from. But yeah, so I think that was with data capture.

I think I came up with a couple of ideas of, because I think greedy was one of the aspects there, so one of them was very much about gobbling up the television so that

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you couldn't see it anymore or, you know, general things like that. But those are the only ones I remember.

No, no, and I think looking back on the recording, the only other ones you really mentioned was there was a spider I think, maybe the spider was the one on the wall and the tile was actually on the floor, I think.

Okay.

But yeah, I mean that kind of is the ones that you really fixated on, and I've got one here which appears to be some sort of touch screen that's underneath an oven, although I'm not entirely sure what that was.

That could've been the floor and the tile, where maybe you needed to dance round the kitchen or something, I can't remember.

But again that's absolutely fine. But what I'm going to pick up on, which is quite interesting, that you mentioned earlier, is about purpose. You mentioned, you know, the purpose of trying to find whether or not this is just a playful thing or whether or not this, you know, solves a particular problem as you said.

So could you perhaps unpack that a little bit as to why you had those two different, like that kind of dichotomy of direction that you discussed in your own head?

So I think, so it's always nice to have – I think these workshops are always kind of like, you kind of go with a gut reaction a lot of the times and I also quite like technology to be playful, and I'd like that as a way of interacting with the participants. But I think sometimes technology needs to actually have a reason to do it, so I'm very much focused on – my years of my career has always been focused on user-centre design, it's always about the user first, how can we actually define it.

I may've had numerous battles and have scars, wounds from working with technologists who, it's like, hey we've got this new technology we need to make it useable, but my aspiration is always to do, user centred design. So I always think that there should be a purpose for something that is solving a problem for an individual.

Whereas the way that we are, you're approaching this design process is very much a, we have this thing that can do anything and everything, you know, it's something that's in the house, or it's something that's somewhere else, and it's connected to the internet.

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At the moment it's got masses of potential to do anything and everything, and the purpose has kind of been attached to it, or the playfulness has been attached to it.

So it could be that, you know, you have a toolkit here that somebody comes up and says, you know what, I've got this issue, I need to design something for dog-lovers who have to now, after Covid, having bought their puppy now have to go back to work. So the problem there for them to solve is, how do you entertain the puppy; and it could be that the IT system is, I think, as you've got things with the TV camera so they can actually watch what the puppy's doing. It could be something that will throw the ball for them, remotely throw the ball for them or anything like that.

But then you've got the purpose for them, and I think the way you've done it is very much a, it's a nice inspiration, it's a nice idea and a great way of doing the workshops. But you just have, there is just an immense possibility of this technology.

Okay, yeah that's an interesting perspective on it, because I think, as I explained in it, it's – I'm quite curious as to how you feel about designing beings or objects, depending on how you want to see them, that, their purpose is, there is no inherent purpose to them, not so much that they're playful, but they're almost like a way of framing an imagination of something like a house plant if you will, but a technological house plant.

Yes, so it's a thing, so I mean as I say it could be that, you know, if we're talking about intelligence, yeah sorry, I kind of forgot about that part of the workshop.

No that's fine.

Yeah, it's, for the purpose of intelligent beings and they're so, oh god I did, my undergraduate degree was kind of was a, kind of – it was an object that you took on trains with you and it would, the purpose for it was to be a companion and that was purely, it was there, so it would sit, it would be able to tell you about activities that you went by, and the way I designed it was very much like an owl so it looked like a bird. So you could pat it on its head when it's being good and if it got frustrated because you weren't paying attention to it, it would shout at you and flap its wings and everything else. So you know, it was very much about, the purpose of it was for a companion, but the interaction of it was about connecting the human to the object, so it was very much about, yeah it was very much about that interaction and that connectivity.

So yeah it was kind of similar to what you've been doing for the PhD, but this was just undergraduate so there was no proper research or anything like that, it was just purely a concept.

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So yeah I do like the idea that you can have little cheeky things in the house and I would consider them to be cheeky because I'm quite a fun person and if I bring something into the house I do like it to be quite fun, you know. We've got Lego bricks and everything else around the house, and my other half is huge on his games, so we've got lots of those things, type of things in the home. So it's, you know, for our personality, I think if we're bringing something in the home it would have to be slightly cheeky, it would have to be, you know, it wouldn't necessarily have to be something that would just sit there as an ornament, I'd want it to have a function of doing something. Whether that is to, you know, kick us off the couch – because I did a couch didn't I, it'd kick us off the couch to do more exercise, great, you know, it's the bully that helps us with these things.

So yeah, I don't know, I still feel that it's got, and I'm waffling a little bit, I still feel that it's got a lot of potential in that sense, but you've got kind of a, a being, a personality around it. So yeah, I think it's – I mean we don't have many plants in the house, we do have Alexa, and we do swear at the Alexa numerous times.

Yeah.

Purely just as your results are.

Yeah, my Google Home, so it is a really strange bug and it is slightly tangential, but my wife's Korean and we have it, it can understand Korean and English, but for some reason once in a while it will respond to us in English with its Korean voice, and we don't know how we get it to do it, but I kid you not, it sounds like, it's not, the English is kind of perfect, but it sounds like a Korean person speaking English if that makes sense. Not something with a perfectly crisp English accent.

It's the strangest thing I've ever seen, and I have no idea how it's happening and I feel like it's a bug, but I don't know how that's even a bug, like how you, maybe it's just the combination of, I'm responding in English with this voice modulation, but yeah, it's really unusual.

I turn the microphone off on it and it complains at me and it's got this really horrible red look at it now, because it's like it's angry with me that I've turned the microphone off. But yeah, so, so I don't want to, the problem is, is that I don't really want to labour the point, but I'm really interested in unpacking this whole purpose centeredness, even if, so just on a superficial level perhaps, does the purpose have to be explicit, or can it emerge through use?

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Well I think, okay so you're talking then from the user perspective rather than the designer perspective?

Yeah.

So from the user perspective I am more than happy to have these objects, that have the purpose evolve. It could even be that it changes depending on how you interact. So you could have X number of purposes but then the way you interact with it, you actually evolve that purpose, so it's more like a personality thing, but it could just be, you've got a choice of four and it's already pre-programmed in there.

So yeah I think it could, it could be on that sense, so if you're talking, so if you're talking specifically about health conditions, you know, and we're talking, say for instance, something that's self-management, like Type 2 Diabetes, there is a great amount of ways that people self-manage that. So some people take bloods, some don't, some people have to go to the nurse every month to actually figure things out, some people have got, need to have insulin, some people can control it with their diet. But they're all, the purpose for them is self-management of diabetes and it is all very, very different, it's very individual.

So I think the joyful bits about the content that you're creating is that if you have something that the purpose is for self-management of Type 2 Diabetes, then the product or the entity, or the designed thing, doesn't necessarily have to be, have something to find for it, it doesn't have to be the one size fits all, it could be that actually, as you develop and as you evolve, and as you use it, depending on what your specific lifestyle is like, and what your particular needs are, it could change.

So it's more like, it's somewhere between a blank canvas and a malleable piece of clay that you're kind of shifting into that shape of what works for you.

Yeah.

But from a technological standpoint (laughs).

Yeah, to a certain extent I think, yeah because there are other, you've got the choice of either designing – so it's quite interesting, because you can then merge a number of products into one, that do the same purpose, you know. So I think that, obviously I'm talking about health because it's my job at the moment, but I think that's very much the, an example of a purpose that could be customised or personalised, I can't remember which one's what, I know there's a difference between the two.

Yeah, semantics are a pain aren't they (laughs).

Yes, absolutely. But I think, and I think on the designer perspective, you know, obviously that's going to be harder to design for, because you've got to now design for these four things, and you have to have triggers to state that actually, if it's going through this process, then this is going to be something that needs to trigger – okay, so we're going to then head into this direction. But I think for the user perspective, it's a lot better for them, because they know that what they're going to get is tailored for their specific needs.

Okay. Yeah, there's a lot more we could kind of talk about on that, but I'm kind of conscious of time and making sure that we cover all of the bases here.

Well we could come back to if we need to.

Yeah definitely. So there's kind of, a couple of follow-up questions in and around what we've been talking about, that I'm quite interested to ask you. But the main core of it is effectively, having now, you know, had these conversations and having done the workshop and all that, would you say that the workshop has in any way kind of changed your perspective on things? Or perhaps perspective – feel free to say, I want to make it very clear that saying no is completely valid, I don't want the kind of, like an ego inflating, oh yeah you know, it's great, it's changed my mind on everything; I'm really interested in how much or how little or how nothing has changed at all if that makes sense.

Okay, so I think from my, with my history and the fact that I did something called Design Futures for my undergraduate degree, we were always very much looking at playful IoT systems. You know, whether they be this object that is a companion for train journeys as I've mentioned, or I think somebody did, you know, it could be flowers that you pluck and then place to actually gather data and somebody's given you a flower and that's a memory of a specific thing that you've done with that person.

You know, I've started my design career basically doing that type of stuff. Then obviously I've kind of gone off into the commercial world where it's like, change this tick box and earn fifty-million dollars for the company, you know, it's all about making money and enhancing technology so that people can actually use it.

Through to, doing something now which is a bit more research based, it's very much more, strategic research than anything, and I think – yeah, I think it kind of reminded me back to that playful time when I was able to not worry about all the constraints that

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you gain on a commercial world, or having to write papers or, you know, from the academia purpose, it allowed me to actually just sit back, think back into the more playful times when I had – and allowed me to just be a bit more creative I think.

Okay, and more specifically about changing the way you think about, or thinking differently about specifically physical digital devices, or perhaps data, or perhaps the human data device relationship.

So yeah, so I've always been a bit, I've already got toys where you can do artificial intelligence and things like that in there, so that's not necessarily done that, but that's more the fact that I'm buying kids' toys to help teach my nieces what artificial intelligence is, because they're quite into their technology already.

But yeah, it did make me think in that direction a bit more, or the fact that actually, this could be a purpose for all the stuff that I'm reading and trying to learn now. You know, a year ago I didn't even know what machine-learning was, let alone all the details in it.

So yeah, it did, it did help me think a little bit more about, I was going to say purpose again there, no, I'm not going to say that; about the aspirations and the overall objectives that we could do with machine-learning that is not just so constrained and so constructed as, you know, you can use it very much as a piece of art or a design environment rather than just a product.

Yeah, that's great. There is a bit of a leading question I'm preparing but I don't want to ask it until the very end, just because I really want to, I want to ask you and I don't want it to sound too provocative, but we'll get to that.

But I think from my perspective, and I've got, kind of a question about whether or not you are going to take up anything that you've learnt from this and maybe apply it in the future, or maybe discuss it with others or anything like that, that you think you would do. Then I've got one or two more questions and then we'll basically be done.

So would you say that you're going to take anything from this and apply it elsewhere?

I don't, at the moment my main concern is writing two papers, so not in the next future.

No that's absolutely fine.

So I mean I have actually discussed about the workshop to somebody else already, I was just saying how, how you know, artificial intelligence doesn't necessarily have to be

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constrained in a box that has no lights on or anything like that, and it could be more, but that was kind of just a conversation that I had afterwards with one of my colleagues. But yeah, at the moment I don't think I'd have the opportunity or the time, or the freedom to be able to do that, of using the content more.

That's okay.

Yeah, that's purely just because I've got my life written out until January.

Yeah that's completely understandable. It's not like I can take up new things either, I'm entering my last year of my write-up next, literally from January 2021, and I haven't even done my third study yet, because of coronavirus, so mid write-up data collection is always the best.

Yeah, I think that's probably about right. Yeah, my, all the stuff I had planned for the RA job it's just completely gone, you know, we were supposed to be having two years, deployments in many different houses with people with underlying health conditions, like not going to happen.

Yeah, that's a big no, if the no's came in different sizes, that's towards the very end. Yeah, no that's completely understandable.

So my final kind of question before I will ask you if you have any questions of me, and then I will ask you my very leading question that I'm not very, always allowed to ask.

So my final question to you is a bit of weird one, but how would you describe what my PhD, or what my approach is trying to do in like a couple of words, or maybe a couple of sentences?

You mean you want me to write your abstract for you (laughs)?

I hadn't thought of it like that, but, but maybe half the size of an abstract. I don't know, how big is a PhD abstract? It's not the kind of class two-fifty is it, it's a bit bigger isn't it?

I've not written that yet, that's the last thing I'm going to do.

It's always the last thing you do isn't it, yeah.

Yeah, although my supervisors tend to like me to do that first; it's like, no, no.

Oh no.

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Okay, so I think your PhD is very much about understanding the objects, it's understanding the – so yeah, it's, I think you call it thing-centred design; yeah it's, it's understanding how you can encompass the technology and machine-learning aspects in an object that interacts with a human through naturalistic methods.

Okay.

Does that make sense?

Yeah, I did inspire myself quite a lot from nature actually, I keep kind of referring, because people want to put human features on these, not literally, but you know, human attributes and I even use human adjectives. But my biggest inspirations has been house plants, because they're kind of these, I have two, I'm literally looking at two of them right now, and take care of them but they basically interact with us.

No, I could actually see that in the research that you're doing, that probably plants and nature was an inspiration for you.

Yeah.

But yeah, I mean yeah, if humans are not the only living organisms that take, have sent data from around the world, so around the environment, so yeah, yeah, it is definitely nature there.

Great. If we have time I will ask my provocative question, but is there anything that you would like to ask me before we get into that, anything at all really?

Oh god, this is me trying to remember back to what the workshops were. I mean, yeah – I don't think I have any questions about the research necessarily, obviously I'm looking forward to reading the paper and I would love for you to send it to me once it gets accepted.

Yeah.

So that would be great.

Yeah that paper's going to be an interesting one, I'm still, I'm thinking of maybe, I don't really know what it's going to be yet (laughs).

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Those are always the best ones. But I guess I'm, I guess if I did have a question about the research it would be more of your, how you've actually created things like the workshop. So for instance, how did you come up with, what were the processes when you came up with the cards that you chose?

So the actual, um, the framework is actually more of, to use, not the best of words, but a bastardisation of someone else's idea, as it always is. Where they also used kind of emotion driven cards, whereas mine are more focused on specific aspects of what the two different objects are doing. I combined that with this thing called, I think it's called the New Metaphor Project where, it's actually a Twitter account as well, where it randomly puts up these two cards and it says, how can, so for example, it's like, how can purring be a metaphor for government corruption, it's that kind of, you know, completely disassociated or completely unrelated ideas.

So by an amalgamation of that and then, not to try and get too much into it I guess, but when I started my, because I'm quite design led, I started at the very beginning with this thing called a workbook, I don't know if you've ever come across that term before?

I think I've done a few of them actually.

Okay, great. So I actually did my Masters at [REDACTED] which is where I learnt that technique from a person called [REDACTED] and another person called [REDACTED].

Yeah, I know [REDACTED].

Yeah, so I kind of, I started off with these really, really weird ideas, so I drew some of those back out, so like the ideas of making art for example on one of the front cards, that was a literal recopy from my original work. Then there's a bit from kind of – so it's all these sources kind of coming into one, so there's no real clear way of describing where it's all come from, which is why, with my supervisors who have much more of a background in things like human factors and sustainability, and they're trying to say, well how do you justify all of these things, and sometimes it's like, I don't know, it just seemed like a good idea at the time I guess.

I have that issue now, it's like, how are you explaining it, it's like, damn it, I'm going to have to read more stuff now.

Yeah, you just kind of go, I know it's not in a way that I'm looking for things that just validate my opinion, but I'm sure someone said something similar before, so...

It's obvious (laughs).

Yeah, so yeah, so this half rigorous, half design creative combination is basically how the workshop came to be, and it also came as a panicked reaction out of, oh god I can't put these things into peoples' houses right now, I've got to do something.

Yeah, I think there's going to be quite of kindness for the next year or two.

Yeah, pretty much. So yeah, lots more theory coming out of, because as I think I've mentioned, I wanted to put it in, I wanted to put the devices in peoples' houses for, maybe a month, maybe even months, to kind of get passed the, oh this is novel phase and see how they really use them, and how they really build relations with them.

The minimum's two months.

That's not going to happen.

It might still do, I mean there are ways, I mean obviously I don't know how long you've got left on your, you said you've started the write-up phase which is fair enough, but you know, we're doing things where it's going to be boxed up and it's going to be boxed up for a week before it gets shipped out, you know, general things like that. So there are ways and means of putting things into peoples' homes.

Yeah. I'm going to try, because even if it basically becomes this frantic data analysis in the last six months when I've written the rest of the thesis and I just cram that last bit in to get it done, then I'm willing to try and do that, but.

Hmm, yeah I mean do you have any users, any specific user recruitment criteria that you need, or is it just anybody?

So this was actually kind of a tough one because deep down I just want to give it to anybody and get the real reactions from anyone. But I feel that, the requirements are pretty low in the sense that, you just kind of have to have an interest, or at least an understanding of IoT, even though it's not really an IoT device, because I think, it's something we didn't actually talk about was the

fact that the data, at least at the moment, is destroyed in the process, and it's not really **_cut in audio_** but it's not really doing anything with that yet.

We kind of thought about having it, upload the data as a form of crowdsourcing to a server and just to see if people were okay with that.

Yeah there is a lot of stuff on that that you need to be careful of.

Yeah, I mean I was basically going to, I mean like I was going through all this, kind of like filtering out the GPS signals and all that kind of stuff, but anyway, because I don't know if I mentioned in the workshop but I work with OS, Ordnance Survey, so you know, they're interested in it from that kind of, what data can we extract from it, and I'm there going, well what is a device, and what is a being (laughs).

Not quite what they thought of when they started funding you, that's fine (laughs).

No, no, I don't think anyone, what it was expecting, so yeah.

I mean, so you don't sound like you have too much of a recruitment criteria, as long as you've got the artefacts to go in the homes, that sounds absolutely easy enough to do. And you could do diary studies online with a mobile phone, so it's just an app that they install. I'm just looking at, so PIEL survey tool is just a, basically a diary study tool that you can have that, it reminds you every morning, but you can put timers on it.

So you can do a session in the morning and the evening, and people would just put in what they think about the device, bob's your uncle.

Okay, yeah, I was planning to do that, I was waiting for the go ahead to kind of batch produce five of these, because I've only got the one at the moment. But because of – that was going to happen at the start of this year, but then everything got thrown of whack, but I have kind of, I basically have the skeleton of what you just described, about this kind of, like the diary study stuff, but that app's really useful, I'll take a proper look at that. Because we were going to use WhatsApp I think originally.

Yeah I think, this one here is a little bit more complicated, where you have to actually forward the email, the data back to the researchers, but it also allows you to capture things like a Likert scales and other things like that which you can't necessarily do with WhatsApp.

Yeah, I'll take a proper look at that, thank you for that.

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So if it's all right with you I'm going to ask you this question, because we've kind of talked a lot about purpose and it's a very leading question, but...

Okay.

Can we design things, this is kind of like a two-part question, can we design things without a purpose and have, and is that okay really for the point of being a designer?

Yes, and is it design or art?

Yeah, that's a good question. I think its design, but if it's from the sense that, so the perspective I'm trying to flesh out as part of my thesis, is this idea I suppose – maybe what I'm really saying, I'm not sure if I am yet, is that I'm just starting from a completely human eliminated point. So the purpose is, imagining devices and how they can exist in the world, just like how plants harvest sunlight, how they can harvest data, because we generate so much data.

But they have no inherent purpose other than to survive, and then the purposes emerge from our interaction with them, just like a house plant was not put on this earth to filter oxygen for us, and to be pretty, but we made it that way, if that makes sense.

Yeah, I mean I think it depends what you – so you're defining purpose then as purpose for the human being. It's got a, it serves a purpose or a task, it completes a task for the human being, but a plant has a purpose to survive, you know, its purpose is to live and to, so therefore it's capturing the data to be able to live. It has its own purpose.

You know, wasps are the nastiest things in the world, but they still have their purpose, you know, their purpose is to keep the hive going, so it's not necessarily human related purposes, but it is - things that are out there and I think all living, breathing things will probably have a purpose of some sort, which is most, to continue existence.

Obviously, they've not as technically been designed, they've been evolved, so yeah I think if we, yeah, I think you – as you were saying, you're taking the human out of the actual category and my head just went straight back to another undergraduate project where we designed living beings that lived under the surface that had nothing to do with people.

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But if you take it out of there then I think the entities themselves will have some sort of purpose and whether that is something where it just collects data and then deletes it, it's still, that's still the function it's doing, it's still its purpose. But I mean it'll be something that is beneficial to the human, but does that really matter?

No, I suppose it doesn't, but do you think it has, do you think it's something that should be pursued and, you know, something that we could imagine one day being amongst us as it were, these human purposeless devices, but these kind of self-purposeful, self-intentful, kind of self-existence in a non-biological sense? Because I'm trying to remove, I started off with the kind of like, it's alive, and then I was like, no, don't be silly, alive is just a way of organic being and this is a technological being, and then what does that mean, and that's kind of where I've gotten now.

So are we talking about, again when you were saying that I had a snippet, a flash of something object, I'm dyslexic so I get these flashes in my mind, of things like a bike rack, right, it's an object that is in the environment, it's non-technological, it's non-biological, it has a purpose for some people, who is putting the bike in the bike rack, it has no purpose for me because I don't cycle. You know, it's – so you know, I think the level then of purposes, is it for – it could just be that this thing is designed for one human being in the world and that human has not stepped foot in that square yard of the world yet, or ever will do, but you know, it still exists.

If you have things, so I think, you know, removing the human from that purpose is, is interesting because I think it could be purposeful to some people but not others, and it could be purposeful for one person, but not ninety-nine percent of the population.

Having an object in there that's just sitting there, living and breathing, or not necessarily living and breathing, or just processing data on its own and doing its own thing, it could, as a design artist in my heart, absolutely one-hundred percent I'd love to have things like that that aren't necessarily anything to do with us. You know, it's its own entity, it's not been – we would probably, would it have been created by us, or would it have just evolved or would it have been created and just placed there? But then you're still having a purpose where it could be that people are speculating around what actually it is, what does it do, and then you have people who are researchers, like you have biologists, who go out and go, okay we've got this new species, what does it do, why does it have it. So it's then created a job for other people.

Yeah, that last bit you mentioned there about the speculation, that is something that, obviously I'll work – I don't have the space or time to really do,

but it's something I've thought about quite a lot, is the, if you had enough of these and enough variation and especially if you could – now it's very difficult not to sound like I'm talking about a singularity here, but a point at which they are designing themselves and producing themselves that – because you know, like you get all that machine-learning and it kind of goes beyond what we can understand and they start making their own decisions and it's not really clear how or why.

If you then combine that with a physical space, the shape of them, the nature of them, they're all going to change, and then like you say, you have this entire new branch of research that's just kind of studying them as they're going.

Yeah, absolutely, it's quite interesting. I mean it could be that you do something where, I don't know, I'm just thinking out loud here, where you have a purpose where, you put stickers around, something that's not necessarily going to be doing things, I mean you could have these small organic artefacts or stickers that go somewhere, that maybe have a Twitter hashtag, and it would just be interesting to see if the machine-learning, even if it was quite simple and doesn't necessarily have to be too technical, if people would take photos of them, or share them, or ask questions within Twitter to see, what are these things, what is this about.

You know, when I, I did my [REDACTED], so another [REDACTED], but you know, we did projects on looking around the streets of London and about transport, and we found these objects that had obviously been put up at some jubilee or something or other on the floor, and their initial purpose was to help people walk around London and there was maps that went with them, and you know, they had a whole thing where, it was part of a system that people would get the map and they would be able to follow the route.

The maps don't exist anymore, people have forgotten what they are, but they're still there, without a purpose, there's still these objects there that are doing something, as in existing, and are beautiful as they are presented, but they do nothing apart from just sit there and make people wonder.

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KEY

Bold: Interviewer
Regular: Respondent
[]: Uncertain word(s)

...a screen with you to go, just a couple of slides just to really – I don't know how well you remember the workshop because it's quite a while ago now, a week or so right, so I'm just going to go over, so what I'm going to do is going to go over the stages we went through and I'm not going to ask you to do them again, but if you do remember them and if you have any thoughts on them about you felt, how difficult it was and things like that, we're just going to chat about that.

So the first stage was to do with what I called the framing activity where I asked these three questions that you now see on your screen.

What I wanted to know is how did you feel about that stage and how did you feel kind of trying to answer these questions?

Okay, for me I think the first question was the hardest because I really, I think I don't think that much in terms of physical digital devices. So that was a bit like out there, but then I remember I said something about data and you made an analogy about, like data being the blood of these systems or these like connection between human devices and, like human and devices. I remembered that I really liked that analogy and I think it was very, like interesting to consider data as such, like as the, yeah like the blood of these systems and the thing that powers these systems and allows for these systems to work together, yeah.

Okay, so yeah okay, so yeah this stage was really just to kind of get your kneejerk reactions and I feel like, I wrote some notes about what you said and [lost connection]...

I'm not hearing you, I don't know why.

Oh sorry, my microphone can be a little bit dodgy, am I back, yeah.

Yes.

Okay, so you said some things about, kind of focusing more on the tangible dimension as well and I remember writing here that you kind of thought that you could find insightful insights from the data that is gathered, and it was really off your kind of conversation that I drew that life blood analogy, because

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36 **you kind of seemed to frame data as the enabler that brings together devices**
37 **and people is what, is kind of just feeding back some of the words you said.**

38 **But no, that's really great. One question I did actually forget to ask before we**
39 **started this is, a little bit more about kind of, what your background is and why**
40 **you actually were interested in doing the workshop?**

41 Okay, so my background is actually in engineering, in electronics. I did my bachelor in
42 electronics and then I did a Masters in biomedical engineering and I was working with
43 wearable devices and with IoT for healthcare.

44 Then I came here to [REDACTED] to do a PhD in data centric or data enabled design. So I think
45 this empowers all of my perspective on data being this source of insight, so I'm actually
46 learning a lot about the design, because I recently just started my PhD, like I'm at the
47 end of the first year. So I'm just starting to dive into the design world and that was
48 actually one of the things that like drove me to participate in your workshop, because it
49 was also an opportunity for me to learn from the other side of these workshops, how
50 things work and how they are, because I have read a lot about workshops in different
51 papers. I was like; yeah let's do a workshop, that sounds cool. So yeah, that's more of
52 my background, is more in engineering.

53 **Oh okay, so when you say electronic engineering, I'm quite curious, because I**
54 **do a bit of coding myself, nothing fancy, but I kind of like Arduino's, but do you**
55 **prefer Arduino's or Raspberry Pi's, or is that not your kind of area?**

56 No that's actually my kind of area. I love doing this, because they were like my first
57 baby, but I think, like Raspberry Pi you can do a bit more, and you need a bit less
58 components. But I love Arduino's, yeah, they make me happy.

59 **Have you seen the latest ones that have come out, the Nano IoT and the Nano**
60 **Sense?**

61 No actually.

62 **Oh I use them as part of what I do, so they're really great, I mean they're**
63 **fantastic. They've got like, the Sense has got all these integrated sensors and a**
64 **little bit of machine-learning on it, and the IoT has internet capabilities and**
65 **they're all Nano sizes, like they're tiny and they have huge memories. Like I**
66 **think the Sense has a megabyte of memory.**

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67 **So anyway I don't want to get too – because I love that kind of tech stuff as**
68 **well, I could talk about that.**

69 **Right, so okay, so just moving on a little bit from that little tangent back to**
70 **what we were talking about. So after that first stage, what I got you to do was**
71 **to think about these three kind of provocative questions about physical digital**
72 **devices and data by having, by asking the questions and then getting you to fill**
73 **in the blanks.**

74 **So I'll just kind of leave these questions up here for a little bit longer, just so**
75 **you can remember, but it's not too important if you don't read it all.**

76 **So there was this and if it's all right for me to move on, there is these cards, do**
77 **you remember, is all of this kind of ringing a bell?**

78 Yeah, yeah.

79 **Yeah, so the cards were a way of prompting answers to those questions in case**
80 **you people got stuck or anything like that. So what I want – and the first two**
81 **rows of these cards are to do with the first question, the third row with the red**
82 **is the second question and then the final row is the final question.**

83 **So if you can just kind of think back to that activity, were there any particular**
84 **questions or any particular cards that really stood out, or that you really**
85 **thought were provocative or anything like that?**

86 Hmm, I don't remember a lot of what happened there, but now I think, I will let you
87 know like what stands out for me, row by row. So in the first one, like colour and
88 running, just because I run; and colour just because I think it's something really
89 interesting, like the sense and to measure.

90 Then from the second one, I don't know, fairly make art, music, because it plays a little
91 bit of the boundaries of creativity and who should create and then, also the bed stands
92 out from the third one (laughs) and the house plant I think.

93 And from the last one I, yeah I think the last one is overall very interesting to explore,
94 like I think all the different things that are there are quite interesting, yeah, and it will be
95 – like if you put it in the terms of these devices that you were like talking, I think it's
96 very interesting; all of them.

97 **Yeah, I've had quite a good response from that, that kind of row, especially**
98 **faith, I think faith was one, I can't really remember whether we talked about it**

99 **in great detail, but a lot of the times people talk about that, because it's quite,**
100 **quite a difficult one to imagine, but also quite interesting. Yeah, so when,**
101 **thinking about this task how did you actually find doing it, did you think it was**
102 **difficult or was it quite easy to take up as an activity?**

103 No, I actually thought it was quite, like difficult, because I, like I think I have, like I have
104 a little bit about like thing-centred device, yeah design, but I don't know I think this was
105 a completely new perspective for me. So to start making this like relationship and to
106 start thinking in terms of things and associate them with all these concepts, for me was
107 quite hard.

108 **Okay, so when you say you read a bit about thing-centred design, I'm quite**
109 **curious because there's, I can never pronounce her name, but there's a scholar**
110 **from [REDACTED] her name is [REDACTED], she does her - well they have their own**
111 **version of thing-centred design, because I think that mine is quite different**
112 **from theirs, but is that something that you've come across before then?**

113 Yeah, yeah.

114 **Right, so I believe her work is quite focused on, actually the perspectives of**
115 **things, isn't it, because she puts cameras on them and stuff like that. So yeah I**
116 **can see why you would think that this is quite different.**

117 Yeah, yeah, yeah, so I think I was expecting a bit more on that, like line, of thing-
118 centred design, I was not as familiar with your work. So for me this was quite shocking,
119 like quite an interesting, like perspective, but also very different from what I'm used to;
120 also coming from an engineering perspective, I think that's even like a harder, like step,
121 so yeah.

122 **Yeah absolutely. Okay great, great, that's fantastic responses.**

123 **So just to kind of go onto the final stage so that we can get onto a bit more of a**
124 **discussion about what you actually did and your thoughts on that.**

125 **The final stage obviously was the kind of adoption and exploration part, and**
126 **what we did in that was, we used another set of cards to build, kind of what I'm**
127 **calling a framework, although that's not, perhaps not the best word to describe**
128 **it. If you remember those two columns in kind of like a table, we had to pick**
129 **cards for the harvesting device and for the technological being; and then we**
130 **went away and designed those for about, I feel like it was about half an hour to**
131 **forty minutes with your group, and then we presented it back to everyone.**

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132 **So kind of looking back on, notably the framework and also the activity of**
133 **designing the devices, how did you feel about kind of doing that?**

134 Okay, so I think here it felt better because it was like less confusing and I think it was
135 very helpful, like the examples that you provided of your own harvest device and
136 technological being, because I think that really helped like contextualise what was going
137 to happen next, and to give us an idea of what was expected and what you meant by
138 both of these, like objects of entities.

139 I think it was overall really fun, because it, also again, coming back to my engineering
140 background, it's a huge jump to start the thinking of things and objects as these, like
141 things that breaks up and have a relationship with each other and that goes beyond that
142 purpose, for example, because I don't know, I think as I said, I can see it in engineering,
143 usually you do things because they have a goal, but here it's more, just for the sake of it
144 existing. So I think that was quite interesting for me and quite like triggering.

145 I thought that overall this activity was very fun and like easier for me at least, and I
146 think it's really fun to explore these relationships between the harvesting device and the
147 being, yeah.

148 **Okay great. I mean, so one of the things you mentioned there is something I**
149 **want to pick up on, but maybe, I'm trying to think of which order would be**
150 **best. So how well do you remember what you designed, I think we're going to**
151 **start with that.**

152 Okay, quite well I think actually, I think I designed a, wait, like the harvesting device
153 was collecting data for like water consumption, for the bathroom I think, and then the
154 being was something that, was like one of those dolls that got bigger and bigger the
155 more water you used, but also needed for you to use water to survive, like to be alive
156 because I think I also put something on the harvesting device that could like disabled
157 their data collection if they wanted to, like if someone's taking a long shower. Yeah, so I
158 think that was sort of what I did.

159 **Can you perhaps think a bit further about why you chose those, for example,**
160 **the ability to have that, because it was quite a modular design and kind of be**
161 **able to detach and reattach that for the harvesting device, and then maybe a bit**
162 **more about why you chose the way that the design, the technological being**
163 **was, and then it got bigger and it was kind of like, you know, waving and**
164 **blowing around.**

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165 Yeah, so I think that, like I was trying to, again this is the way I see the world, because
166 of my background, to make something functional. So I was really trying to make
167 something that could tell you something about like your behaviour or how, like you're
168 impacting like the overall, like world or whatever, with your water consumption and I
169 thought that the modular idea was interesting because there are different water sources
170 around your house and also your bathroom for example, so it was interesting to play
171 with them and to maybe choose to put this harvesting device in some and not in others.

172 Then I think, like when it comes to a relationship with the technological being, I really
173 liked your, like dependency like relationship and your example, because I think that's
174 very interesting, so I think I tried to follow-up a little bit on that with setting this
175 requirement for you to have some kind of sensing for this thing not to die. But also for
176 this thing to kind of control you, or at least be a reminder of how much water you're
177 using, so I really liked this, like the fact that the thing with the physical shape can be a
178 reminder of something.

179 But I also really liked your idea of making it something like dependable on data and on
180 your, in this case, actions and your behaviour to stay alive. I think that's something, I
181 think that's super cool, yeah.

182 **It's really interesting, because something that you've mentioned earlier about,**
183 **you've mentioned first goals and then you actually also mentioned functions.**
184 **So someone who's coming from an engineering background, and this is**
185 **something I'm quite curious about myself, how would you feel, how did you**
186 **feel about taking under a task that could be described as designing a**
187 **functionless or a goalless object? Because I feel that in a way, you have it a**
188 **goal in the end, but you also recognised that it starts from a goalless point of**
189 **view.**

190 Yeah, so I think that's like very challenging, that was very challenging and I think as I'm
191 diving into this world of design, that is one of the things that I struggle the most. This
192 like trade-off between function and just doing things, not for the sake of it, but with a
193 different goal in mind that is not necessarily function, so this is one of the things that I
194 struggled the most, and I think, I really tried to make it functional of course, but that's
195 like my, like inside telling me things should have a function.

196 But then I think it was very fun for me to explore a little bit beyond this function and to
197 make this, like not useless but something that doesn't really have a defined function,
198 and yeah, and to try and think how this would like look like and what shape should this

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199 have and what functionalities, even though it's, yeah, like meaningless, I don't want to
200 use that word, but I cannot think of anything else.

201 **No, no, meaningless and useless is kind of – they're concepts that I think are**
202 **part of exploring what this workshop explores and I'm interested to know what**
203 **you think about, I suppose the emergency of the usefulness. So in a way**
204 **perhaps your background means that you think, oh I have to make it, I don't**
205 **want to put words in your mouth, I'm just trying to think about what you've**
206 **been say that, would you say you have to think about it in a sense that the**
207 **function has to be obvious, and perhaps maybe you can reflect on a bit more**
208 **about how you can make function or use or problem-solving, something that**
209 **comes through use or is not very obvious necessarily. I don't know if that is**
210 **something you've thought about through this.**

211 Can you maybe reframe what you are saying?

212 **Yeah, no that's fine; I know it's quite complicated. So I'm trying not to be**
213 **leading, but I'm also trying to look at this idea that, how do you see exploring**
214 **uselessness or meaningless as a good avenue for a designer for engineering?**

215 Okay, I think for engineering, like from the engineering perspective I think it's an
216 interesting use of resources (laughs). So yeah, I don't know, because of course
217 engineering works from, like a very different like framework of stuff, like you have to
218 make things useful and optimal and the best, and this is more about, just doing it for the
219 sake of it and see what happens, and what interactions arise out of that.

220 But I think from a design perspective this is, of course more interesting, it allows you, I
221 think, to start like from a different point and to kind of see what kind of things evolve
222 from there. So yeah, I think you're just at a very different starting point.

223 **Yeah, no that's really great; and kind of tying into that, and especially**
224 **considering, as you say, with your background and the fact that you started**
225 **your PhD quite recently. I'm quite curious to know in what way, if you think**
226 **that this, having done this workshop has made you think about things**
227 **differently and what those things might be?**

228 Yeah, like of course it has made me think about things differently because it was just like
229 a mind-blowing experience of, hah, there's people thinking about this, interesting, why;
230 because I, like yeah, it's just a very different project to what I'm used to. But I think
231 what I'm like taking out of this workshop is, like this playfulness and this, like possibility

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232 to maybe walk away from the function and from these goals that I think I usually have in
233 mind, and maybe explore different things to do, the objects, yeah.

234 **That's great, so just kind of, just picking out a few of those bits and perhaps**
235 **adding a little bit more. So it's made you kind of think differently, how would**
236 **you, perhaps more specifically describe how it makes you think about physical**
237 **digital devices, and then also maybe, how you think about data, after this**
238 **workshop?**

239 Okay, so I think this workshop didn't really change my way of thinking about data. Yeah
240 I think I, after the workshop I was still feeling data as, like the connector or the enabler
241 between like the humans and these devices. But I think it did give me like a different
242 perspective on the devices as, I don't know if I want to go with like a more human
243 perspective of these devices, but I think it's something in the [lines of that 0:20:59] and
244 to think of these devices as something more than something that is there to feed a
245 purpose, and maybe to fulfil a task, aiding this human but more as something that is
246 there as its own, like entity that maybe has its own needs. Which I think actually
247 happens a lot right now, like as my phone needs for me to charge it for it to work
248 properly, so yeah.

249 **Yeah I think, I can't remember whether it was your group or not that kind of**
250 **directly identified the existing needs. I mean some people have asked me**
251 **whether or not this kind of data hungry metaphor for like smartphones is, this**
252 **is already a data hungry device, so yeah, but that's a really good point. And I'm**
253 **quite interested that you mentioned putting kind of humanity in them; do you**
254 **think that there's actually other ways you can see it, perhaps not human but**
255 **maybe plants, or maybe animals or other ideas of entities, because you**
256 **mentioned the word, entities, that maybe we can frame devices as?**

257 Yeah and actually that got me thinking on, of how I relate with my plants and animals; I
258 don't have a pet here but I had one in Colombia, and how I relate with my devices. I
259 think with some devices you kind of, like you could have a similar relationship like you
260 have for your plants or for your pets, in a way that, yeah, like you interact with them
261 and you feed them, but you also expect like something in return from them. So yeah,
262 like this didn't cross my mind until just now, but in there I think we are – and some of
263 the devices that I even like act and interact with today, I have kind of that, like different
264 relationships and I kind of can see them as different entities and, for example, plants or
265 pets.

266 **Yeah, and kind of going back to something you mentioned about, from your**
267 **engineering past, the kind of idea of optimisation. So I'm curious, when you**
268 **think about your plants and your pets, notably pets, because I think it's more**
269 **obvious. When they do kind of un-optimised things how do you think that could**
270 **be translated into the devices we have? Because we always want our smart-**
271 **phones to be perfect, but what if they weren't perfect, on purpose, or so to – or**
272 **not?**

273 So you're asking like, can you rephrase it?

274 **Sorry, so what I'm quite curious about is when we kind of think too much about**
275 **optimisation and having everything working perfectly, but then when we**
276 **compare that to the way we interact with plants and animals, it's definitely not**
277 **a perfect interaction. There's, you know, your dog or your cat, they do things**
278 **you don't want them to do, and yet you keep them, whereas if your phone or if**
279 **your computer do things you don't want them to do, you get rid of them.**

280 **So I'm kind of curious as to why, maybe why you think that is and maybe how**
281 **those – let's start with why you think that is?**

282 Yeah, but also I don't know if I agree with the premise that, like our computers and our
283 phones do things as we want them to do perfectly of course. Because of course there's
284 a lot of inaccuracy, but if we say, okay this is acting as expected, I don't know, like I'm
285 thinking for example about my period tracking app, which of course is not perfect but it
286 also has a lot of function – no, it doesn't allow me to access a lot of functionalities, so it's
287 not perfect, but I still have a relationship with it, as I still have a relationship with my
288 pet, even though it's not perfect. So I don't know, I don't know if I agree with this,
289 technology being perfect or my smartphone being perfect.

290 It might be different for example if it starts, like actively being annoying for example, or
291 actively doing something that I really don't want, and that I'm really against. I don't
292 know why we get rid of – like I think if my phone has started to actively, like annoying
293 me, I would just get rid of my phone, and I don't think I would get rid of my pet. But I
294 think that's because I don't feel like I have a, like relationship to my phone as I have to
295 my pet. But yeah, I don't know.

296 **So that's kind of, yeah that's kind of an interesting thought isn't it that, why it**
297 **is – so what was quite interesting I guess is that when an animal does**
298 **something we don't expect it to do, it's still perhaps doing it for its reasons,**
299 **whereas when your period tracker or anything on your smartphone does it, we**

300 **assume perhaps that it's because of a mistake in, a design mistake or it's not**
301 **an intentional thing. But again, it is quite interesting to think about we build**
302 **relationships with animals, so that when they do do these bad things we kind of**
303 **go, oh it's okay, you know, it's just your nature. But when a phone goes wrong**
304 **it's like, oh that's just bad design, or bad coding, or?**

305 Yeah, that's true, ah, and also I think we really expect our devices to serve us and like
306 to, yeah like to optimally perform a function that we expect them to perform, while with
307 our pets we, I don't think we have that many, and our plants, that many expectations.

308 And also with other people, like I think we understand that other people and entities do
309 not like revolve around us, but I think we do expect that from our devices. Like your
310 role in the world, your phone is to serve me and to act as I want you to.

311 **Yeah, so if you actually, kind of like my final question on this track, if you**
312 **actually took, instead of moving, instead of having it being kind of like a**
313 **servitude or a master, slave, or whatever kind of relationship you want to do it,**
314 **how could you imagine technology being in a similar way to animals? So I**
315 **think a good term for it would be communal, so it's kind of like a coexistence or**
316 **a symbiosis with humans. How could you imagine that actually being? It**
317 **doesn't have to be in great detail, but like if we were communal or symbiotic**
318 **with technology?**

319 Um, that's quite hard to imagine actually, but I think it would be – I don't know, like I
320 think, like the way we look at technology and things should – oh I don't know, because
321 to an extent I feel like this is already like changing. Because I was going to say like, oh
322 our relationship with things has to change a lot, but also if you think about, for example,
323 **thermostats or smart assistants** you are already developing a different relationship with
324 these entities and they are not perfect, and some of them even have, like a personality
325 and a character. So I really don't know how to respond to this question, I'm sorry.

326 **No, no, that's absolutely fine, I was only kind of, just a thought-provoking one**
327 **that I had whilst we were talking, something I'm particularly trying to find out.**
328 **So it was just, it is a tough one, and I'm kind of working on myself.**

329 **Just kind of moving into the next set of thoughts on this. So we've kind of**
330 **talked about things that you've taken away from it, and what I'm kind of**
331 **interested in now is, do you think that you're going to kind of use anything that**
332 **you've learnt from workshop, or experiment with it anytime soon, or in the**
333 **future? Or any kind of next steps or anything that you think about?**

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334 So like my PhD is in, like responsible use of data and responsible data donation. I think
335 it triggered me a lot, how for example, introducing these things, not with feelings but
336 with feelings, like in quotation marks, might for example play a role in, for example,
337 enabling this data, the nation or motivating people to actually give away their data to
338 these devices, because if not something will happen to them, or because – so yeah, I
339 think it inspired me to think a little bit outside my engineering box, and how to, yeah,
340 like how these dynamics could change a lot of, like relationships.

341 **How do you feel about the idea of the data actually being erased in the process,**
342 **so almost destroyed, so it's not permanent, does that evoke any thoughts?**

343 Yeah, like I think I love that idea, and I think that's something that should happen more
344 in our society, because I think – like now with data being used as a commodity and with
345 data being used as, just as an infinite resource that just keeps on growing and, I think it
346 will be, like a very, very interesting thing for it to just be destroyed and for data to have
347 like a very specific function.

348 I think here also, make things easier, for example in terms of transparency and in terms
349 of people actually being aware of what happens with their data and where their data is
350 going.

351 **Okay, yeah that's really great.**

352 **So I think that's more or less everything I wanted to cover. So I actually kind**
353 **of have one more question and then it's a bit of an odd one and then I'm going**
354 **to kind of ask you if you want to ask me any questions.**

355 **So my final strange question is, how would you summarise my research in a**
356 **couple of sentences or a couple of words?**

357 Okay, so (laughs) I think your research is, first of all crazy, but I think it's about
358 exploring these relationships between like physical, like devices and humans from the
359 device perspective, and to introduce, yeah like different entity, like characteristics to
360 these devices and exploring like what happens there.

361 **Yeah, that's pretty good, I'll use that as my abstract when I write my thesis.**

362 Yeah I think you should (laughter).

363 **Yeah. So yeah that's a really good – it wasn't quite where I expected to start**
364 **from, because I didn't come as a thing-centred designer, I just kind of ended up**
365 **here, but yeah it's a complicated one.**

366 **So I was just kind of wondering at this stage, do you have any questions for**
367 **me, or anything you'd like to add or talk about?**

368 Like just overall like, how did you get here, to this; and also like, why do you think this
369 is like relevant?

370 **Okay, that's two very good questions that I'm sure I'm going to get asked in**
371 **my Viva. So the first one, how did I get here, so broadly speaking I used a**
372 **research through design methodology, which was kind of, I combined with**
373 **what I, well it's described as critical design, although, I mean not in the sense**
374 **of doing artistic speculations in a gallery, I mean it as in critically and analysing**
375 **art, like you said, with our relationship with objects and trying to provoke or**
376 **create objects that break that trend, or make us rethink our relationships with**
377 **data and devices, which you've already kind of highlighted.**

378 **So what I did in my first study, you know how they typically say a PhD has**
379 **three studies, my first study is actually just a study of what I designed, and a**
380 **study of all the things I looked at, from a design perspective, as well as the**
381 **kind of, the literature. Then I kind of just reiterated and refined it, then**
382 **prototyped, and then coded, and did all this kind of stuff that got me to this**
383 **stage.**

384 **Then from the relevance, so my first kind of line of defence in terms of its**
385 **relevance, not in an aggressive way, but just the way I think of it, is that it's**
386 **basically basic research. So basic research in science is something we all**
387 **understand, it's something just purely for the sake of exploring what happens**
388 **and then going, this happened, and everyone going, oh right.**

389 Yeah.

390 **Yeah, so there's definitely a large amount of that, but also I suppose it's kind of**
391 **riding on this thing-centred wave, if you will, or there's also these kind of**
392 **concepts about ludic design or playful design in the home that I'm really**
393 **interested in, because a lot of the time, or it still feels like we're bringing in a**
394 **lot of concepts from the office, you know, everything's about efficiency or**
395 **productivity and I'm kind of like, well what if we just lived with beings that**
396 **were just there, and what would happen if we did that. It's tough, it is hard to**
397 **justify that to a design world where often people are talking about problem-**
398 **solving and I'm kind of thinking, well the purpose or the use of this will emerge**
399 **through using it, but it's not, the beings themselves are not designed with a**

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400 **purpose, it's kind of what happens when you use them that the purpose**
401 **emerges from that.**

402 **I don't know if that really answers your second question, it's a tough one for**
403 **me to answer, but yeah.**

404 Yeah, no like, I understand that it's a tough question, it's just, I just thought it was very
405 interesting. Of course, like because of my background, it was a bit hard to change like
406 my mentality, even during the workshop. But I think it's a very interesting perspective
407 to explore, but I think it's a bit hard, like for me to grasp the entire way. Yeah, I think
408 it's really cool what you're doing and it really triggered me a lot, and it was very
409 interesting.

410

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1 **KEY**

2 **Bold:** Interviewer
3 Regular: Respondent
4 []: Uncertain word(s)
5 W: High confidence
6 (): Medium confidence
7 {}: Low confidence
8 __: Other information

11
12 **The first part of the interview, what I'm really curious about, is a little bit more**
13 **about your background and perhaps why you chose to do the workshop and a**
14 **little bit more about what you **knew about thing-centred design** coming into**
15 **this?**

16 So my background is – it's a bit – well, I have a multidisciplinary background let's say.
17 So I started my career as a psychologist and then at some point I was working in human
18 resources for a while and I didn't like it so I decided to move into technology. So I did
19 my Masters in interactive technology and that's how I got into the HCI kind of universe.

20 After that I started my PhD, that was in computer science, so that was more – I mean,
21 I'm not a technical person but **_cut in audio_** more working closely with engineers and
22 trying to understand also their positions around HCI. My PhD was in design, so I was
23 explaining how designers work, especially in multidisciplinary things. And that's how I
24 got in love with design and design theory and practice. I did a research day at
25 Northumbria University in the science school, so I kind of got my PhD, got really into the
26 science side of things.

27 Yeah, I think part of my interest in this workshop is that I – then again, I'm really
28 interested on design research. And I don't consider – sometimes I position myself as a
29 design researcher on some parts of my projects, but I'm not a designer by training. So I
30 really enjoy going to design kind of activities. So that's part of my – one, I have my
31 [interest on your research.

32 And the other side is that when I finish my PhD I moved to London for a postdoc at **████**
33 **██████████**. And that was on – basically we were trying to design an AI tool for
34 journalists. My role with my PhD was basically talking with people, in this case
35 journalists, understanding how they are using technology and how can we design
36 technologies to work for them. So in that sense I started working with topics around
37 machine learning and realised the importance of data and how much our understanding
38 of data, how it's generated, **_cut in audio_** and so on has an impact on how we perceive
39 technology. So that was my other side of interest into your project.

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40 Then my current project is also around data. So we are working together – the project
41 is I'm working at the [REDACTED] and the project is funded by [REDACTED]
42 [REDACTED]. And basically [REDACTED] wants to figure out how they can do things better. And we
43 are coming as an impartial, you know, with an impartial opinion on that. So first we are
44 trying to figure out how they are developing data science systems inside their
45 organisation and how they are being adopted also inside their organisation. So not only
46 the technical side but also how it's kind of basically directed into the workflow.

47 And on the other side we are doing community engagement, well, we are going to do
48 community engagement. We are working with two community partners in [REDACTED] and we
49 want to figure out how people understand data and understand this kind of decision
50 making – automated decision making that they are already submitting without probably
51 knowing. So we want to talk with them and try to figure out how can we communicate
52 these kind of topics better with a general audience. So I think that's the third point of
53 connection with your research.

54 And I think I talk about this in the workshop, data is everywhere, it is not something
55 that is new, it's something that is produced but by everyone throughout history. So I
56 think design is a really good resource for how can we think about data in a way that is
57 less scary. And how it's just integrated into our lives and how just basically machine
58 learning is making something out of it. And in that sense I'm really interested in seeing
59 different perspectives on how in your case design researchers are approaching the topic.
60 So I think that's my history and interest in your research.

61 **Okay, very clear. I can tell you've been interviewed before, you give very long**
62 **detailed answers (laughs). Just perfect for me to go back to my thematic**
63 **analysis and go, oh, we can code all that. Great. So just moving on from that**
64 **point a little bit. I'm just going to pull up a very – it's not really a presentation,**
65 **it's only about three or four slides if you will, and what I'm hoping to do with**
66 **this is just remind you of the workshop, which I think is particularly relevant**
67 **here because it's been going on more than two weeks since we actually did it.**
68 **So let me just pull this up into full screen and then share the screen. Teams is**
69 **really bad at sharing screens.**

70 Yeah, it is.

71 **Okay, so hopefully you'll be able to see that now?**

72 Not yet – yeah.

73 **So again, this is only just a really quick presentation that I'm going to go**
74 **through slide by slide and ask you questions about it. What I'm looking for is**
75 **not for us to redo all the activities, but to try and just bring them back into**
76 **memory a bit and talk about how you feel, maybe from more of a method**
77 **standpoint, and just kind of discuss them, but also just to see what happens**
78 **when we talk about them.**

79 **So the first stage of this workshop was what I described as a framing task,**
80 **where I asked you these three open ended somewhat ambiguous questions and**
81 **asked you to respond to them. So just trying to remember them back now, I**
82 **know it's been quite a while, how do you feel you felt about trying to answer**
83 **these kinds of questions?**

84 To be honest, sometimes I think there is – I'm aware that I don't have the correct
85 answer with these kind of things, and that there are so many perspectives that you can
86 consider. So I think I'm always kind of hesitant, and I think that's – I don't know,
87 maybe that's also part of my personality or the researcher personality, that you always
88 kind of doubt if you are approaching things from the correct perspective or there will be
89 another way of seeing things.

90 So I think it was very interesting to hear the reflection of others to be honest. I think in
91 that sense the framing was really useful for somehow orienting myself. If there were
92 like – I think the other participants, there were two lovely ladies, I don't remember their
93 names, but they were also very much into design. So in that sense kind of gave me a
94 really good idea on how to frame the workshop. If they were technical people probably
95 the responses would have been very different. And not because technical people are evil
96 or anything like that (laughs), just they will see things differently and probably they will
97 give more of a very – probably apply to a problem or think on a solution, or, you know,
98 kind of a response, while designers tend to somehow open up more questions than
99 answers really.

100 **How did you feel that this task fitted into the actual workshop itself?**

101 To be honest, I have a really, really short memory span.

102 **That's okay, so do I.**

103 So I'm not really sure if I was keeping all the responses – although the question was
104 really interesting, I'm not really sure if I was keeping the responses very much in mind,
105 like in (in the offer). But I know that it gave me an idea on how to – what kind of

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106 common interests we had. So just kind of laying the ground for this question and kind
107 of getting to know the other persons and it was a very good way of just setting the tone
108 for the conversation. I'm not really sure if I took the ideas further to be honest.

109 **That's absolutely fine. As you may remember this task was very, very quick.**
110 **So I'm just going to hop on to the next one. The focus stage, again, not really**
111 **sure how much you remember of this, was a slightly longer task that we used**
112 **to answer a couple more questions that were perhaps a bit more of a stage**
113 **beyond the first ones we just talked about in the framing section. And in this**
114 **case there were also a number of prompt cards, which I'm going to go on to the**
115 **next slide, once we finish talking about it, that we used to kind of fill in the**
116 **blanks as it were, and to kind of generate some conversations.**

117 **So I'm just going to quickly read off these questions just so we have them a bit**
118 **more fresh in our minds. The three questions were, how could a physical**
119 **digital device use blank data to blank – where the second blank is an activity.**
120 **The second question was, what could a physical digital device do to make you**
121 **care for the as if they were blank. And the final question is, how could we**
122 **design for physical digital devices if they had blank.**

123 **Now the actual cards, they should be on your screen, the first two rows of cards**
124 **were to do with the first question. The third row of cards was to do with the**
125 **second question, and then the final row obviously with the final question. So**
126 **just kind of trying to bring that back into mind now. First of all, how did you**
127 **feel about this generally as a task? And then in thinking about that, were there**
128 **any particular questions or any particular combinations of cards that really**
129 **stood out to you as particularly interesting or thought provoking or anything**
130 **like that?**

131 Well, I have to say I love using cards as prompts and to provoke this question. I have
132 done it also in my own research, so I think it's a very useful resource. And in that sense
133 I totally got where you were going with it. What I found interesting on your approach
134 was how kind of outside of the expected as well. So I have done it with journalists and I
135 very much stick to their own terms and kind of – it's just a way of organising the
136 discussion, but not trying to get them to **_cut in audio assuming:_ (go further)**. And I
137 think these cards that you present are the total opposite in that sense. So I really
138 enjoyed the discussion.

139 I think all of them have something. I was curious on what led you to decide which one
140 to – what to select. But I think that's also more your own process and your own

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creativity really. So I think all of them have a bit of something. And more than the cards themselves, because as I said, I found them interesting just because they exist, I think what I found interesting was the combinations that others were making. So in that sense how they interpreted this question and how you see how people have different opinions was very interesting. I think we all have kind of – we all had a bit of a different experience, opinion or perception, so I think that was really – it was a very inspiring activity in that sense.

So how did you feel doing it, how it fitted within the workshop process thus far?

I think it was a good way of stepping outside of the expected. I think it helped to somehow – you know when you've got this kind of workshop sometimes they start like a breathing technique or something that breaks the whole vibe, like stand up and close your eyes and – you know. So I think this activity also helped for that, just to kind of step out of the usual way of thinking. Then again, I work on this topic, on data and so on, from an academic perspective, so sometimes academics are very – it's not constrained, but a very organised way of thinking about it, if that makes sense. Or from my own perspective, like, you know, on my own really narrow kind of scope that I'm looking at it. So in that sense this activity was really useful to step back and just start to think on things differently.

Were there any particular questions that were asked that shocked you or stood out as something that you never really thought of before?

I think the – I mean, I'm just looking at the cards to be honest. And they're just unexpected, but they are all kind of on the same lines of unexpectedness. About, you know, it's just things that I would not necessarily relate, like a houseplant, yeah, of course I can think of many things that you can do with data and houseplants, but I would not have thought about it if you didn't include it. So I think in that sense it was really good just to give me a kind of – make my brain step out and not only think about a Smartphone collecting data or like a very narrow way of thinking. So yeah, I think I went somewhere else with my answer, but yeah.

That's fine. The last question on this task. I'm curious about the questions personally, because as you can probably tell, as you've been describing, this was about – almost like an icebreaker activity I suppose but also got increasingly provocative I suppose is the word I tend to use to describe them. So that final question, which was how could we design for physical digital devices if they had blank, and I gave these cards of needs, fears, faith,

beingness, companions, machinations and conspiracies. And I think at the time I was framing it for you guys as we have to imagine that we're interacting with these devices if they have say a faith or if they believe in conspiracy theories. So I'm kind of wondering if you can remember that far back what your impression of that style of question and those types of cards were?

I think the – I don't know what – I'm having a bit of a – I realise that I'm – so, you know, the line of the call, where it's like my camera and stuff is slightly blocking those. Now I've moved them, yeah. So I think those – the machinations and conspiracy, I think they are – then again, it's just as you said it was a progressive way of thinking differently. So thinking about weather, stocks, colours is something that is kind of still very kind of every day kind of things. While I never thought about, for example, I think we had some kind of a discussion about faith and kind of technology having faith and things like that or generating conspiracies. I don't remember, there was like an interesting discussion around that.

So I think – then again, maybe if I sat down and I tried to come up with this, I will struggle. Just because they are very out there. But I totally understood the point of the activity in a way so I was not very shocked on saying like, oh, you know, fears and – it was not – I felt I was being guided to step out in a way.

Okay. That's interesting. I'm glad it worked (laughs) obviously, it's always good to hear that things go well. So just moving on to the final stage. So I realise now I perhaps in your case should have added a little bit more to the slides. But after that I went into my description of the approach if you will, I haven't really found the right term to attach to it, is it a theory, is it a methodology, is it a mindset, I don't know yet, I'm working on it, of the data hungry home. Which is this conceptualisation of certain technological objects being beings as it were, and that then data is then produced and consumed by these beings, effectively "destroying it." Which is a bit of a – I'm using that as more of a metaphor, it is erased but nothing's ever truly destroyed, but yeah, anyway.

What I did is I went on to describe the data hungry home and I gave the example of Carver and Himlico, which were two devices within this home and what they did and how they worked and so on and so forth. Then after I'd presented that to you all, we then went on to build a framework. And this framework divided the harvesting device and the technological being into two parts where we then populated it with yet more cards, a never ending stream of

211 **cards, to kind of build the foundations of what people were going to go on and**
212 **then design.**

213 **So with all that in mind, which I appreciate is quite a lot, who did you feel**
214 **about perhaps the data hungry home? And then going on to the actual task of**
215 **designing these two objects?**

216 So just to make sure – I mean, when I was interacting, I really enjoyed it and I think,
217 yes, it was – as you say, there were so many steps and in a face to face workshop it
218 would have been very natural but online sometimes it's a bit more difficult to follow. I
219 think using Miro was a good way of keeping us all on the same track. And actually
220 afterwards I used Miro for a workshop and I kind of remembered how you were doing it,
221 so I think it was a really well directed activity itself. So yes, as you said, it's a complex
222 one, but I think it was very well done.

223 From your own research concepts, data hungry homes is like the concept of having
224 devices around the home that are either harvesting devices or technological beings, am I
225 correct?

226 **Yes. So the harvesting devices can kind of exist outside the home, but the core**
227 **idea was that there would be these beings if you will. Not alive objects, but**
228 **objects that have a – I suppose an existence of their own, they're kind of just**
229 **doing their own thing and you're providing them with data. Much like your**
230 **myriad of houseplants behind you, except instead of water and sunlight it's**
231 **data.**

232 Yeah. Okay. So can you repeat that question more about the data hungry home?

233 **Sure. It was only really to ask you how you initially felt being encountered**
234 **with that kind of concept?**

235 I actually really enjoyed thinking on the concept of ephemeral data. So I came across
236 before on data as a design resource or design material, so I was not totally unfamiliar
237 with the concept of thinking on using data around design. But the fact that data could
238 be just used for something that is really not going to go to anything bigger than just kind
239 of anything, whatever (laughs), I don't remember the examples that we were giving, I
240 think there was – one of the participants said something about like a ribbon that will
241 have a memory and you open a present and it will return you like five years ago when
242 we started dating. She was working around relationships. And so I never thought of

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243 those things that are very ephemeral basically. So just kind of like a memory, data as a
244 memory in a way.

245 So I think those kind of reflections, like you needed a) first to step out for thinking about
246 the reflections, as you did with the first activity. But second, I think the way you framed
247 it during the workshop really gave that idea clearly. So I think it was a very enjoyable
248 way of thinking and not— And especially because I'm working on – my work around
249 data and around machine learning is on organisations, so it's either, our workshop, a
250 newsroom or it's an insurance company, so they have a very kind of like – not money
251 oriented, I don't think this is just their plan to make business, I think they're actually
252 interested in the technology and the people, on both sides. But still it's a very business
253 way of thinking around data. So I really enjoyed on the concept that you were giving on
254 more kind of like around wellbeing and around coexisting with things that can use data.

255 **Okay, that's really interesting. Especially when you talk about – if you're**
256 **talking about data as a material, I'm wondering is that from the kind of Ron**
257 **Wakkary, William Odom, Simon Fraser perspective?**

258 That's a very complex question (laughs). But I will say yes. To be honest, I don't
259 remember the authors because I haven't done any practice like that myself. But for my
260 previous project I worked more with co-design and it was more trying to get everybody
261 on the same page and get the journalists to also take design decisions and so on. So I
262 was more working on the **democratic** part of design. But afterwards I have this kind of
263 more an interest on how to use design on a more creative way. And I think design
264 research, this whole concept of research through design and you design things just to
265 learn from them and things like that, so I do understand the concept from that
266 perspective, but it's not necessarily what I practice, if that makes sense?

267 **Yeah.**

268 I don't know, maybe there is not such distinction and it's just in my head. But I don't
269 think that I'm doing research through design, and I think this is more research through
270 design.

271 **Yeah.**

272 So I don't know the **_cut in audio_**, I just like it.

273 **That's completely fair. There is sometimes a blurry line when you're doing**
274 **research with design, as in using design as part of it, and then as you say, what**
275 **I'm doing, I at least say it's research through design because it all kind of**

276 comes down to what I've made and what I've created through my process. But
277 that's a perfectly good answer. So it's hard, because I kind of want to keep
278 going on that train but I think we need to obviously just finish off the last bit
279 about the workshop itself. So we may come back to a few of the multitude of
280 things that you raised along the way.

281 Thinking a little bit more about the actual design that you did, do you need me
282 to remind you of what it was or do you have it still to hand or still in mind?

283 It's somewhere, because I don't really clean my drawers. What was it?

284 You designed—

285 Yes, here it is. It's the table, chair.

286 Yeah, the chair and the diffuser. I think what would be best in this context
287 would be for you to perhaps try and remember and describe to me what they
288 did and perhaps going a bit more into the decisions you made and why made
289 them, if that's all right to start with?

290 I think the activity is very familiar for me. I'm used to not being a designer in a roomful
291 of designers, but I have also learnt a lot of how to present design ideas in a way. So I
292 think it was a very straightforward activity for me just to sketch for a while. I have been
293 on similar workshops and usually people are very comfortable doing it. I'm curious or I
294 would be curious what happens if you give this activity to somebody that has absolutely
295 no contact with design. That's more on a methodological level. (Laughs)

296 I found this activity very interesting because at the end of the day it's great to get
297 people sketching and just kind of getting ideas out of the brain without any kind of
298 commitment in a way. But yeah, that made me curious when I was doing the activity, I
299 was thinking, what would happen if you include people from – like somebody that has
300 absolutely no experience doing these kind of things. How much can they come up with,
301 with something that they feel comfortable presenting.

302 On the other side I think then again all the activities were very much geared towards
303 design ideation in a way. So just coming up with ideas and no judgement, just kind of
304 say it and whatever happens happens. So I really enjoyed the activity. What I was
305 designing was also based on what I literally had next to me. So that was probably –
306 thinking about your activities, now that I'm reflecting _cut in audio, possibly talking
307 about what they selected as inspiration_ absolutely outside of the – you know, you were
308 giving me these kind of very exotic examples and I just went to – you know, my chair.

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309 On the other side I think really the concept of having a house that is just there collecting
310 data and that could be on my purpose really resonated. So I tried to somehow think on
311 how that will look like for me. So I think both designs in that sense reflect on that, what
312 would happen if whatever I have on my immediate surroundings were using – were
313 technological beings or were harvesting data. So I think those two examples are a
314 reflection of that.

315 When I was doing the design, another thing that I am remembering now is that
316 somehow the lines started to cross. So I was talking about the chair and how it was
317 maybe pushing me to sit correctly, because maybe as you will notice throughout the
318 interview I'm always changing position and it's never the correct one. So I was thinking,
319 oh, well, maybe it can become like a being, in a way my chair and I will be kind of
320 colleagues or something – I don't know how to call it right now. But it's this idea of
321 maybe the fact that we're interacting, or the interaction will make it a being for me, or
322 what makes it a being kind of. And in that sense yeah, it was kind of just having more
323 of a discussion with myself and trying to integrate that into the design.

324 Then for the technological being that I was designing, the diffuser, I think it was just
325 because I got that one that week and I was still thinking if it was an impulsive buy or
326 not. It was (laughs). Spoiler alert, nobody needs a diffuser. Anyway, so I think it was
327 just an exercise of thinking how that thing that was now in my house could become a
328 being, or what will it look like. So then again I think it was just kind of a way of
329 integrating whatever was happening in my house into the design.

330 **So not to put words in your mouth, but kind of riffing off what you were saying**
331 **there, it sounds to me that you engaged with it on a very kind of everyday**
332 **object level.**

333 Yeah.

334 **So not so much what I've done which is a distinct piece that people would go,**
335 **that's not useable, that looks strange. It's more integrating the idea of a being**
336 **into objects that we engage with on a regular basis I suppose.**

337 Well, the thing with the diffuser is that – so I got it because my sister told me that she
338 enjoyed hers, and I was like, I want one, it was kind of a sibling situation, if she has one,
339 I want one. So I still have mixed feelings about it and I still don't know why it's in my
340 house. So I do have a bit of an external kind of like, it's not an everyday thing, why is it
341 there? And I used it the other day and tried to figure out if it actually makes a difference
342 in the house or not. So in that sense it's not an everyday thing. The chair, yes, the

343 chair absolutely fits into that. I went into whatever is still here, and I will interact with
344 the chair regardless.

345 **It's quite interesting that you say – so I was going to go off what you said**
346 **about the diffuser there, because that's quite an interesting point that I've**
347 **been trying to see if people pick up on it and you've mentioned it, sometimes a**
348 **bit before as well. So when you were saying that you were interacting with this**
349 **diffuser and trying to work out its purpose or its function in your life I suppose.**
350 **And then also going a bit more back to when you were talking about how**
351 **designers are a bit more able to go away from a problem centric perspective**
352 **and maybe just look at things more broadly. How do you feel that we can**
353 **engage with this – I don't know what the right word is, basically as you**
354 **probably are seeing from my very slight way of doing this, I'm trying not to be**
355 **leading. But what I'm trying to really ask you is can you reflect a bit more on**
356 **designing things with a function or a purpose or an obvious use as opposed to**
357 **something that's not quite so obvious? Or perhaps even useless?**

358 Yeah, I think in that sense it's something that I – that's probably one of the many
359 reasons why I really like research through design, is that idea that not everything has to
360 be solved, optimised, you can just do things to learn through the thing, not necessarily
361 because the thing is going to solve world hunger or anything like that. I think it's a
362 concept that took me a long time to understand. It took a lot of – having a lot of people
363 around me that were working in research to design especially when I was in
364 Northumbria, to basically grasp the concept.

365 Because then again, as I mentioned at the beginning, my PhD was into engineering, so
366 basically like why are you creating something if you are not going to optimise it and
367 solve a problem (laughs) kind of mentality. So I think it really shifted the way I think
368 about things, or research at least.

369 On the other side it's very difficult for me to do it myself. So I have to really be
370 conscious about it or be really kind of reflective on my own practice in order to say, I
371 don't necessarily need to solve this thing. But in a way – like for example in my
372 previous project, I had to create a tool, I had to design something, so the design was
373 necessary to implement design for the phoning agency and so on. So it's not always – I
374 would love to be able to think more in that direction but it's something that sometimes
375 my research doesn't allow for it.

376 But in that sense I think it's very, very valuable to think around data in a research
377 through design kind of way. Because many of us just stuck – well, not stuck, but we are

378 (sighs) – we are on a path that has a very clear solution kind of flavour, just because
379 that's how you get the money sometimes. So there is no way around it. But in that
380 sense I really think that it's very, very valuable to have researchers like you and many,
381 many others to take a step back and just think on how can we do things differently and
382 how can we think on – as you say, create something that is totally purposeless and what
383 can we learn from it? I think that's great.

384 It's something that I would like to learn more and I would like to practice more. And I
385 would like to learn how to include that into my own research more. But it's not
386 necessarily something that I practice myself at this moment.

387 **I'm quite curious to ask you though, on that kind of topic of purposelessness,**
388 **do you think it's ever actually possible to design or create a truly purposeless**
389 **device?**

390 No. Absolutely. I think everything at the end is going to maybe have a purpose for
391 somebody. Or it's a way of exploring a problem. It's not purposeless in the sense you
392 are exploring and alternative, you are exploring an idea or a concept. So it's not
393 purposeless in the sense of its process is very valuable. But I was also talking in the
394 sense like, then again, under my previous project we were funded by [REDACTED] and [REDACTED]
395 wanted a system, so we needed to – those two years were how are we going to get a
396 software out of the door?

397 **Yeah.**

398 So in that sense it's very difficult to think on research through design kind of terms. You
399 could, I'm sure you could. But it's very difficult when you have somebody telling you
400 what are the requirements for implementing.

401 **Yeah, it's much more constrained, isn't it?**

402 Yeah. And I'm not saying that what we do in the end is _cut in audio_ it has more
403 purpose, at the end of the day maybe we arrive to the same spot, but the method is
404 different.

405 **Yeah. It's funny when you say about the same spot, I've often wondered if**
406 **there were two of me and one of them took a problem oriented perspective and**
407 **then my – which I argue is a critical perspective, but not everyone agrees with**
408 **me on that – and see if where we end up is the same point. Because believe it**
409 **or not this all started off as an exploration into wearable technology for**
410 **navigation in crowdsourcing data.**

411 (Laughs)

412 **I don't know if saying that kind of reveals a bit more of where those things**
413 **come from. Because I suppose you can see it in those frames I guess, because**
414 **the Carver thing, the harvesting device, it was originally about trying to get**
415 **people to explore space. And then Himilco, the in home device, was how do**
416 **they bring that data and what is the data then used for, for them, not**
417 **necessarily for the crowdsourcer, which is where I started. And then I kind of**
418 **went, but what if it was alive? And then I just got lost on that (laughs) and**
419 **that's kind of how we ended up where we are.**

420 **So it sounds to me that you have this interesting conflict of wanting to explore**
421 **these slightly more – radical is not the right word, but experimental I suppose**
422 **ideas to – with the idea that we're pursuing them to find out what we can find**
423 **through doing it, not necessarily making the point of it so apparent, but that**
424 **perhaps through use, like you say, that things can emerge a bit more as to what**
425 **you can do with them.**

426 **So to kind of not so subtly but subtly segue back into the workshop a little bit,**
427 **I'm kind of curious about what were your takeaways from the workshop? So**
428 **they can be methodological or methods based, so how I did the workshop, but**
429 **also if there's anything that you're going to take away and perhaps use or**
430 **change in your practice from the data hungry home side of things, if that makes**
431 **sense?**

432 Yeah. To be honest I think I was very happy in my time in the workshop because I think
433 participating in other people's research is an investment, you also learn from it. So in
434 that sense I think I learned – then again, I am very interested, I'm very curious about
435 more kind of this approach of that it's not based on solutions. And I'm thinking that that
436 will be possible in this project, at least in the next year. So I'm very curious to see how
437 people are approaching the problem. And then again problem use, maybe the topic let's
438 say.

439 So in that sense I think it was very valuable for me to see how you are understanding
440 and how you are exploring the space. In that sense, yes, I think it can be a good
441 approach to explain to my colleagues that have different backgrounds. So my
442 colleagues are from sociology and machine learning, so I have to somehow pull the
443 design, you know, rabbit out of the proverbial hat sometimes and be like, hey, we can
444 use design, and sometimes they are very, very confused.

445 So I think your workshop cut in audio these kind of activities and this is the kind of
446 reflections we can get out of people. I think actually they are very open to the idea of
447 having artefacts to explore ideas. So not necessarily then again a prototype that you
448 are testing but something that you are creating that can be used to provoke this
449 question. In that sense I'm for sure going to revisit your research once we are doing
450 these kind of activities, because – yeah, I mean, cut in audio assuming: (even if we
451 are not talking about this specific) topic it's very useful to have inspiration, and to figure
452 out what are your findings, hopefully they will be published by then. And try to figure
453 what works when it comes to the discussion and to get people to think about data
454 differently. And not only their own data but the data that's – the thing that is collecting
455 or producing the data.

456 So in that sense I think your research is very valuable for my own research. If that
457 answers your question. On the methodological level. On the concepts, then again I'm
458 not really sure what we are going to do for our own research, but it goes into the
459 personal space of data and how people feel when it's collected, when it's produced, when
460 it's used. So yeah, I'm sure it will take me a lot of – you know, it will give me a lot of
461 inspiration in the future, yeah.

462 **That's great. It's good to hear that it's been useful to people. Following on**
463 **from that a little bit, I'm curious as to if you think it's changed your perspective**
464 **on some of the things you've highlighted there, notably kind of the – almost**
465 **going back to the very, very first questions I asked in the beginning of the**
466 **workshop, the purpose or value of devices and the purpose or value of data. By**
467 **the way saying no is completely valid, I probably should have made that more**
468 **apparent. I'm not really looking for people to say, yeah, it's all great, it's all**
469 **wonderful. I've had a few people that have said, no, it hasn't changed my mind**
470 **at all and that's absolutely fine.**

471 No, I think it generally has in the sense then again because it helps me to think back and
472 think on a more designer way about these kind of challenges. And then again I work on
473 a daily basis I'm part of a data team, I'm very much into the solution oriented kind of
474 side of the problem, so it really helps me to think outside and see what others are doing
475 and how can I negotiate the two perspectives. So in that sense I think it was very
476 valuable to somehow have that journey through the workshop, starting from my own
477 very day to day perspective and then think about it in a totally different way.

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478 So yeah, I think it was a – (laughs) I think I'm losing the point of what you're asking.
479 But yeah, I think it was very useful. And I think it was – it's – yeah, I mean, overall I
480 was very happy about it.

481 **Okay. I noticed there that you said you'd used Miro, were there any particular I**
482 **suppose specific methods? I appreciate that you're already a card person, so**
483 **perhaps my workshop and your workshop styles wouldn't be that different, but**
484 **is there anything you were going to extract out of there or not?**

485 We conducted a workshop in [REDACTED] like, last week or something, and it was on AI and
486 autonomy with a few colleagues from the Netherlands and Finland. We used Miro for the
487 workshop. We had nineteen participants. So your workshop was the first one I
488 participated – that I used Miro for a workshop basically. So I remember telling my
489 colleagues, ah, I went to a workshop and we used Miro and it was very useful because
490 the researcher was pointing us to certain directions and he was copying and pasting
491 elements. And so we used – I mean, I used that as a reference on how to use it. My
492 colleagues have more experience than me using Miro but they got my inspiration
493 (because we were) colleagues before.

494 So yes, in that sense it was kind of like this idea of creating and moving things around.
495 We just made it a bit more Post-It kind of a feeling, in the sense that people were adding
496 their comments in individual discussions. I think it was an inspiration on how you were
497 adding material, I think that was very good. How you were just making things appear.
498 So you were basically guiding us through the process, which then again face to face is
499 very easy, online it's not.

500 **Yeah. I had _cut in audio_ resources _cut in audio_ problems _cut in audio_ so**
501 **don't try and copy too much in one go for example, that apparently sends Miro**
502 **into a complete spasm. But yeah, you're right, because it's nice to have it be**
503 **revealed one at a time instead of necessarily seeing everything. I didn't want**
504 **to almost give it all away I guess because then people start to judge stuff**
505 **immediately about what you want. Whereas if you can kind of hide it a little**
506 **bit... I'm glad that the Miro stuff was useful. I was wondering at some point**
507 **about doing it similar numbers to you in one go, like twenty people, but I**
508 **wasn't necessarily going to have more than just me to do it, so I didn't know**
509 **how to manage twenty people trying to do all of these tasks. It would have**
510 **been a mission.**

511 Yeah, no, no. And we were using also breakup rooms and we had technical support from
512 the conference, so I would not attempt it myself.

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513 **That's kind of more or less the end of my stream of questions. Obviously, we**
514 **can talk a bit more about a few other things. But I have one final question that**
515 **I've been giving to all my participants. It's a bit odd, but I'm really interested**
516 **to see how you respond to it.**

517 **So how would you in maybe a sentence or two summarise my research?**

518 (Laughs) I think you are trying to use research through design kind of approach to learn
519 more about how people are – I think, you know, the kind of intersection on data, people,
520 devices, so that kind of like – if you have a Venn diagram you are in the middle. And
521 you are using a research through design approach in the sense that you are not saying –
522 and I think that returns to the first question of the interview, you started with the
523 framing, so you didn't start with the problem. So if you were having a different
524 approach you would say, okay, the problem is this, whatever problem it could be.

525 And then it would have been such a different research. So in that sense I think you are
526 using research through design to explore the space between human data and devices.

527 **That's pretty good, I like that. I've been jokingly saying to people that I'm**
528 **going to use the combination – like a crowdsourced abstract in my thesis,**
529 **where I'm just going to put together everyone's answers to this. Because**
530 **you're the sixteenth person I've interviewed, so if I combine all of those**
531 **answers, the rule of average says (laughs)–**

532 Sounds like a good idea.

533 **That's really great.**

534

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KEY

| | |
|--------------|-------------------|
| Bold: | Interviewer |
| Regular: | Respondent |
| []: | Uncertain word(s) |
| W: | High confidence |
| (): | Medium confidence |
| { } : | Low confidence |
| _ _: | Other information |

What I'm going to do is just open up a quick presentation. It's not very long, it's basically just a couple of slides. Just to remind you, because it was quite a while ago when we had the workshop. I think you were the Friday session so that's going beyond the week now. So the first stage of the workshop – and I'm not going to ask you to redo these tasks, I'm just going to ask you to remember them and try and tell me how you feel and then we'll just see where it goes.

Just before we get into that, I kind of wanted to know a bit more about your background, and also what interested you in doing the workshop?

Well, my background is – so I finished a BA in product design and ever since then I worked in photography, graphic design. Mostly now I'm specialising in design for wellbeing, so most of the work actually is on how things [affect people 0:01:33], their behaviour subconsciously. And yeah, design for wellbeing and behaviour change. For me, the reason why I got involved was on the recommendation of my supervisor. And it's because my topic is on intimacy and online communication. So it's of course about this – how does connected _cut in audio_ devices and how does that affect humans and human relationships.

Who's your supervisor again?

██████████ and ██████████, I never can pronounce her surname.

She's new, isn't she?

Yes.

I haven't met her but I know of ██████████. Cool. So what was it that interested you in thing centred design?

So it's because mostly I wanted to learn more about it because I heard a lot about it. And it's also because for me I think it was – as I mentioned in the workshop, it's about

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37 connectedness and how it's always something that's non-physical, and how can we make
38 that physical actually.

39 **Okay, great. Just jumping back into the framing task. Do you remember this**
40 **particularly well at all? And how did you feel trying to answer these quite open**
41 **ended questions?**

42 I do remember them. Yeah, I think I mentioned that I see them as a tool, so physical
43 digital devices. I said that the data can – I think I said something like blueprint for
44 designing, I think I mentioned something like that, and I still really think that (laughs).
45 And yeah, to be honest, now when I think about there's also – I think very often it's not
46 just what I consider to be the purposes, it's often what is the person for who's delivering
47 me something, how do they see it? Because I think also as designers we really often
48 think like, oh, we're designing for someone else, but very often we're actually doing our
49 interpretation of things.

50 And how are humans, devices and data interconnected? Very much (laughs). I think
51 there's always some sort of interconnected, it's just – yeah. I don't think they can be—

52 **Did you find that you particularly struggled to answer these questions or did it**
53 **come easily to you?**

54 Easily, yeah. (Laughs)

55 **That's good to know. How did you feel about this as a starting task? How did**
56 **you feel about that?**

57 I think it was quite fine. I personally am very verbal, but I think for a lot of people who
58 may not be designers it would be maybe useful to also put images. Because I think
59 images is quite often – you know how they say making a sort of a canvass, we would call
60 it a mood board, so sort of to be, how does that make people feel? And if you have
61 encountered that people have some sort of pre-assumptions about things, then you can
62 make two or three slides. Or make on one side images and then on the other side just
63 make words. But it also depends what do you wish to get out.

64 **That's a fair point. I think in hindsight I probably should have been a bit more**
65 **specific about what I thought of as physical digital devices for example. But on**
66 **the other hand I did kind of want to just get how people reacted to it, which**
67 **was interesting in its own right. That's a very fair point.**

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68 **Just moving on from that to the focus stage. Again, at this point I asked you**
69 **another set of three questions. This time they actually had some blanks in**
70 **there, and these blanks were filled by cards. I'm just going to read these off**
71 **real quickly and then I'll move on to the cards. The questions were, how could**
72 **a physical digital device use blank data to blank. What could a physical digital**
73 **device do to make you care for them as if they were blank. And how could we**
74 **design of physical digital devices if they had blank.**

75 **So for the cards to fill in these blanks the first two rows were in relation to the**
76 **first question. So the first row being data types and the second row being**
77 **activity types. The third row is to do with the second question, so concepts or**
78 **metaphors of things that we care for or ways of caring. Then the final row was**
79 **to do with the third question, so these ideas of devices having maybe a faith or**
80 **believing in conspiracy theories and how we would then interact with them or**
81 **how we would design objects to interact with these devices.**

82 **Just broadly speaking, how did you feel doing this task? And were there any**
83 **particular questions or card combinations that really stuck out to you?**

84 Yeah, I think I really liked them, and I often use the same sort of thing. I think that
85 there was some – for example, calories I really liked, because I think they're not often
86 used. So there are of course some things that were quite usual, like weather, colour,
87 photographs. Like the positions for me automatically was for astrology. So I think for
88 some people that could be like – *_cut in audio_* and for others it can be very *_cut in*
89 *audio_* that.

90 I sort of liked that you introduced some things that for me personally were like as I said
91 calories that were a bit unusual. I liked the number, I would maybe add like just two
92 more so you have like ten, ten. Because now I feel like there is each from one. But
93 yeah, I sort of liked it and I think it's a very nice way for people to get really creative.
94 Yeah.

95 **Okay. And how did – the first kind of question is between us designers I**
96 **suppose is much more of a kind of design task, right?**

97 Yeah.

98 **Whereas they kind of get more provocative as they go along. How did you feel**
99 **dealing with maybe the final two questions but specifically the last question?**

100 Can you remind me of the last question?

101 **The last question is how could we design for physical digital devices if they had**
102 **blank. Now what I – as I explained in the workshop, what I mean by that was**
103 **more of a imagine that a device exists that say has a faith, and how would we**
104 **interact with it? But also how would we design products or objects for that**
105 **device to use?**

106 Yeah. Well, I personally loved that question (laughs). Maybe just a piece of advice,
107 sometimes I do see people, when you let's say verbalise things, so let's say if you call it
108 now a bit more an avant-garde question. And then like, I don't know why but for people
109 automatically something activates and they try to be more creative. I think for us as a
110 group that we had, because I know there was someone who is very much Spanish
111 speaking but she is at university in the UK, I think for her for example, she worked quite
112 well and she's in – I think she's in politics or something like that. So I think it's also as a
113 group it very much depends, you know.

114 And have you thought about that your participants they for example maybe don't do it
115 individually but like maybe together?

116 **Do you mean this task or—**

117 Yeah.

118 **It's a good point and it is something that I've thought about at various points**
119 **of these tasks kind of having more collaboration. The only thing that really**
120 **stopped me in this case was that I was trying to make it a very short workshop,**
121 **because I know a lot of people didn't have a lot of time. I saw some workshops**
122 **that were days long and I was like, I can't do that (laughs).**

123 Oh no. But there is – like for example, there is one thing that I use and it's called a
124 design sprint. And basically it's literally like you had, literally like that, and then you
125 have that based on question, let's say if it's unclear you have like one minute to think
126 of as many concepts, no matter how much diverse it might be. One or two minutes.
127 And then each person writes back and then after those two minutes we repeat it out loud
128 in a group. And we think, okay, so what do you guys think, you know, how can each
129 idea be maybe put a bit further? And then with conversation each idea gets a bit more
130 iterated. Then say you have fifteen minutes where the person can choose the concept
131 that they like the most and make it a bit more for themselves, like advance it.

132 I think for some people it's much easier, especially when they hear these concepts from
133 other people, they can build up on that. And that way you maybe get a bit more – like

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134 because I know for me, for example, like thirty minutes was very long and I did not have
135 that option to have that sprint and just pop out ideas as much as I can and to maybe
136 talk with someone until actually until the end.

137 **Yeah. I think that would be a good idea to add. I might be doing a different**
138 **version of this workshop, kind of outside of the thesis. Obviously for the sake**
139 **of the thesis I have to keep them consistent. I think that's a good point, I think**
140 **adding a – especially in the design phase like you said, after this getting into a**
141 **much more back and forth between people would be good.**

142 Yeah. Usually it goes that you have a question on the paper and then one person writes
143 and passes the paper to another, and that goes in a circle. And that's definitely my
144 favourite thing, it's just because people start writing such funny things, that it's so crazy,
145 because it becomes humorous, but then people let themselves go.

146 **Yeah, hopefully one day we'll be able to actually do that, where we can write on**
147 **pads and pass it to one another.**

148 Without masks (laughs).

149 **I really wanted to print all these cards and stuff like that as well, that would**
150 **have been great. But what can you do? Okay, so just segueing into the bit that**
151 **you mentioned about the design task. The final task was partly split between –**
152 **after I presented to you the data hungry home approach of course, we split up**
153 **into this part where we filled in a framework of two devices. So one which I**
154 **described as the harvesting device, and the other one that I described as the**
155 **technological being. And we used another kind of assortment of design cards**
156 **to populate and to give us a grounding idea of what these two things were**
157 **going to be. We then went away as you said for that half an hour time to**
158 **design these two objects.**

159 **On top of what you've already said, how did you find populating the framework**
160 **and working in a group or something like that to do it, and then going off and**
161 **doing these individual design tasks?**

162 Yeah, I think it was nice. It was very much – I like speaking to the women and I think it
163 was a nice talk and I think we all basically agreed on many things. But I think it's only
164 like what I said earlier, is that I usually prefer to do also more of this like creative aspect
165 also with someone until I finalise my own idea. But it also of course depends on the
166 situation which is at the moment...

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167 **Yeah. I think I would have – I think when I originally planned this and I was**
168 **hoping that things would have been back to normal by the time that the**
169 **workshop could have been real, but I then had to put it on Miro, maybe just by**
170 **having people in a room they might have talked to each other more. Because I**
171 **did notice that even though I said, ask me questions or talk amongst**
172 **yourselves whilst doing the design task, basically no one in any workshop has**
173 **done that. So yeah. That's just a reality I guess, not a huge amount I can do**
174 **about that.**

175 **So overall the task – obviously, you come from more of a design background, so**
176 **perhaps you didn't struggle with it. So if you have anything more to say about**
177 **that I would definitely appreciate feedback. Otherwise, perhaps you could give**
178 **me a bit of a summary of what you actually came up with as your final design**
179 **and perhaps going a bit more into your thoughts as to why you chose what you**
180 **chose, and how you engaged with it?**

181 Yeah. I think now I also have an example maybe, for me it was as I mentioned, a bit
182 harder to sort of make it that it all fits. Because I felt like design needed quite some – I
183 felt that the design had quite a lot of barriers. I can remember that I made this cat that
184 is – like this character is shy and at the same time is playful or something like that. And
185 that it basically made people – to force them to go to sleep or something. But I
186 remember it was always like, okay, this character fits that, and I want for people to
187 bring this. So it seemed quite difficult and a bit – quite challenging in a way. But I also
188 – so I needed to constantly go back to the cards, like what it's supposed to all have.

189 And I think for a lot of people it could maybe also be useful – for example, to actually
190 show an example. So if you for example did this and did that, you know, just as a visual
191 next to it. Because I remember I was also wanting to involve smell and then the smell
192 from the **family home** that we weren't – we couldn't record the smell, we could record
193 the [building or the mood **0:17:14**], and **it was like quite** – it seemed like almost in a
194 way a puzzle rather than – you know when you have the sort of design moment and you
195 feel like you're more stumbling, that the creativity can actually flow. So I think that was
196 for me quite hard in a way.

197 **Yeah, I think it's been interesting getting feedback on this. Because we've had**
198 **quite a mix of some people saying it was really helpful, but I think the people**
199 **that are more creative – constraining people that are much more creative tends**
200 **to actually have almost a negative impact on them.**

201 Really?

202 **What you kind of fed back demonstrates that I didn't quite get across the point**
203 **that this was only supposed to be an idea. Like if you completely threw all of**
204 **them away and just did whatever you wanted, that was fine. But I was trying**
205 **to get people going. What I didn't do – I think I mentioned in the workshop as**
206 **well, what I didn't want to do is almost start with a complete blank and just**
207 **say, okay, I introduced this idea, now go do something.**

208 Yeah.

209 **And I'm sure as you can understand – but anyway, I'm not here to justify it,**
210 **I'm here to ask you questions. It's just because we're quite similar background**
211 **and stuff, so it's quite interesting to talk to likeminded people about – beyond**
212 **the interview questions.**

213 **So we're kind of moving on a little bit from remembering it to perhaps**
214 **discussing a bit more about how you felt broadly about what the workshop was**
215 **trying to introduce you to and its topics of discussion. Having actually**
216 **undertaken the workshop and being introduced to the data hungry home and**
217 **all its concepts, do you feel that it's changed your perspectives on anything?**

218 No, not really. I don't think it did. I think one thing that I was definitely liking and
219 that's that I liked as I mentioned to feel that there's something that is captivating,
220 something that's not physical and making it physical, I think I really like that. And I
221 think as a designer I have this fear that everything will become digital (laughs). So I
222 like that, and it's definitely cool to know that you are able to do that, because to me
223 that's totally something insane, like **in that way**. And also I really liked the workshop
224 itself. I think that in a matter of two and a half hours we did quite a lot. Yeah, but it did
225 not I would say really change so much for me personally.

226 **So how did you feel about the way that the data hungry home approached and**
227 **engages with the ideas of physical digital devices and data?**

228 Well, I think it's quite nice, but I think it could also maybe go like sort of further. But as
229 you said yourself it's still **(at the starting sort of)** point, and I definitely think that there
230 are many applications that could be there that are really useful and that are really
231 maybe needed. But I also on the other hand do not know what is all out there so I
232 cannot say something that's legit. (Laughs)

233 **That's fair enough. I'm quite curious as to how you feel – so there's two kind**
234 **of aspects that are particularly – I guess unique's not the right word but I'm**

235 **particularly interested in to come out of this work. The first being that I'm**
236 **creating or framing these devices as beings, and I'm kind of curious as to what**
237 **you think of that. And then the second part, which is that the data that is**
238 **produced in this process of harvesting and consumption is in theory**
239 **"destroyed" or at least transformed in a way that it is no longer useful. I'm**
240 **kind of curious as a designer yourself how you feel about those two concepts?**

241 As a being, I think a part of me gets activated thinking it cannot be a being because it's
242 not alive. But then on the other hand – and that's that aspect, sort of religious or
243 spiritual, and that is that everything has a soul or everything has an energy. I think
244 from that aspect it is also very healthy in a way to view it in much more – I think I
245 mentioned about Marie Kondo, I was watching her, and this way of the house as having
246 an energy. I think it's this sort of holistic living and giving it in that way so that
247 everything that is in our house – maybe more mindful may be a good way to verbalise
248 that, so becoming quite mindful of what is around you. So I think for example, your
249 product if you for example don't introduce it just as a product that is a being, but if you
250 think this being can bring you an experience of your household. So really wrapping it up
251 in much more can contribute to not just the usage but also to the living space of that
252 person.

253 **So in a way would you say you're describing attributing a purpose for someone**
254 **to actually have this thing in their home?**

255 Yes, exactly. So for example, if you're saying like let's say if we're talking about –
256 especially in the context of today with Corona, I'd say that we're talking about people
257 who are family, and let's say my supervisor, she has a family that are in the Isle of Man.
258 She hasn't seen them since February and she's probably not going to see them until next
259 February. So she's really of course quite sad. Let's say if she can get the product to
260 [their place 0:24:01] and being like – becoming part of your family and part of your
261 space and contributing to being connected. But it's not just connected, it's also like
262 communicate on another level let's say.

263 **Yeah.**

264 Something like that. So if you don't just be like, this is what you can, but this is what it
265 can bring to you and this is what it can make you feel, make you experience. And how
266 that experience will change the way you live, you know.

267 **Yeah, I think you kind of pointed it out there, that the higher level – or the**
268 **different level of interaction. Because of course you could just say to your**

269 **supervisor, well, why don't you just talk to them on Skype, talk to them like we**
270 **are on a video, but there's something – would you say there's something**
271 **different about the way that the interaction with the objects but also with the**
272 **data collection and everything over an interconnected space is different?**

273 Yeah, exactly. And let's say just – I don't know if I mentioned to you this product that a
274 friend of mine did, it was just a concept, but I think he actually in the end made it work.
275 So it was about parents who just became parents and that they very often feel guilty
276 about taking time for themselves and taking rest. But what they did in the end is that
277 they said about if they connect with different parents they can just bring this sense of
278 support to one another. And it ended up being a parrot, like a parrot that just stands
279 there. And basically when let's say when mother wants to go for a walk or something,
280 she just clicks on the parrot and the parrot makes a sound and a colour and then it goes
281 around in the neighbourhood where there are other mothers. And this sort of sense of
282 nonverbal intercommunication. And just feeling like I'm not alone. And this parrot
283 symbolises my relationship with someone, I think that means a lot. And there was
284 another thing I wanted to say now I've forgot (laughs). I'm going to try to remember.

285 **That's fine. If it comes back to you it's absolutely no problem, I'll just try and**
286 **get in the last few questions I have.**

287 Sure.

288 **Another aspect I'm interested in is now having done the workshop is there any**
289 **part of it, either the method I used such as Miro or the cards or more broadly**
290 **the concepts around device beings and data that's destroyed through a process**
291 **that you think you might takeaway and take forward, integrate into your**
292 **practice, or any of the kind of concepts? Just to point out that no is a**
293 **completely valid answer. I don't want people saying, oh no, your work's great,**
294 **I'm going to use every bit of it, yeah.**

295 I just remembered what I want to say (laughs). It was about – you mentioned the data
296 being destroyed. And I think there is also some sort of method or theory that I
297 mentioned in the workshop and that's about this sort of – what is the name? I keep
298 forgetting it. Sort of delayed—

299 **Do you mean slow design?**

300 No, no, no. It was about how people, getting something in time makes it more precious.
301 But also knowing that that's there for a certain amount of time makes it even more

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302 precious. So it's about this theory, and I think that's also really valid – like not valid but
303 it's quite an important aspect to notify in the work, because it's also psychology based.

304 **It's almost an ephemerality I think, I've heard of ephemeral interfaces that**
305 **disappear when you use them as well.**

306 Yeah, but I don't know – yeah. I don't know. But I can check it up and send it to you.

307 **That would be really great.**

308 Yeah. But I think what I would take out – what I think, it's mostly like the workshop,
309 because I was – I'm always thinking about workshops, how to do them. I think as I
310 mentioned, the two and a half hours that you did, it's quite a lot that we made. I think
311 the amount of people that was there was quite nice. If there was one more person it
312 could be also cool. Because it's nice that it was like four of us including you, but then
313 when the design part was just the three of us, it kind of seems – but then it also was like
314 what sort of people.

315 **So just to kind of lift the curtain a little bit on the thought of that, I originally**
316 **had set it for five people maximum, with the idea that I would probably lose –**
317 **and this became true most of the time, lose one person per workshop. And**
318 **sometimes I lost two in the case of yours. Because I think four is the magic**
319 **number, I have a feeling that four is the magic number, I can't prove that. But**
320 **you kind of hit the nail on the head that one more person would have been**
321 **great but I lost two people, that's just the way it goes. Outside of this, talking**
322 **about workshops, I think that's a good – if you're going to do something this**
323 **intense and something that you – because as a researcher you're going to have**
324 **to do both the thought – you have to talk about what they're going to do, but**
325 **also be sitting there going, okay, I'm kind of understanding what they're saying**
326 **to me, so that I can move it forward. And it's quite a lot of multitasking, if you**
327 **imagine doing that with ten, fifteen people. Just a nightmare.**

328 Yeah (laughs).

329 **Okay. So any other ideas that come up that you might take away from it?**

330 No.

331 **Okay.**

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332 I think if there was also something like – what I would do in your place is that if there is
333 something – especially if people contact you or want to do this sort of thing, maybe just
334 put a slide in at the end about if you are interested more in this or that, you can learn
335 about my project or about these sort of theories or something, if they ended up being
336 designers. That's what I always – because you are PhDer and I assume most of the
337 people that you have here are I assume either PhDers or above.

338 **Yeah, they were. So that's basically all of the question I have. There's just one**
339 **more kind of summative question I suppose you could call it and then you can**
340 **have the people to ask me any questions if you want or seek any further**
341 **clarification. So my final question is, how would you summarise my research in**
342 **a couple of sentences?**

343 That's a good one (laughs). I'm going to use that one.

344 **A lot of people like this question (laughs).**

345 And it also gets you to see what people actually got from the – or are they just
346 blubbering their interpretation. Well, I think your project is a lot about – is like – what I
347 got out of it is that it's basically creating information from a certain point and bringing in
348 it towards the person, where the person wants to basically take it. And sort of let's say
349 storing this either experience or this information in a certain way and collecting it for a
350 certain amount of time. And you are also basically saying how these sorts of
351 experiences or actions that the product makes makes it into a being. And this approach
352 – yeah, the object being the being, [that's at least from a week and a half, (that I can
353 remember) (laughs) 0:32:44].

354 **That's fair. As you can probably tell, most of these things – and the same**
355 **reason I said don't read the research, is that I want people to react to it, I don't**
356 **want people to try and tell me what I think I want to hear, which is really,**
357 **really difficult, because it's such a specific thing. But no, that's a really good**
358 **answer. So that's basically the end. So if you want to ask me any questions**
359 **you can now feel free to do so.**

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KEY

| | |
|--------------|-------------------|
| Bold: | Interviewer |
| Regular: | Respondent |
| []: | Uncertain word(s) |
| W: | High confidence |
| (): | Medium confidence |
| { }: | Low confidence |
| --: | Other information |

Okay, great. So what I'm going to do is I'm just going to share my screen with you or just share a slide with you real quick. It's only a couple of slides just to kind of go over what we did in the workshop and to get your feelings on it because it was quite a while ago now, wasn't it? It was a week and a bit almost, maybe longer.

Yeah.

So I'm just going to go through a little bit about what we did. I'm not expecting you to do these tasks again so don't worry about that. So the first kind of task that we undertook was these very ambiguous, open-ended questions and I just kind of wanted to see if you remembered them at all and what your kind of feelings were about trying to answer them and just overall of this task.

Yeah, so I mean I couldn't necessarily have read them from memory to you, but I thought that they were really interesting in terms of framing the workshop, especially considering the work we did after because obviously I wrote out my thoughts ahead of time and then sort of where we went kind of diverged from where I may have expected. I thought, based on these questions, that the conversation was going to be much more about practical kind of uses of data in devices and kind of connecting those things with people, but then you took it to this other sort of metaphorical, poetic place, which I was very excited about. So, yeah, so it was actually kind of interesting. To me there was almost like a reveal, you know, of like, "Okay, here we're framing this," and then, "Ooh, here now we're going to this other place," which I thought was actually kind of interesting.

And for me it let my brain open up a little bit more, I think, than if it would have been presented to me that we were going to go to the more poetic place upfront, I might have been scrambling a bit, right, to make myself ready for that, whereas I think framing things this way and then having that almost reveal was actually more effective, at least for me.

40 **Okay, okay. That's really great. I'm glad that it helped in that way. You've**
41 **kind of hit the nail on the head on the kind of purpose of it. I wanted to really**
42 **try and get people's opinion before, which is why I don't know if you remember**
43 **it in the sign-up, I said, "Please don't read my work," because it kind of would**
44 **have given the game away.**

45 Right.

46 **It would have been like, yeah, okay, you can see where I'm coming at it from**
47 **so it's good that it works in that way. Okay, so we're just going to hop onto the**
48 **next one. Again, I don't really know how much you remember it, but the next**
49 **stage was this kind of what I called the focus bit which, I guess, as you were**
50 **saying, kind of honing down and edging towards this reveal. And in this phase**
51 **I asked another set of kind of open-ended questions but this time we had**
52 **blanks and I'm just going to leave these questions up a little bit longer so you**
53 **can familiarise yourself with them and then just going to move on to the card**
54 **bit.**

55 **So these questions were about kind of increasingly provocative ways of using**
56 **the devices and using data and kind of how we frame them and think about**
57 **them, and then they were accompanied by these cards. Now, just to kind of**
58 **remind you, the first question which was about using data and devices to do**
59 **activities, the cards were with those with the first two rows. And then the**
60 **second question, which was more about kind of metaphors of what advice could**
61 **do to make us care about them, that was the third row. And then the final row**
62 **was that more open-ended how would we interact with devices if they had**
63 **these traits or if they had these things within them.**

64 **Now, just kind of thinking back to that task, how did you feel about doing it**
65 **and, more specifically, were there any kind of combination of cards or specific**
66 **cards or questions that really leapt out at you or that you remember really well**
67 **now?**

68 So, yeah, so this was a nice progression right from the springing questions to kind of
69 start to hint at where you were going. And so this was where I got – I started to get
70 really interested partly because, you know, as a designer I love doing this kind of thing
71 where you're kind of trying to smash together, right, unlikely combinations to create
72 cut in audio. So this wasn't completely unfamiliar to me at all as, you know, a way of
73 doing things. And then in terms of things that really stood out to me, I think, you know,
74 that idea, the question about what might we do to care for devices or to get devices to

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75 want us to care for them, I thought that that was fascinating. And so, you know, some
76 of the things that you talked about, obviously the cuckoo bird being the sort of example
77 you really talked through, which was really interesting thinking about parasitic almost
78 kind of relationship.

79 But then I thought like the choices were really nice because they're so discrete, right?
80 So caring for a houseplant feels so different from caring for a work of art. So I thought
81 that the context for each one of those and that kind of category were _cut in audio_ a
82 work of art and _cut in audio_ so different, the relationship that you have with those
83 things as a human that, yeah, I just thought that that was really interesting. So I was
84 really interested in those more unusual ones, like a collection, a work of art or even like
85 freedom of speech as ways to kind of think through or that parasitic example, to think
86 through our relationships with devices and how they might somehow evolve to have
87 characteristics that would get us to do things. I thought that that part was really
88 fascinating.

89 **Yeah. Freedom of speech is kind of this one I threw in because I was like, you**
90 **know, it's kind of one of those inalienable right kind of concepts and I was like**
91 **we obviously care about that because we'll fight that a lot and I know I was**
92 **drawing this really broad definition of – an umbrella term of care, but I was like**
93 **how could we transfer that into a device? And I don't actually know if I have**
94 **an answer to that but it really, yeah, really provokes the thought, doesn't it?**

95 **Yeah, okay, I'm glad you kind of engaged with it really well. So just to kind of**
96 **focus on the last question which is these a bit more provocative again still, how**
97 **did you feel kind of thinking about answering that one?**

98 Trying to get the – sorry, there was like a bar in my way to see the last set of cards. But
99 I mean that question I thought was – what was the question exactly again? I'm sorry.

100 **Okay, I'll just hop back up. So the question, although I think I had to rephrase**
101 **it a couple of times in the workshop, is how could we design for physical digital**
102 **devices if they had...**

103 Alright.

104 **...and what I mean by that was more of a – not just designing them but**
105 **designing around them or for them and also in the sense of how we would**
106 **interact with them, if they had things like needs, fears, faith, beingness,**
107 **companions, machinations and conspiracies.**

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108 Right. And so I mean I thought that this then went one step further, so it was nice, the
109 progression, right, of those questions and then the use of the cards kind of going from
110 things that were very sort of more concrete and tangible to like this stranger space,
111 right, that bends your brain a little bit. And so that final question I loved as well. I'm
112 doing some similar thought work in some of my own research and so, yeah, I was all
113 about this, right, really thinking through what would it mean if these devices – not even
114 that they had those but we were having a relationship with them in which we had to
115 tend to them, right? Or do something for, yeah, the devices or interact with them in a
116 different way versus typically we so often are just treating devices as like a servant,
117 right, or an assistant, it's that kind of role versus something that is a living creature,
118 right, that has their own sort of agenda or needs and wants.

119 And so I loved just because, again, it did the same thing, it flipped the relationship that
120 we typically have with objects. Even when we anthropomorphise them, right, we still
121 have a completely different sort of relationship than if they were kind of projecting out to
122 us that they needed something or they were afraid of something or, yeah, or they had a
123 conspiracy about something. So I found that to be really interesting as well. And it
124 completely changes the way that you think about that relationship with an object or a
125 device, but then for sure how you might design that, what does that look like and then
126 how does that shape the whole environment that the device and the person are both in?
127 So, yeah, so I thought, again, it was this nice progression from these things that were
128 more practical or concrete kind of going out to this really strange space that I think
129 offers a place to be creative.

130 **Okay, great. I think you picked up on my purpose pretty well. That's kind of**
131 **what I was hoping to do. I almost – I think I phrased it too much as kind of**
132 **starting almost with a design task, as something you can imagine as a client-**
133 **fed kind of thing and then moving step by step towards a much more almost**
134 **confusing question that really stops people in their tracks.**

135 **Okay, that's great. And we're just going to finish off on the kind of the**
136 **adoption exploration bit. So I haven't actually got the framework up, but I**
137 **don't know if you can recall there was – what we did in this phase was we used**
138 **another set of cards to kind of populate these two tables. One was for the**
139 **harvesting device, as I call it, and another one for the technological being. And**
140 **while the traits are not particularly important, although I can go back and look**
141 **at the ones that you actually picked as a group. I'm kind of curious how you**
142 **felt about kind of filling in this table and how you then went on to do the design**
143 **task and how you felt about doing that.**

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144 Sure. So I mean I thought that that was a really clear framework. I liked the way of
145 sort of setting up, okay, these are the things that we need to figure out about these two
146 parts of this device or the two parts of this system and then, you know, having a set of
147 options to kind of make them match. You know, within design _cut in audio_ we're
148 doing those sorts of things together and begin trying to make those unusual
149 combinations or juxtapositions or, you know, creating that interesting friction. And so I
150 thought that is a structure especially for a quick workshop to just kind of get people to
151 come up with ideas, it was a really nice framework and I'm totally going to steal
152 something similar when I work with my students because I think it worked really well to
153 kind of populate those different sections and then to think about those different parts.
154 Okay, you're going to make this device. It needs this, it needs this, it needs this, go.
155 And so I thought that that was really super-effective.

156 And then you could think about all the ways you might swap out different words or
157 different cards and it was nice that there was the option for people to come up with their
158 own if they just had, you know, some sort of interesting idea in the moment. But that
159 made a task that is often so like difficult and incomprehensible very understandable and
160 doable, especially in a short amount of time. So I could see that being really effective as
161 a way to generate lots of ideas or as an exercise even that you might do by yourself as a
162 designer, but then also within a workshop setting it was super-effective.

163 And then I thought that that set me up really clearly to then come up with what I
164 thought were some interesting ideas about, you know, devices that might go out there in
165 the world. It was very freeing, in a way, to kind of do that upfront work and then kind of
166 progress to the creative task. So for me that was super-effective. Like I felt freer than I
167 normally do on my own normal design work, right, of having framed it in that way to
168 come up with ideas that I thought were – they just came to be really quickly.

169 **And how did you find the kind of separation between kind of collectively coming**
170 **up with and picking these cards and then kind of splitting off and individually**
171 **working on the designs after that process was done?**

172 I mean for me that was super-easy, I think because we had talked through it as a group
173 so I'd kind of gotten that, you know, that collaborative energy that you're usually trying
174 to get when you're working with other people where they have other ideas you wouldn't
175 necessarily have thought of. I feel like within that first framing part with the cards that
176 we got through some of that conversation and then I was able to go away on my own
177 and quietly think about it. So I thought that that actually worked really well, that that
178 collaborative element was still there, whereas when you do the whole process with other

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179 people together, sometimes it's very – it can be disruptive to your own thought process
180 or I'm the kind of person who typically will sit back and defer and so sometimes that
181 means my ideas don't bubble up because I'm deferring to the people I'm working with.
182 So that I thought was kind of nice to frame it collaboratively and then to go off on our
183 own and kind of come with our ideas.

184 **Yeah, and I've had a couple of discussions with previous participants about this**
185 **as well, but I can almost imagine a progression of coming together and going**
186 **apart if you were to take this further. I mean obviously this was condensed**
187 **quite a lot and if you were trying to take this further you could do that and –**
188 **yeah, okay. It's good to hear.**

189 **So kind of thinking a bit more about what you actually designed in the end,**
190 **yours was a really strong idea and it kind of took up the kind of what I was**
191 **putting down quite a lot, so I was wondering if you could talk to me a bit more**
192 **about what it was and perhaps some of your thought process and decisions**
193 **behind what you designed, if you can remember it off the top of your head.**

194 Right, yeah. So I started from sort of the words and kind of sorting out, because you
195 were very kind and I think the three participants in my particular workshop, we all had
196 different things we were interested in. And I think the other two participants were a bit
197 more practical-minded, especially in the beginning, probably because of the sort of work
198 that they're doing versus I teach and so I have to deal with all sorts of craziness. But –
199 so you were really kind in letting us all kind of have our choice within the *_cut in audio*
200 *possibly referring to large choices in the framework_*.

201 So the first step I did was to sort through that and decide on the ones that I really
202 wanted and then I just started posing what-if questions to myself, what if? What if it
203 could be this or what if it could be that? And trying to really think about, you know,
204 because I chose colour and colour is a sighted, you know, it's something that you
205 experience mostly with your eyes, I started thinking about what does that mean with the
206 senses and what kind of objects or materials does that make me start to think about.
207 And so I kind of grounded it in that way, but it just sort of bubbled up. And so I came
208 up with, you know, the harvesting mechanism being this sort of naked eyeball orb thing
209 and then I thought about what would you do with that, how would you capture
210 information? And what would be interesting to do with it that would actually create an
211 experience, right, versus a lot of our technology where you just click a button and it
212 does the thing.

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213 And then from that, I started thinking about, well then what _cut in audio_ on the other
214 end and I think the word I was interested in for that was aloof and then thinking about
215 the cat that we adopted that has become very aloof. And so that kind of led me down
216 the path of thinking about what that might look like. And I was also interested in a
217 device that was mobile just to be contrary because none of them seemed to be. That
218 made me interested in thinking through then how would that work and how would it
219 move around the space and I was probably almost too practical with that, right,
220 because, you know, as a designer you're kind of always torn between like I could come
221 up with this crazy thing but then how might it actually be a product, right, that people
222 could have and use and it could be sold or made or whatever. So anyway.

223 **So I'm quite interested about practicality, I think that obviously perhaps**
224 **there's two forms of practicality that you're kind of talking about there, one of**
225 **the, "Can I actually make it?" and then as you kind of ended there on the, "Can**
226 **I sell it?" do you think that that's something that we often have to engage with**
227 **about what we design?**

228 So I think it completely depends on the context for the designer, you know. And I think
229 it also depends on how you were trained and who trained you because I definitely see a
230 lot of designers who are very much about that, right? They come at it from that
231 standpoint, "I'm not only problem-solving but I'm trying to create things that then can
232 be put out into the world and consumed," and, you know, sort of part of that world. But
233 then I think there is a whole other set of designers who are really more interested in the
234 speculative design fictions kind of world of asking questions. And I don't think that's
235 even a more – you know, sometimes people will describe it as being more like the art
236 world and I don't think it is; I think it's still very much design, but it's more of that
237 design as thinking and design as provocative questions versus just trying to replicate or
238 not even just trying to replicate but being a part of that system, right, that already sort
239 of exists.

240 And I think we need both. But I don't know that like design as an industry always does
241 one or the other. Again, I think it just depends on how you were trained and how you
242 kind of think about design. I don't know, I feel like I'm just babbling now.

243 **No, no, no, it makes perfect sense because, strangely enough, I was trained, as**
244 **my undergrad, as a kind of classic product designer. I then did a Masters when**
245 **I was introduced to all this critical, speculative stuff, so I'm kind of torn**
246 **between these two worlds and I think that kind of comes out in the fact that I**
247 **try and put everything in the home, and that's kind of something that I wanted**

248 **to talk to you maybe a bit more about is that when we talk about speculative**
249 **and critical stuff, we tend to think of the art world because I think a lot of**
250 **people describe it as such, even though I agree with you that it's not art, it's**
251 **design. But how do you find kind of dealing with designing these almost –**
252 **devices that don't – these objects or beings or what have you that don't**
253 **normally fit in within the paradigms that you have just described of design but**
254 **are, in a way, thought of as being in the home?**

255 Well, I think in the home is a very telling and interesting place to put them, right, versus
256 like in the workspace or in a public venue. I'm thinking like transportation, right, or
257 something like that, because I think in the home we have a different kind of relationship
258 with our objects in which we might be a little bit more forgiving, right? I'm trying to
259 remember who the designer was. I can't remember his name now off the top of my
260 head, but doing all sorts of like cultural projects, right, where they did like a tablecloth,
261 you probably know because I believe he was based in the UK, but he did like a tablecloth
262 that was meant to go and like live in people's homes and it was digital in a way and it
263 would remember where objects were meant to be.

264 **Yeah, yeah, that's the interactive tablecloth by Bill Gaver.**

265 Yes, thank you, Gaver. Thank you. It was on the tip of my tongue.

266 [REDACTED]
267 [REDACTED]
268 [REDACTED]

269 Yes, you are. That's why I (if felt if kept talking) you would know, I had a feeling.

270 **Yeah, yes.**

271 But so that idea of something being in a home, right, like people are willing, right, we
272 create our homes, most of us don't like hire, you know, an interior designer to just come
273 in and like put everything, some people do, but most of us like collect stuff and we live
274 with it and it changes over time and evolves. And so I think creating these really
275 speculative projects for the home makes sense because we're going to spend time with it
276 and I just feel like we're forgetting somehow we are with a houseplant or a pet or, right,
277 like we're willing some of us to bring that stuff in, whereas when we're out in the world
278 we kind of almost expect things to work in a different way. I think our tolerance is
279 different.

280 So I think it's really interesting to use the home as a setting for that because it's a
281 different kind of relationships. Maybe a little more private. Maybe a little bit more
282 personal, which also means, of course, that people wouldn't bring just anything in. But,
283 yeah, so I think – I forget where the thread of my thought there was going. But I really
284 do think that it's easier to create things for those kinds of spaces versus thinking about,
285 yeah, the whole world of like consumption and, you know, making objects that are for
286 everybody, which of course is sort of impossible, or like objects that are meant to appeal
287 to a huge, wide group of people, you know, and then thinking through that idea of like
288 coveting an object or wanting the same object that, you know, your neighbour has or
289 your friend has, that whole kind of setup, or even just the idea of like solving a very
290 specific problem is, yeah, a different kind of design versus, yeah, these more speculative
291 things. And I forgot what your initial question was at this point so I'll stop talking.
292 (laughs)

293 **No, no, it's fine. I think I was more or less asking about how it kind of fits in**
294 **the home, kind of designing these kind of objects. And I kind of wanted to add**
295 **to that a similar question, because that was quite a response that says more**
296 **about the physical object, but then even with regards to your data collecting**
297 **device, it's not inherently home-bound but it's kind of in this bizarre space of**
298 **the outside world but of an almost more decided outside world interaction. So**
299 **how do you feel what you designed and from where that came from engages or**
300 **even conflicts possibly with the way in which we typically see data?**

301 That's such a great question. So I mean I think the thing that I created, it's data but
302 data in a way most people wouldn't necessarily consider it, right, because data, of
303 course, can be anything almost. But so thinking through like what colour is and how we
304 experience perceived colour as human beings, and I'm talking of course about sighted
305 human beings. There are a whole bunch of different permutations that would fall under
306 that as well. But thinking about the normal experience at least that I have, and then
307 thinking about, you know, the mediation of making that into data that could then be
308 seen in a different way or experienced in a different way, and that was kind of what I
309 was trying to do with the idea that I came up with was how can we capture something in
310 a very specific way that as, you know, the person harvesting the information that you
311 could kind of control or you could sort of learn to play over time or control over time but
312 that you could kind of capture something but you couldn't completely control it and then
313 bring it back into the home and have it be this different kind of experience.

314 And so our normal relationship with data isn't usually like that. You know, normally
315 we're kind of looking at it as – or I typically think of it more as like numbers, statistics,

316 but then also sometimes words, you know, steps, those kinds of things. But I don't
317 necessarily think about it in terms of, you know, these other kinds of senses that we
318 have, right? So the idea of collecting colour is different from collecting steps or, you
319 know, how many people rode the train or whatever. And then, you know, and I think
320 you could do a lot of other things with senses in that same way.

321 And so it was interesting to me to kind of think about, yeah, collecting it and how the
322 human might have some control over it but not complete control over it, and then even
323 less control in some ways of how they were experiencing it on the other end, right,
324 because now I'm also converting colour to sense (laughs), which is a very strange kind
325 of conversion to even think about how that might work. So, yeah, and I think you could
326 collect that colour data from anywhere. But it was also interesting, and that was one of
327 the things that the group talked about, this idea of outside to inside, especially right
328 now, of course.

329 **Yes, yeah. It obviously wasn't planned but it's quite an odd parallel to draw, I**
330 **suppose, in these times because it scuppered my PhD quite a lot in terms of me**
331 **testing these objects with people, as you can imagine. But on the other hand**
332 **it's given me much more opportunity to reflect, I suppose, on the broader**
333 **notion of this form. Because I'm quite interested in your thoughts on**
334 **something that I don't think a lot of people had the real time to reflect on was**
335 **the fact that the data in this process I at least want it to be ephemeral, so it's**
336 **kind of destroyed in the process. And I'm kind of really interested to see how**
337 **you feel about that.**

338 I loved that. When you said that, right, as during – almost like as an aside, during the
339 process, I don't know cut in audio about the specific examples that you had created or
340 if it was just part of the workshop, I don't remember any more, but that really struck
341 me. I loved that, right, this idea of like we're going to build up and create this data,
342 which normally we all think of as so precious and we have like terabytes' worth of
343 storage so we can keep it all just in case, so like switching out that idea of it, no, we're
344 going to create it and then we're going to feed it to this object and it's destroyed, right?
345 So we feed it in, almost like you're feeding a fire. You get to have the experience of
346 that, which is meaningful and important, and then it's gone, right? In the case of a fire,
347 of course there's stuff you've got to clean up, right, the ashes and the detritus and all
348 that. And then with your object maybe there'd be something else.

349 But I loved that because it, again, it turns that relationship with data and information on
350 its head, especially right now because we're thinking about like all the data that

351 everybody's generating and making and putting out there and then who's storing it and
352 who's using it. And so this idea that you're just going to let it go or put it to a different
353 kind of purpose and then it will be lost I think really starts to talk about that relationship
354 to our data or to the data in a completely different way. So I love that. It really stuck
355 with me.

356 **I think I'm glad. I'm hoping that the paper I wrote for CHI, which kind of dips**
357 **into these ideas a little more, will be hopefully taken up because I'm constantly**
358 **kind of torn between – because maybe you picked up on this, and this isn't so**
359 **much of a question but just kind of like a side note, but I'm kind of trying to**
360 **adopt this really heavy thing-centred, literal thing-centred, because I tend to**
361 **describe it in the workshop as that', I'm literally taking that idea of being thing-**
362 **centred and almost ignoring the human, and then kind of designing the objects**
363 **and then coming back to the human and going, "Okay, what do you make of**
364 **this?" But – oh, I've kind of lost my train of thought there, but this kind of – I**
365 **guess this engagement with data in a whole other way.**

366 **But also I'm kind of curious as to how you consider interacting with these**
367 **things because you – I'm trying my best not to be leading in my questions, but**
368 **you very much took up this idea of these notions of beings. And I'm kind of**
369 **curious as to what you think about a technological being, not just in of itself,**
370 **which I am interested in, but in how you would maybe justify its creation or**
371 **explain why you would want to do such a thing or have it be in your home?**

372 Right. And I love that you're using that word being too, right, because then it opens it
373 up. It doesn't just have to be person-like or human-like, right? There's many more
374 options, but it's not just an inanimate object, right, that is (sort of). It's a different kind
375 of – yeah. And so I love that idea, being. Almost to me I just started thinking about like
376 creatures, you know, almost like cyborg-like creatures, right, that are part pet and part
377 not. So I was charmed by that and thought that that was a really interesting way to sort
378 of think through the creation of something, right, instead of it being, you know, about
379 just another gadget or another widget that you're going to purchase and put into your
380 home, right, that there would be that more meaningful give-and-take kind of relationship
381 that, you know, you would almost be inviting this thing into your space.

382 And again, I think some people have that relationship with some of their devices just
383 through the use, and I think that's the thing. It's through the use. It's through the
384 experience and that happening over time that sort of creates that sense. And so I loved
385 that you wanted to get some of the power to the objects but in a completely different

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386 way from which we have found a lot of our objects have power over us, right? But that
387 it would be this different kind of relationship.

388 And also thinking through like some of these devices or beings might not even like want
389 to act like they needed us (laughs), you know, that they'd just sort of like be doing their
390 own thing in our space and they would need us to like maybe feed them once in a while
391 but wouldn't be begging for our attention, per se. So I think that that's actually quite a
392 novel way of considering designing something, (especially) for a home space but I think
393 just in general. And it just goes back to this whole idea of thinking through, you know, a
394 being that would have fears and needs and desires outside of whatever it is that we
395 want. So, yeah, I hadn't caught on to the sort of not joke but this idea of thing-centred,
396 really being truly thing-centred, because you hear that term. And so, yeah, you
397 definitely broke my expectations immediately. (laughs)

398 **I think I did that with a lot of people because I keep having to—**

399 But in a good way, yeah.

400 **Yeah, I had to keep going back to this, like, okay, I'm not trying to say they're**
401 **alive because I think that's the first thing that people kind of butt up against,**
402 **but I do actually draw this parallel that, okay, we're an assemblage of**
403 **molecules that kind of makes us organic chemistry, but there's nothing unique**
404 **in us; it's just a bunch of stuff put together.**

405 Right.

406 **So I kind of say, "Well, if we put a bunch of technology together, when is it a**
407 **being and when is it a tool?" And that's an interesting problem that I haven't**
408 **solved yet, or at least unpacked property. But, yeah, yeah, that's kind of where**
409 **I'm getting a little – that's where I'm at so that's what I'm trying to work out.**
410 **I kind of want to keep talking about it but I have actually got another couple of**
411 **questions we've got to get over first before we can – but we can always come**
412 **back to that because there's a few other more I want to ask as a kind of**
413 **offshoot of that.**

414 **But just to kind of go through the other list of things I've got here, so now that**
415 **we've kind of talked a bit more about what you designed in the workshop and**
416 **all that kind of stuff, I'm kind of curious about what, either from the methods of**
417 **the workshop or maybe the framing of the data-hungry home approach or**
418 **anything like that, what you're kind of going to take away from this, maybe**
419 **you're going to apply it in the future or maybe discuss with others, that kind of**

420 **general next-step question, I suppose, is there anything that really you think**
421 **you're going to take up?**

422 Oh, for sure, for sure. So the use of something like Miro, I think I'm definitely – I've
423 already started experimenting with my students, and that's of course lots of people are
424 sort of using that in the design world right now. But I think in particular the way that
425 you had sort of structured the space and taking people through the design task or,
426 again, just that idea of framing and then executing, so having a sort of template and
427 then allowing people some choice within that to kind of create that, I thought that that
428 was super-effective and I plan on stealing it, adapting it for my own purposes, as we do.

429 I also thought, especially in terms of like getting someone to open up to this what if or
430 speculation or speculative kind of design, that that was really effective. So, you know, I
431 have some projects I do like that with my students, and they're undergrads so it's a
432 completely different sort of dynamic, but I definitely think I'm going to borrow some of
433 those ideas for that.

434 And then in terms of my own research, that workshop, like going through that
435 experience with you and the other two, I've actually gone in similar directions with my
436 own research just by thinking through some things I'd already been thinking through but
437 now with these new sort of frameworks that I think have been really effective, because
438 again I'm doing things that – I was a very receptive participant because this was sort of
439 already the way that I enjoy thinking through the world, so yeah, so it was helpful for
440 me for that just kind of thinking about, you know, objects as beings and this idea of the
441 data being ephemeral. And, more importantly, I think, this idea of a relationship, right,
442 how we have – and not a relationship like we have with other humans necessarily but
443 that idea of the give and take and the back and forth I felt was really helpful.

444 **Yeah, so seeing as your kind of background aligns quite well with it, I'm**
445 **actually quite interested, and please feel free to say no to this because I'm**
446 **really just genuinely looking for answers, is that would you say that this**
447 **workshop has changed your perspectives on maybe physical digital devices and**
448 **data or not?**

449 Yeah. No, for sure, for sure. And again, it's not like a complete – like a complete
450 paradigm shift on a dime, you know, but it's definitely, definitely changed the way that
451 I'm thinking through things. Just the way that you have framed your project and, you
452 know, the data-hungry home, this idea of data as being ephemeral and destroyed, I
453 think destroyed is actually a more useful word that you used. But, you know, those are
454 things that of course are out there but they hadn't been articulated to me in quite this

455 way, so no, it's definitely changed the way that I'm thinking about that in a really great
456 way.

457 **Yeah. That's good to know. It's funny, the word destroyed is really funny**
458 **because I often find that a lot of the metaphors I use, I have to kind of say**
459 **them really strongly and then go and mumble into the microphone when I'm**
460 **talking to you, it's like obviously it's not really – it's not – because the**
461 **metaphors fall apart because we don't actually destroy food because we**
462 **actually turn it into something else, but I'm like, yeah, okay, just, you know, go**
463 **with me.**

464 But destroyed is important, like you're correct; it's not accurate. But it's got, you know,
465 it's got that feeling behind it. There is a loss with destroyed, right, that wouldn't be
466 there if you just said converted, right, somehow? (laughs)

467 **Yeah, I think it's obviously deliberate – this is all quite provocative, in a way, so**
468 **I am trying to be that upfront.**

469 Yeah.

470 **So seeing as we've got a bit more time, I'm going to kind of jump back onto**
471 **that thing about relations. So, again, I'm not trying to – I'm really not going to**
472 **try and put words in your mouth, so I'm going to ask you to maybe describe**
473 **what – if you could put it in a term, what kind of relationship you would**
474 **actually have with these beings being in your home?**

475 Mmm, and I think it would depend on the being, right? Because – and I say that and I
476 think it's so interesting to me because we do have different relationships with different
477 people, with different places, with different animals and objects and things like that. But
478 I think the reason it's so interesting to me is because it is a relationship that goes
479 beyond, you know, just any other object in my space for the most part. You know,
480 generally I can put something down and walk away from it and I don't have to think
481 about it any more, whereas the beings as a way you're kind of describing them, I do
482 have to interact with them because otherwise perhaps they'll die, right, or they'll wither
483 away or they won't function properly if I'm not feeding them what they need.

484 But then I'm also getting something from them that I can't get from any other object.
485 And it doesn't have to necessarily be something useful and I think that's why it's so
486 interesting to me. The objects that you're kind of describing are not things that I would
487 put into my space to be productive or to learn something very specific or to – or, you
488 know, to function, you know, in a problem-solving way in my space; they're there to be

489 experienced, kind of like, you know, a lot of the relationships I have with people where
490 it's not easy and they're not necessarily helping me with anything in my life, but they're
491 interesting, right?

492 **Yeah, yeah.**

493 They add to the experience of being alive and being on this planet. So I think that's
494 what's interesting to me. They almost feel cantankerous or difficult or, you know, but I
495 like that kind of thing, right, because if it's all meant to be smooth and easy and
496 frictionless, and I hate that word in the design world, right, that idea of like friction-free
497 design, I think that's the wrong direction for us to be going because we're asking
498 questions and we're having a different kind of experience in which they can be more
499 meaningful.

500 **Yeah, and just to kind of go on that and perhaps expand a bit more on how I**
501 **came to it, I'm extremely curious in a way about the biological entities that we**
502 **engage with on a regular basis, so, like you say, your cat and also the**
503 **houseplants. But somewhere very early on in my process I realised that you**
504 **could never just say that cat or a houseplant was specifically designed to do the**
505 **things that they do for us. Like you can't say that there was a design document**
506 **that said, "Make this cat useful to this human." But they are – so I've had this**
507 **kind of discussion with quite a few people that people say, "Oh, you know, we**
508 **have houseplants in our lives because they filter oxygen and they're really nice**
509 **to look at and they have all these wellbeing things," and that may be what**
510 **we've realised they've done for us and may be part of the justification for us to**
511 **continue using them, but they weren't inherently put on the earth to do that;**
512 **they were actually inherently put on the earth to exploit a niche that existed**
513 **and then we appropriated them.**

514 **And I'm kind of trying, in a way, to go all the way back to that inherent**
515 **exploitation of a niche, not in a – I know that exploitation is kind of not a good**
516 **word, but it's actually how you describe, in a biological sense, right, you go, oh,**
517 **there's the cat. Speak of the devil, the cat's come in to see what's going on.**
518 **It's that kind of – so I see it as an exploitation of data. Again, not in a negative**
519 **way but just because it's there and we generate it and as if a being has come**
520 **into existence and goes, "Well, I'm going to use that. You've clearly got plenty**
521 **of it so I'm going to use it for something," and then what happens and maybe it**
522 **turns out that they're good for our wellbeing or maybe it turns out they're good**

523 **for something, but it's not what they're there for. So, yeah, that the kind of**
524 **explaining a bit more as to how I go to that. Yeah.**

525 Well, and also what I started thinking about was, while you were talking, is this idea of
526 like the houseplant. Yes, yes, yes, we do all of that, but we also have a completely like
527 ancillary experience with them that's outside of all of that. Most of us put them in our
528 houses because it makes us think of our mom who did that or, right, or it just creates
529 this sort of atmosphere in the space that is pleasant, right, or think about the experience
530 part and not because we're trying to solve a problem. I think there's so much that we
531 do in life that is not at all about this idea of problem solving; it's because it's aesthetic
532 or, right, it's pleasurable or whatever or just happens and you just get used to it.
533 (laughs)

534 **Yeah, but then I think I had this discussion with a different participant, there**
535 **must be a reason why we don't just use lifelike plastic plants. There is**
536 **something about the fact they change, and there's something in that. And I**
537 **haven't been – because I kind of almost stumbled across this, so my actual**
538 **beginning point was would you believe navigation, crowdsourcing and**
539 **embedded intelligence was my starting point for all of this because I'm funded**
540 **by basically the UK mapmaking people, called Ordnance Survey. So I started**
541 **off going like, "Okay, how do we make navigation better and how do we make**
542 **crowdsourcing better or different and data collection?" all that kind of stuff,**
543 **and I just got further and further and further away by going, "Well, what is**
544 **navigation?" or, "What is data collection?"**

545 **And maybe as I've been explaining this you can see how I got here because it**
546 **started off with like Carver, which is the stick thing, that's just a question of**
547 **how do we get people to engage with their environment differently, which**
548 **means they will, in theory, navigate differently. And I kind of keep going away**
549 **from it but trying to achieve the same thing but not going through the same**
550 **means.**

551 **And then how would we motivate people to go out and do this? Well, we could**
552 **put an object in their home that kind of uses this data. But if it was alive, but**
553 **maybe not alive but it needed this data, and then it kind of like builds up and up**
554 **and up from there. And I know this is a really odd place to start, but that's kind**
555 **of what happened, I guess.**

556 Well, and I think – so what's interesting about that is that you were kind of trying to
557 problem-solve a little bit, right? Okay, okay, we've got to do this and then we want to

558 do this, right? I want this to be the effect or the experience and then how are we going
559 to do that, right? And so the fact that people won't consistently usually, yeah, collect
560 information unless you give them some sort of incentive to do so, then how might you
561 do that in a way that isn't just like freaking digital badges or whatever, right? (laughs)

562 **That's so true. That's so true. There's this article I read about crowdsourcing**
563 **gamification rewards, and it's all digital. There's not a single – apart from like**
564 **one or two micro examples, nothing is physical. And you can't get more**
565 **physical than an object that sits in your home and is a "reward". But I've**
566 **almost become almost quite recalcitrant towards it now where I'm like, "No,**
567 **because data's going to be destroyed," which is what I think I'm going to have**
568 **to have it in my thesis but give up on it for my actual industrial aspect of it**
569 **because you can't have it be destroyed, but obviously, you know, it's very easy**
570 **to completely anonymise it and just kind of have it be unassociable to you. It's**
571 **an interesting thing anyway.**

572 **But yeah, so I'm just really conscious of time, so I kind of have one more**
573 **question and then I'm going to kind of open the floor, so to speak. My final**
574 **question is a bit of an odd one, but how would you summarise my research in a**
575 **few sentences?**

576 (laughs) So I'm just laughing because that is such a fantastic thing to ask your
577 participants. (laughs) How would I summarise your research in a few sentences?
578 Hmmm. And I'm probably going to give you more than a few and then you're just going
579 to have to pull out what's useful to you...

580 **That's absolutely fine.**

581 ...because this is my process. I have to like talk out loud while I'm thinking through the
582 thing. I'm sure I'm not alone. So I think what I would say is that your research in
583 particular is looking at, to me, is looking at upending, you know, our typical
584 understanding of how we're using devices, how we're collecting data and then what our
585 experience of that might be on the other end. It's also upending this idea of data just
586 kind of sitting out there on the cloud, right? And then maybe we're pulling it in for
587 useful purposes and maybe we're not. And then really sort of pushing at these ideas of
588 the objects in our spaces, right, and how we interact with them, what our relationships
589 are with them, what we expect of them and what they expect of us, which I think is the
590 most fascinating part of it.

591 So I don't know that I have any more articulate words than that, but that's kind of –
592 those are the things that I'm thinking about when I think about the research. And I
593 haven't read any of your papers yet. I was putting that off on purpose so I'm going to
594 go back and read your research later. But from what I gathered from the workshop,
595 those are some words.

596 **No, no, that's really good. I keep jokingly saying to people that I'm going to**
597 **use one of these as my abstract in my PhD thesis at the start. Actually, whilst**
598 **people have been doing this, especially with yours, I kind of want to do two.**
599 **I'll write my own abstract then I'll have the crowd-sourced abstract where I**
600 **just kind of smash together a bunch of these and be like, "Yeah, okay,**
601 **participant X said this and that," and that basically – that's it in a nutshell.**

602 **But no, that's a really good one and it kind of, again, the upending part**
603 **especially is kind of maybe not what I started off with doing, but as I warned**
604 **my supervisors when I started, I said, "I'm a critical designer. Maybe not what**
605 **most people think critical designers are," because I still think people –**
606 **sometimes when I get feedback on when I say it's critical design, they say,**
607 **"Well, you're not really engaging with this massive social issue," and I'm like,**
608 **"No, I'm not really," but not in like a resistive way or a fighting way but I'm**
609 **kind of like probing at the edges and trying to see what unravels everything.**
610 **But no, that does work it.**

611 **And so with that in mind I kind of – at the end of each interview I'm just saying**
612 **if people have any questions for me, maybe about my research, maybe anything**
613 **you really want to know, that's kind of if anything comes to mind.**

614 Well, I want to know everything but we don't have time for that. (laughs)

615 **Fair enough.**

616 I would need to buy you like a Scotch or something and then we could chat about it. But
617 – so, you know, how far along, I guess, are you with your process? I guess I'm just
618 interested in that. I don't have a PhD. I have a Masters of fine art, technically a Masters
619 of graphic design but I'm always fascinated by the process. I flirt sometimes with the
620 idea of going and getting my PhD. So how far along are you? I know in the UK it might
621 be slightly different too.

622 **So I'm in the end of my third of four years. Now normally by this point I would**
623 **have ideally done all my studies and then I just spend next year writing up, but**
624 **coronavirus has basically thrown all that out of the window. So this workshop,**

625 although it's actually turned into a really interesting activity which I don't think
626 a lot of people actually have in their theses where they actually take stuff that
627 they produced from a design perspective and then go and talk to a bunch of
628 designers and academics and other people like that and kind of say, "Well,
629 what would you do with this?" and just kind of see what they do. But this was
630 a complete kind of, "Oh, crap, I can't put this in people's houses. Let's do
631 something that fills the time." But, yeah, not that that's a bad thing, it's just
632 we do. So it is all in a write-up phase.

633 I would say from a PhD perspective this is a really interesting time to do a
634 design PhD, because increasingly people are accepting these kind of practice-
635 filled. I don't like saying practice-led because then it makes this
636 theory/practice divide and I feel that even when you make theory, you are
637 doing a practice, so I get really antsy about those terms, but you understand
638 what I mean. Like these PhDs that are just full of stuff and not just studies or
639 surveys and stuff like that. So my first study is actually what I'm terming a
640 design study because I haven't found a better word for it where I've gone and
641 looked at a bunch of stuff and then I created a workbook and I've kind of
642 created all this rich ambiguous abstract stuff, but stuff you can't say is art; it
643 still has a design intent, like I'm trying to work around a design problem, it's
644 just that the methods I'm using are not your typical, "Oh, I sketched some stuff
645 and then I sketched some more stuff and then here you go."

646 And then it all kind of falls apart in the middle where I've gone and kind of
647 tripped over my own thought and gone, "Oh, what if they're beings?" And then
648 I kind of – so you're supposed to have this like overarching research question
649 that you start with but I keep tussling with the idea of just saying, "Okay, the
650 whole of the research question is how do we change our relationships with data
651 and devices," which I think I've done, but it doesn't explain how I got there,
652 because the literature and the first study is like, "But what about navigation
653 though?" and then I give up on navigation and say, "Well, what if they're
654 beings though?" and then, "What does that mean?" and, "Who am I?" And
655 (laughs) so, yeah, so I don't know if that really explains it all.

656 Yeah.

657 But in a short way, practice, they call it – I don't know what they call it
658 elsewhere, but there they call it PhDs by practice which is effectively – I
659 haven't done this, but in the more artistic areas you can effectively just do a lot

660 of practice and a short thesis and that counts so I'm trying to do somewhere
 661 between a PhD by practice and a PhD by publication because I've kind of
 662 published three papers and I've got two or three more and kind of like I'm
 663 trying to build on. And as you will probably find if you really do read my
 664 papers, although the one, the first one called the data-hungry home, that's
 665 quite a chunky one so you don't have to read it, it's basically me just working
 666 out what on earth I'm doing in paper form as I'm going along. So you can see
 667 the ideas kind of progressing one to the next. And so, yeah, I don't know if
 668 that really answers your question.

669 No, it totally does. It totally does because there's this two parts of what you're exploring
 670 through the workshop. You know, there's the work that you're making and then I could
 671 see all of the content out of this workshop helping to inform the things you're going to
 672 make. But then there's also design as a process or as a way of thinking or as a way of
 673 articulating ideas or coming up with ideas and the workshop gets at that too, right, how
 674 do we come up with ideas? What frameworks do we use? Do we need a framework, all
 675 of that kind of thing? And so there's those two parts of what you were sort of exploring
 676 that you kind of are exploring even more in the questions in this interview. So, yeah,
 677 I'm just starting to think about that part of the divide too, not that it's a divided but **_cut**
 678 **in audio_**, yeah.

679 Yeah, it's a really odd thing because there's not much framework in theses to
 680 kind of base this on because my design school that I'm in at a Loughborough is
 681 very much oriented towards data and like proving something. So I'm sitting
 682 her going, "Well, can I actually prove anything? Probably not?" But then I
 683 have the kind of – I have these various lines that I keep walking back towards,
 684 which is basically things like, "Well, if all else fails, it's grounded theory," or,
 685 "If all else fails from my methodological standpoint then it's all about the
 686 dialogue I've created because that's kind of like what critical design is, it's
 687 discursive, it's a dialogical metaphor, so if I can't justify it in any other way,
 688 I'm just going to say, "Yeah, well, I created a lot of dialogue and that's my
 689 point," which is funny.

690 But at the other end of it my methodological chapter now what kind of
 691 knowledge I'm generating is just getting huge in its own right because they're
 692 like, oh, it's constructivist so basically I can say I justify it because I built it for
 693 my own intent. It's not objective. I haven't made anything objective with this
 694 knowledge, but you'll find, I don't know if you've ever read a design thesis,
 695 especially from like in the Scandinavian countries, that they will kind of touch

696 **on it, but no-one talks about epistemology in design. So you've kind of got this**
697 **huge problem of who do I even start from? (laughs)**

698 Right.

699 **Yeah.**

700 Right, which I think as a discipline that's what we're all just struggling with because it's
701 so ill-defined. (laughs) And it's like a lot of – it feels like a lot of grasping at straws and
702 then different, you know, culturally different places are doing it in slightly different ways
703 but there isn't that deep, right, that deep amount of literature and other kind of very
704 specific types of research to go back to to sort of draw forward. We're more, you know,
705 omnivorous. Okay, well, what can I take from the social sciences and what can I bring
706 in from this philosophy, right? And then we make our stuff.

707 **It's so much like that. I'm trying to write this – have you come across the**
708 **journal transactions in – Computer Human Interaction?**

709 I have. It's been a while since I've looked at it.

710 **Yeah, I really want to try and get a paper in there where I'm trying to do**
711 **basically exactly that, where I'm trying to justify why a being should exist or**
712 **why we may already have them amongst us and we just don't really recognise**
713 **it. And it's going everywhere from, well, you know, viruses make us constantly**
714 **question what the fringes of alive are and also who was it? Was it Emmanuel –**
715 **no, no, I've forgotten who it is now. Anyway, one of them talks about**
716 **materialism and kind of this idea about intent to exist so, you know, you smash**
717 **science and philosophy together and you go, "Yeah, er... just trust me, guys."**

718 Right, right. But that's the cool thing that we do in both art and specifically design,
719 right? We can be asking these questions in a completely different way and then really
720 shaping what we put into the hands of people, right, or how we're helping other people
721 to frame the things they already have in their hands, right? Like that I think is why it's
722 so interesting and why I keep coming back to it versus other things that I could have
723 studied.

724 **Yeah. And I think the one thing that's really shown out of this is I kind of – I**
725 **haven't really had an opportunity to really say it to people, but if you want to**
726 **take – because I kind of reject the metaphor idea of beings. I think there is a**
727 **way in which we have real beings in a technological form around us at some**
728 **point, maybe not what I've got, but at some point, but even if it's just useful as**

729 a metaphor for you to create something different then that's all good. It's not
730 exclusionary. I don't hate one or like the other; I just kind of go, "Well, I fall
731 down slightly more on this side but I can see why people..." because a lot of
732 people and participants in the workshop, they have designed these very
733 functional beings but that's because that's where they come from and that's all
734 they imagine that they should be. So if that helps them then great, but not
735 really what I'm intending it to do.

736 But yeah, I've had a couple of people that are literally like, "Are you trying to
737 create a singularity?" and I'm like, "No, no, this not about them being better
738 than us." I'm just conscious of time, but so everyone keeps talking about AI
739 and stuff at a human level, like this human intelligence, whereas I'm like,
740 "Okay, we've got cats and plants and bacteria," and I want to go all the way
741 down to the very basics of – because you say a bacteria is alive, so what's the
742 technological equivalent that's a being and then how do we draw that all the
743 way back up and fill all of that really great space that we can think about and
744 not just be like, "Oh, it's smart like a human or better than a human." They're
745 not interested in that.

746 Right. What makes us so like boring and narcissistic, right? Why? Why does every
747 conversation about AI and all of that stuff have to come back to it being human-like?

748 **Yeah, yeah.**

749 Why couldn't it just be something else? So I'm right there with you. (laughs)

750 **Exactly, yeah. Yeah.**

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KEY

| | |
|--------------|-------------------|
| Bold: | Interviewer |
| Regular: | Respondent |
| []: | Uncertain word(s) |
| W: | High confidence |
| (): | Medium confidence |
| { }: | Low confidence |
| --: | Other information |

Would you be able to tell me a little bit more about your background whilst I'm setting this up and what really interested you in taking part in the workshop?

So my background was – actually I did my undergrad in computer science, in core computer science, like not computer engineering. Then I joined the PhD programme here as a machine learning track. So I mainly worked on applications of machine learning for two years and then right now I'm working with a professor who specialises in HCI. So I'm very new to the field of HCI, both my professor and I we thought that it would be a good experience for me to join such a workshop and just get into how things work. Because if I'm not part of it then I don't know how it works.

I hope it was okay, it might have been a bit of an odd one to start with for HCI but there you go.

It was definitely something completely new to me. Which made it actually more interesting, because if it's already I know something then it's kind of – it might not be as interesting.

That's good to hear. So what I'm going to do for the first part of this interview is I'm just going to ask you to reflect on the tasks that we undertook in the workshop. I've got these slides here just to remind you about what we did. I think it's quite a while ago, more than a week ago now that we did it. I'm just going to go over them and ask your feedback on how you felt these were and then we'll just go from there.

So the first task as it were were what I call these kind of framing questions. It was a set of three questions, that you don't have to answer again now, but that were kind of about exploring some of the topics that we were going to go into in the workshop. So just looking at these now and trying to remember them, how did you feel trying to answer them and just overall the task itself?

Before that I would just like to point that these questions actually made me more comfortable going in the seminar, because that way I actually had some kind of like – I

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39 had to Google what is physical and digital device, because I've never heard of it. So
40 because of these preliminary questions, it set the landscape properly I think for the rest
41 of the workshop. So that was good. And while answering I always tried to give
42 examples from something that I already did. Or something from my past. So in that
43 case, I think I mentioned, the second question, what is the purpose of data or the value
44 of data, because I mainly work with data related stuff, because machine learning is led
45 mostly just through a bunch of data and an algorithm and hopefully it works. So that
46 was kind of my idea behind answering those questions.

47 What else? Yeah, just setting the landscape is actually a very important part of starting
48 the workshops, don't lose the participant, or just don't overwhelm them with a lot of
49 jargon or something like that, but this was I think perfect.

50 **Great. So we don't have to spend too much time on this one because it was**
51 **really quite a quick starting point like you say. Just hopping along on to the**
52 **next bit. So you may remember that we then moved on to what I call the focus**
53 **section I suppose. What I did with this was I gave you these three questions.**
54 **They're similar to the first three but they're increasingly provocative. This time**
55 **there are blanks and these blanks were filled with cards. So I'm just going to**
56 **read these off real quick because I'm going to go on to the cards next.**

57 **These three questions were, how could a physical digital device use blank data**
58 **to blank. What could a physical digital device do to make you care for them as**
59 **if they were blank. And how could we design for physical digital devices if they**
60 **had blank. So what I did then is used these cards to fill in those spaces and get**
61 **people talking about what was going on there. Just to remind you that the first**
62 **two rows were to do with the first question, so kind of combining data and**
63 **activities. The third row was to do with the second question, so kind of like**
64 **metaphors of care. And then the final row was to do with the final question,**
65 **which is more kind of these provocative concepts around physical digital**
66 **devices.**

67 **So just thinking back to that, first of all how did you feel about the task as a**
68 **whole and were there any particular combinations or particular cards or**
69 **questions that really struck you at the time or stick out in your mind now or**
70 **anything like that?**

71 So for this part, I think what really worked well was that this is kind of an open ended
72 question, the user can choose – or the participant can choose any amount of
73 combinations or any of those things. So why that worked well was because in terms of

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74 you're telling your participant to write a story, right, so there is a very high chance that
75 they will have some kind of writer's block if you just give them a blank slate. But if you
76 give them a few cues along the way, there's a cat or there's this person, then they can
77 connect the dots.

78 So I think this part of the workshop was well formed in that way, that the participant did
79 not have a creative block, because there were cues to help him along the way. So it did
80 not also stall the workshop. At least that could have been a big issue, if you gave me a
81 complete blank slate I would be sat there for hours.

82 **Yeah, that's fair. So do you think there were any particular questions or cards**
83 **that really stuck out to you as particularly either interesting or unusual or**
84 **anything like that?**

85 Along that lines I think in this topic what really intrigued me was the other participants
86 answers, because they have really – it really helped that they had much more
87 experience than I do in HCI. So I could see their thought processes more mature or
88 more provocative also in a way. Because I'm just used to go from A to B, B to C, like
89 logical steps. But in HCI I think you need to have a much more open mind. In that
90 terms I actually liked these flash cards in itself because it was completely different
91 things. The second card I see here is about stocks, and the third card is about colours.

92 So just that jump itself is like huge, because if you think about it there is not much –
93 maybe you can find correlation but just after that there is no direct correlation between
94 these two pictures. But we are trying to connect these to the – again from stocks to
95 name your children, right. So having to completely – or having sixteen completely
96 contrasting images also is – I guess that was the whole point of your workshop, to get as
97 many ideas as possible in the shortest amount of time.

98 **Yeah, absolutely. You hit the nail on the head there. Okay. So it seems to me,**
99 **and please tell me if I'm wrong, that as I was presenting this task to you it still**
100 **– it wasn't kind of out of the blue, it wasn't confusing, it made sense in the**
101 **general steps of it. But did it become more apparent why I was asking these**
102 **questions in the tasks that followed, after I presented the data hungry home?**
103 **Or did it seem to all make sense at the time of me asking?**

104 This was for me in my experience it was a gradual thing. In the first step I didn't exactly
105 know where we are going with the things and their design, and then – but once we got
106 to the subsequent slides or subsequent [categories 0:09:15], towards the end it all
107 basically (you) can connect the dots looking back. So I think that was also – it actually

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108 worked for the project than against the project. Because if from the beginning you have
109 the pre-knowledge to do the end product then it kind of makes the user study or the
110 workshop non eventful in a way, because you're not getting anything new, like you
111 already have an idea of what you'll get. But if it is structured like this, then you kind of
112 don't have an exact idea of what a participant might say or what they'll do, something
113 like that.

114 **That's great. Just moving on to the final bit. So if you recall I presented the**
115 **data hungry home approach or concept or whatever you want to call it, and**
116 **that's where I put out these ideas about technological beings and using data**
117 **and so on and so forth. But from that, what we did is we built this framework**
118 **as these two separate tables with another set of cards, we populated them with**
119 **concepts about who has agency over it, what data it's collecting and so on and**
120 **so forth.**

121 **Then once that was populated you all went off and individually designed two**
122 **objects or devices or however you want to see them and then you presented**
123 **back to everyone. So first of all, how did you feel about populating the**
124 **framework together as a group?**

125 I didn't get that question.

126 **Oh, am I not coming through?**

127 Could you just repeat the last part?

128 **Sure. How did you feel about working on the framework together as a group**
129 **and putting the cards in on that?**

130 Yes, that was – by as a group, you mean with the other participants?

131 **Yes.**

132 Yes, so exactly as I said before, I was kind of comfortable because even though I'm the
133 one with the least experience I also had a notion that probably whatever I say will be
134 something different than people who are already familiar with HCI and compared to me
135 being in the field of HCI for a few months, a couple of months. So I think that was kind
136 of me trying to be positive about this and not feel too bad about myself (laughs).

137 But other than that, I think once – I remember during the workshop when you showed
138 your products, I'm trying to recall the name, something ends with an A?

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139 **There was one called Carver and the other one was Himilco.**

140 Yes, Himilco, sorry. So once I saw this product I kind of had a much better idea
141 immediately of what kind of things you're working on. So that made the workshop –
142 again, like I said, it kind of made sense once you went through the whole workshop.

143 **Okay. So do you recall the framework at all, that kind of two tables, do you**
144 **remember what that looked like?**

145 You mean where you had actors and—

146 **Yeah, and data and – yeah.**

147 Yeah.

148 **Did you find that that helped you with the next step of moving on to the design**
149 **process or was it not really that useful?**

150 That was actually probably the best part of the workshop for me. Because again, as I
151 said, I take a lot of time to just think something, and it's not exactly wasting time, but
152 just taking more time. So when you have a structured way of presenting – or starting a
153 design process, that really helps I think. And also since we had different people working
154 on it, like four different people working on it, each with their own viewpoints, that
155 definitely helped speed up the process because it was already structured. Like you could
156 not go too crazy within the limits of that structure. So I think that really worked well.

157 **So then moving in to the actual designing phase, which I think you had about**
158 **half an hour or something like that to do it. How did you find the creation of**
159 **these two objects?**

160 By that do you mean like was thirty minutes enough or something like that?

161 **Yeah, I mean, I'm really just – impressions, things like that is completely valid.**
162 **Was it easy or hard for you to actually create them? Like you say, was thirty**
163 **minutes enough? Anything that's kind of in that nature for now.**

164 I think since you are looking for just a prototype sketch, I think thirty minutes is a good
165 timeline. Also you don't get too much into the details and just have a basic idea
166 generation process. So in that step it's always I think important to focus on the time at
167 hand. I'm sure if you gave everyone one day we will take that one day, if you gave
168 everyone seven days we will take the seven days. So you always fill up the entire space
169 that's available. So the thirty minutes was good.

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170 And also the requirements itself were very clear. Because if we didn't know that we
171 were just – suppose you told us that we have to – what am I thinking? Like we have to
172 design a product, without knowing that it's just a prototype, then it might be – the
173 participant might be overwhelmed or something like that, or try to do too many things at
174 once, which most of the time does not work well.

175 **Do you remember in any particular detail what it was that you designed?**

176 Yes. I designed a zen garden I believe. And that had – its design was based on light
177 cues. So depending on the mood of the user, it would change light according to that. It
178 would change the ambient light according to that. I believe I took the concept from the
179 stones that are present in a zen garden, and just I was trying to illuminate those stones
180 itself, it's kind of a modern take on the ancient concept of zen gardens.

181 **What was your thought process behind that in terms of the zen garden but also**
182 **where the data collection was coming from and how the interaction would work**
183 **and so on, just in that kind of idea?**

184 My thought process was really simple. Because I did not have much idea going into
185 thing-centred design, so what I did was at first I noticed like your project obviously,
186 because that was the only project at that point of time which I knew about thing-centred
187 design. And then from that I kind of – different idea directions, it could be this, this, this
188 or something like that. I think I mentioned this before, that my professor also worked
189 with many light cue related projects. I think one of his papers is called illuminated
190 aesthetics. I tried to combine these two things that illuminated the zen garden stones
191 basically.

192 The garden, I kind of – we were already discussing that part when we were trying to go
193 through the design process, with the table – the two column table. That part definitely
194 had a big influence in my design, because as we were talking through the different actor
195 points, the data points, I kind of had different images of what I want to work with. But
196 since I had to focus on one particular product it kind of made it more clear.

197 **I'm kind of curious, how do you feel your imaginary user of these – or I**
198 **suppose user of one thing, because you'd use the harvesting device but then**
199 **you interact with the technological being, what do you think they will feel about**
200 **interacting with these things?**

201 I guess that's open to interpretation. But ideally we would have someone is like feeling
202 sad and they approach the garden and then they see the colour change according to

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203 that. So they would be like aware of the – it's kind of a self-aware thing that I was
204 going for I guess. You can do different things with that. Like other people can notice
205 you're sad and then – you get it from that, right.

206 **So it seems to – I don't know want to put words in your mouth about this. But**
207 **it seems as though even though it's an ambient way of communicating these**
208 **concepts it does kind of turn back to a purpose of communicating the state of**
209 **wellbeing of someone to either themselves or other people would you say?**

210 Yes.

211 **I'm curious, how do you feel that fits in with the general concept I put out**
212 **about what a technological being could be or is?**

213 So when I first – like you described the term or just mentioned the term technological
214 being, I kind of already had in my mind it would be something that would assist the user
215 for something, besides just being there. Because I just wanted something which would
216 have an effect for the user and also – like it should both serve a purpose and not do
217 anything. So if the user doesn't want to be self-aware then he or she won't care, it's
218 just lighting up whatever the garden is lighting up. But if they want to be affected by
219 that then...

220 **Okay. So it's almost got a kind of voluntary aspect to it, you can choose to be**
221 **in the loop so to speak or something like that?**

222 Yes. Because now that I think about it, the main purpose of the technological being
223 should be that it should not be obtrusive. It should not be I guess Microsoft Clippy, just
224 whenever pop up.

225 **It's interesting that you say that, why do you think that is, that it shouldn't be**
226 **obtrusive and also serve a purpose to humans?**

227 I'm not sure if I can answer those two questions together. So it should not be obtrusive
228 because as with any technology that – again, I'm thinking in terms of assistive
229 technology point of view, I'm not sure if assistive is the right word, because sometimes
230 assistive technology means to help handicapped people, I don't mean in that way, I
231 mean just like assist the user. So it should be unobstructive because in my design it
232 was like that, that was one of the main thought processes, that it should be
233 unobstructive. That's why I chose light as a medium because light generally you can
234 tone down the obstructiveness of it.

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235 And it's I suppose like Siri for example, sometimes you are talking to your friend and you
236 say serious and it just pops up and it just doesn't shut up. So it would be good if those
237 kind of things don't happen with the technological being.

238 **Okay. It's really interesting, it's been quite intriguing to try and talk to people**
239 **about I suppose the boundaries of useful and uselessness and how they fit. So**
240 **as you kind of said earlier, you mentioned that you're new to HCI obviously and**
241 **I'm really curious if in any way having done this workshop, having been**
242 **introduced to this particular brand of thing-centred design – because there's**
243 **quite a lot out there, I'm sure you're becoming more and more aware that**
244 **everyone has their own version of what they think this means. I'm curious, has**
245 **this changed the way you see things in any way? And please feel free to say no**
246 **by the way, because I really want the honest answers, I don't want people**
247 **inflating my ego. I just want to know.**

248 So after I finished the workshop I came back to the lab and I kind of talked through the
249 whole workshop with my professor, just to see exactly what I was thinking. Because
250 sometimes when you are explaining it to someone else you get a better vision or a
251 clearer vision of your thoughts. So I remember while talking about that that we were
252 discussing that it's a relatively new field inside HCI, thing-centred design. And I do not
253 have much idea about it, but my professor obviously he has much better knowledge on it
254 than I do.

255 So we were just discussing about different projects that – the one I really liked where
256 you talked about was the – I think it was the cuckoo bird, like someone else generates
257 the data and then someone else uses it, something like that. So those concepts were
258 very intriguing to me. Again, with anything related to HCI because it's still the
259 honeymoon phase for me, so I'm finding new things every day so it's kind of exciting,
260 hopefully it remains that way throughout. This is definitely a much bigger field than I
261 anticipated when going to the workshop.

262 **Yeah, it really is, it's a never ending field. I get – you're absolutely right, it's**
263 **exciting because you'll never really know the edge of it, it just keeps**
264 **expanding. So diving a bit more into changing what you thought about things**
265 **coming out of the workshop, was there any particular – as you said, you**
266 **discussed it with your professor – is there any particular observations you had**
267 **about perhaps physical digital devices or data that felt different from how you**
268 **came into it?**

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269 I like the modalities actually of I suppose – again, sorry, I forget the name of the data
270 collector.

271 **The collector is called Carver.**

272 That was a nice way I guess, a different way, at least for me, it was a unique way of
273 collecting data. Because to me, coming from machine learning background I just see
274 data as numbers. I mean, in a way they're still numbers but you don't see it as
275 numbers, so that was different.

276 **Okay. And how did you feel about when I presented the data hungry home and**
277 **said that the data could be destroyed in the process of use, instead of stored?**

278 That's another relatively new concept to me. Because a couple of weeks before the
279 workshop I was discussing some random thoughts with my professor and he mentioned
280 about another professor, researcher, who was working on destructive kind of research,
281 basically so I guess the example he gave was that you take a photo with the camera and
282 you cannot view that photo unless you are in that same place again. So it's kind of
283 useless, right? But it's kind of intriguing at the same time. So all this again, it's a very
284 new way of thinking for me.

285 **Yeah, there's a similar project – cameras for some reason I think are quite**
286 **popular, there's one where the camera is actually set in concrete. So after**
287 **you've finished taking pictures you have to smash it to get all the pictures out**
288 **and stuff like that. So it's all – counter functional I think is what they call it.**

289 Yes, exactly, I think that's exactly the term my professor used. He might be talking
290 about the same person, I'm not sure.

291 **It is something I'm kind of – I guess swimming around in is a bit of a weird**
292 **way of putting it, but you get what I mean, just exploring about all of that. So**
293 **moving into the last phase of questions. I was wondering – this may sound**
294 **similar but there's a slight difference here. Is there any particular element of**
295 **this workshop, either on the method or methodological side or more about the**
296 **data hungry home and the broad thoughts on physical digital devices and data**
297 **that you think you may use moving forward or might change the way you**
298 **design or use as part of your practice after this?**

299 The double column design process definitely.

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300 **Okay, great. That's actually based on a paper, and I'll send it through to you if**
301 **you want – mine's not quite the same as theirs, which is in turn slightly**
302 **different from the previous one. But it's kind of like this legacy I suppose of**
303 **using it, if you want me to send you through that, the paper that I based it on**
304 **as well, I can do that.**

305 Yeah, that would be very helpful, thank you.

306 **Yeah. So the double column table, you liked that?**

307 Yes. Also again, the whole concept, you mentioned about data hungry home, is also
308 very unique. Again, going into HCI, a lot of unique things come out. Especially from like
309 different regions, because I've been into research only a couple of years but I've seen
310 that there's a different pattern. Again, sorry for using machine learning stuff, but there's
311 patterns in all the stuff is evident. Like people in China they will work on a different kind
312 of work, people in US they work on different kind of work, and people in Europe work on
313 different kind of work.

314 **Yeah, it's really – it's almost weird. Obviously even when you get into – I'm**
315 **sure it's the same in the States, when you get into Europe, even the different**
316 **countries do things differently. So the Scandinavians are very different to the**
317 **British and the French and all that kind of stuff. It's really odd but it's also**
318 **really, really vibrant, which I think is great.**

319 **Okay, that's good to know. It's kind of more or less the end of the formal part**
320 **of this interview. I have one or two more questions. One of them is a bit**
321 **provocative and then one of them is a bit more – which way shall I do it?**
322 **Because I don't want to bias the answer to one of the questions. This is always**
323 **the problem you'll encounter if you ever do interviews, you have to try and not**
324 **be as leading as humanly possible.**

325 **Okay, right, I'm going to start with this question which I normally finish with,**
326 **but I want to ask you another question afterwards anyway. So this may sound**
327 **a bit odd but I've been asking all the participants this who have volunteered to**
328 **do the interviews. How would you summarise my research in a couple of**
329 **sentences?**

330 Your research with the workshop or research with the data hungry home?

331 **I suppose the data hungry home.**

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332 In a couple of words intriguing definitely. Intriguing and I think it's again along the
333 same lines, it's something like unique in its way because it's a new field. So there's a lot
334 of scope to make unique artefacts as they say.

335 **What do you think I'm trying to do?**

336 Hmm, that's a difficult question to answer. Because you are doing like – it's your work,
337 right, and if I say something like what you're trying to do – you just want me to say
338 from what I understood, right?

339 **I'm definitely not looking for an exact description of what I'm doing, I'm more**
340 **interested in I guess based on the limited time you've seen what I've been**
341 **doing what you think I'm doing, if that makes sense?**

342 Okay, so then I think one thing that stood out I guess would be for me right now all the
343 design process was based on the user. But with your work I see it as more based on
344 artefact. That is I guess the primary difference that I see.

345 **I think you've picked up on what I also said, I may have not noticed, but in**
346 **some point of the workshop, where I said this is a very literal interpretation of**
347 **thing-centred design. Because you will find the more you look into it, you'll**
348 **find that there are people that are kind of like, okay, we'll use thing-centred**
349 **design but ultimately we're trying to benefit humans. Whereas I think – and**
350 **this kind of goes on to my next question, I think that I'm trying to do almost**
351 **human – not purposeless design for humans, if humans benefit from it**
352 **afterwards I think that's okay obviously, but I'm not trying to think of a**
353 **purpose. So that kind of goes into my final question of, do you think that we**
354 **can actually design purposeless objects?**

355 Yes, because that is a very subjective term. What is purposeful to someone might not
356 be purposeful to some other people. So I think you can always argue the fact that it is
357 without purpose if you want to.

358 **Okay, so it's relatively purposeless, not universally purposeless, right, that's a**
359 **fair response. I'm quite interested in unpacking this idea of purpose as part of**
360 **my research. Because we're typically very – I've got a bunch of USB sticks on a**
361 **thing here, you can tell what the purpose of these are almost immediately. But**
362 **the ones that the purpose doesn't emerge immediately is much more**
363 **interesting to me. Like how houseplants also in a way were not put on this**
364 **earth to serve us but we've kind of brought them into our world, but then an**

365 **iPhone or a Smartphone of any kind is almost seemingly put on this earth to**
366 **serve us – anyway, I don't want to get too stuck in that. It's part of the upper I**
367 **suppose theoretical reflection or philosophical reflection I'm having.**

368 **Anyway, that's more or less the end of the interview. I wanted to ask you or**
369 **allow you or whatever the right way of putting it is, wondering if you had any**
370 **questions for me or anything you'd like to know more?**

371 One question that came up, that I was thinking about right now, where would you put
372 thing-centred design in terms of the intersection of different stuff? In my previous life I
373 worked with brain imaging, so that's basically in between neuroscience and computer
374 science. So where would you put thing-centred design? It might be more than two or
375 three different fields.

376 **There might be a mult – like you say, it's two things. One, there's a couple of**
377 **different fields and two, there's a couple of different ways I guess of feeling**
378 **about it. From what I've learnt it's fundamentally based in what they call post-**
379 **humanism, I don't know if you've come across that. And more specifically it's**
380 **within this thing called post-anthropocentrism, which is this – the anthro being**
381 **us and the centrism being our exclusive focus on human everything, human**
382 **benefit, human comfort, above all else.**

383 **So in a way thing-centred design actually fits in within a similar concept, even**
384 **ideas like sustainability, because you're putting a different thing at the centre**
385 **of what you're doing. So it's no longer about humans, it's about the planet or**
386 **it's about animal rights or all those other things. But on the other hand there's**
387 **this kind of concepts in design which is these ideas of affirmative and critical**
388 **design. So affirmative is kind of the preservation of the status quo and**
389 **continuing on what we're doing, critical design is basically the opposite of that,**
390 **it critiques or challenges or speculates on the way that we can see design and**
391 **the world around us and so on and so forth.**

392 **So the way I see it right now is that thing-centred design is sitting within**
393 **critical design because it's new, but as it progresses and as it becomes part of**
394 **the status quo I suppose, as it's more accepted and more developed, it will**
395 **move into affirmative design because you're affirming what everyone already**
396 **agrees upon. I feel like there's a third one. Because there's this other thing**
397 **called – I don't know if you ever heard of this, there's two other concepts called**
398 **actor network theory and object oriented ontology. So they're kind of ways of**
399 **viewing the world but also ways of viewing agency.**

So actor network theory for example talks about – I think it's translations is the term they use. For some reason I always remember this example above all else, but it sounds super bad. If I want to seek revenge then I'm just on my own, all I can do is have revenge basically. But if there is a weapon in front of me I can translate my intent into murder through the object. But then they have humans and non-humans and the networks that these things form and the way agency works in all of that. So I know that's really all a lot in one very quick thing, but that's basically the three ways I look at thing-centred design if you will. This kind of emerging object oriented but not object oriented ontology in its purest sense form of post-humanism in a design format. (Laughs)

Okay.

Sorry, that's probably a bit more than you were looking for.

That's perfect. The more I know the better. Yeah, I'll definitely look up more stuff. Now actually if I'm reading some papers I would probably notice if something is related to thing-centred design. That's kind of a difference.

In my field and I guess now in yours, in HCI and design, they are really loving object oriented ontology as a term at the moment. They're kind of just throwing it at everything. What I feel – and I can't really speak as a true expert – but what I feel they're basically saying is they're saying we're doing thing-centredness, not object oriented ontology. Because if you read the books on object oriented ontology by – what was his name? Graham Harman or something like that. It talks about this thing called phenomenology and the being at hand and then the being – or sorry the object at hand and then the object that we can't see that's its true form, because we can never see its true form. And it's really, really densely philosophical.

Whereas most people are just kind of thinking about, well, in IoT we don't actually interact with most of these things, they're inter-reacting with one another, so how do we design for their optimised way of engaging with things, not just how humans use them. Which I imagine for you, coming from machine learning, makes sense. Because we're spending all this time at the moment trying to get the damn things to explain to us how they do stuff, but it doesn't matter to them if they can't explain it to us. They get it, we don't. (Laughs) Have you read Weapons of Mass Destruction? The book.

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434 No.

435 **It's by Cathy O'Neill I think. I don't know a huge amount about machine**
436 **learning, I know the basics. I know about algorithms of that level, but that**
437 **book is quite interesting because it shows the pernicious misuse. I was**
438 **listening to her the other day on the Social Dilemma, and she said algorithms**
439 **are just opinions in code form or something like that.**

440 (Laughs)

441 **Anyway, I could talk about this stuff to death. I don't want to go too far on**
442 **that. So on top of all of that is there any other questions you had?**

443 No, I just wanted to say thanks for the workshop, a really good learning experience for
444 me, especially in the beginning stages. I'll definitely take a lot of cues from those to
445 consider when conducting my own user studies for my papers. So thank you for that.
446 And good luck for your dissertation.

447 **Thank you. I've actually got to start it next year, so yeah.**

448

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KEY

| | |
|--------------|-------------------|
| Bold: | Interviewer |
| Regular: | Respondent |
| []: | Uncertain word(s) |
| W: | High confidence |
| (): | Medium confidence |
| { } : | Low confidence |
| --: | Other information |

What I'd like to do first of all is share a couple of slides with you just to remind ourselves of what happened in the workshop, it is now a week ago. What I'm going to do now is just ask you about – not to redo the tasks but to try and remember them and perhaps give me some feedback on how you felt they went from a methods standpoint and we'll discuss anything that comes out of that.

So the first task was what I titled framing, and it's where I asked these open ended questions about some of the topics that we were going to cover in the workshop. Just to be really quick on this one, I just want to know how you felt about the questions and how you felt answering them?

Let me think... I thought basically the way the questions were set up was very helpful in guiding people to consider something so far outside the box. I think it started with tangible issues and then encouraged you to then go on into something less tangible.

So I'm just going to skip ahead to the next slide. So perhaps when you say moving to the intangible, would you say that's more from the focus questions, which are the ones I'm displaying now? These were the ones where we used a couple of cards to fill in blanks.

Yes. And I think that was also a really interesting methodology to encourage creativity, by defining the space and the space that absorbs the information and then also the space that applies the information separately. And then, you know, trying to figure out what to do with that.

That's really great to hear. What I'm going to do is just move on to the cards, because it seems that the cards resonated with you quite a lot. Just to remind you, because obviously I'm not expecting you to remember all of these, the first two rows of cards were related to the first question, which was to do with applying data to do a certain activity. The third row was the second question, where it was kind of like a metaphor, an idea, about how devices can be designed so that we'll take care of them in a certain way. And then the final

39 **one which was a bit more provocative are these notions of what if devices**
40 **existed that had these traits, and how we could interact with them or design for**
41 **them, if they had these traits. So I'm just bringing back the memories on that.**

42 **Were there any combinations of cards that stood out to you or any particular**
43 **specific cards on their own that were quite evocative? Just really to get your**
44 **feedback on what you thought of these.**

45 When I first looked at them during the workshop, I was looking towards things that were
46 more my area of experience. So I looked towards more fibre art type things, like texture
47 and colour and function. But I think the fact that looking at those separately, you know,
48 individually in sets, in individual sets, by doing that you didn't necessarily have a
49 preconceived notion in mind already. You were just looking at those and going, that
50 would be a kind of interesting aspect to explore.

51 **Would you say when I first presented the task did it make sense in the context**
52 **of the workshop? Or was it made more apparent when it moved on to the final**
53 **stage and showed the data hungry home?**

54 Yeah, it became more apparent to me in the final stages, where we were figuring out
55 how to use all these things together. I mean, I could anticipate that that was going to
56 happen but not exactly what would be the idea. You don't look at disparate things and
57 not in the end figure out, oh, we're going to have to figure out how to use these together
58 (laughs).

59 **Yes, it all has a purpose.**

60 Yeah.

61 **I'm just kind of curious because I'm just double checking what you put on your**
62 **Google form, I was curious about what you put down as your background**
63 **knowledge in thing-centred design, was it something that you'd come across**
64 **before?**

65 No, it actually wasn't. I didn't know what thing-centred design was. My background is
66 primarily in interior and apparel design. Particularly with emphasis in the graphics and
67 also textiles. I teach design fundamentals all the time which is the primary, and I was
68 really interested in what is this fun exploration, what could this be? I actually feel like
69 that was my biggest takeaway, that this is a really interesting to get myself to be able to
70 think of unique, original ideas for my own artistic work. And then also to use that same
71 sort of approach, not identical to what you did, but the same sort of just like

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inconceivable – not inconceivable but not yet conceived ideas to get students also to think outside the box. Because that's a really major issue that we have. I teach at a state university that is a high number of first generation students.

So the average income for our families is about seventy thousand a year. Whereas the state institution that is the land-grant institution, [REDACTED], their average income of student is about a hundred and twenty-five thousand a year – of a student family. So we get a very middle class student and so many of them are first generation students, where no one in their family has gone to college. So it's really challenging sometimes to teach them to think outside the box.

Okay, that's really interesting. You've picked up on something I was going to talk about a bit later and we will definitely get a bit more to the takeaways of this, because I am really interested how people – especially people that have had no background in thing-centred design take this on board. I think as I said at the very beginning, this isn't all of thing-centred design. It's a really messy topic because it's quite emergent, so people are talking about it from really different perspectives. Some people are – there's even stuff called object theatre, where you bring in an object and there's this stuff where they put cameras on objects and imagine their perspectives, and all this kind of stuff. But we'll get back to that.

So just to start a bit more on the final task, as you mentioned, I presented to you this data hungry home approach and it's very evocative of this idea that we have technological beings and they require data to be sustained or whatever metaphor or idea you want to put behind that. After I presented that we did a framework building exercise I suppose is what you could call it, where we filled in a table of sorts with another set of design cards as a group and then we went away and designed two objects separately. I did take a read of your Word document describing those two devices. First and foremost, I would like to get your feedback on how you found the design cards/framework building bit, and then going on to how you felt about actually designing these two devices?

All right. So the framework building bit I think was valuable as a team exercise, and because as a team for this particular exercise, maybe things were chosen that wouldn't have been your first choice. So again, it encourages one to think outside the box and not to just take the most – the easiest approach for you.

What's comfortable with you?

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106 Right, what's comfortable. So I think that was helpful for that. Then what was the
107 second part of that?

108 **Just so once that framework was built you went away and you designed two**
109 **objects or two technological things. How did you find doing that perhaps on**
110 **your own or just as a general reflection on the task?**

111 Actually I found it pretty interesting. I think I reviewed back what I wrote in my Word
112 document and I could see a lot of further development for that idea and I think it would
113 be really interesting to actually have someone follow through. It wouldn't be me
114 because I don't have time (laughs).

115 **I can understand that.**

116 But the whole concept of having something else create what you might call music out of
117 nature sounds and then redevelop it from whatever input it has, I think that that would
118 be really interesting. And then also as I was thinking through it, I added in, so what's
119 aesthetically pleasing to one culture or one sub culture is not to every culture. Great
120 example is rap music or hip hop, that is not my favourite kind of music to listen to. I
121 can remember with my parents, my music was not their music either. It's very
122 generational, it's also very cultural and it's worldwide.

123 So what is music and what is aesthetically pleasing became a bigger piece to that that is
124 barely mentioned, and how the device would determine what was acceptable or not.
125 Because if you had to listen to this sound for an hour or so and it was not a pleasing
126 sound you would want to shut it down (laughs).

127 **Do you think that the device, or the being I suppose, the one that you actually**
128 **are taking with you inside your mobile device I guess would be – so maybe it's**
129 **more of a soft being. That's a term that still sounds very strange to me, but**
130 **maybe it's more familiar to us, this idea of hard and soft existences I guess. So**
131 **you would imagine it's learning from how its user reacts to the music so it can**
132 **know how to better shape it or something like that?**

133 Yeah, something like that. Yeah. And there could be the inputs, user inputs. And then I
134 wonder just as another interesting thing, could the being then – could there be a third
135 being that sensed your reaction and put reactional feedback back to the music producer
136 being. And it would be spontaneous reaction versus intentional reaction.

137 **So almost kind of like a – I might mix up my terms here, but there's kind of like**
138 **a human in the loop and then a human out of the loop kind of version?**

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139 Yeah. Like human out of the loop in the collection and the development, human in the
140 loop listening but then human out of the loop where the human reacts, but something
141 else interrupts the reaction through stress signals or what have you. And it interprets
142 the reaction and adjusts the output.

143 **That's kind of a really interesting interaction. It would be so subtle in a way**
144 **that you wouldn't necessarily even be aware it's going on unless someone told**
145 **you. So it seems to me that you've really engaged with the matter of the**
146 **workshop. I'm quite curious to know, do you think that through doing this and**
147 **being presented to the data hungry home that you perhaps see physical digital**
148 **devices and data differently?**

149 I do. My previous interpretation of a device is as a tool. That's how I think of them, I
150 think of the software and the hardware as a tool to be used as a means to the end. And
151 probably that has to do so much with my teaching and teaching software and using
152 hardware. But that whole – I had never considered the idea of an object, a digital
153 object, being humanoid. I've looked at AI and that sort of idea but all of that was
154 programmable as opposed to being able to absorb information and process it differently
155 than as hard data. Like looking at soft data, like being able to get feedback on a motion
156 through – like I said, stress signals or something like that and being able to absorb it, I
157 had never thought of, I really never considered that before.

158 **And it's interesting that you use the term – there's two parts that I want to**
159 **unpack there. The first one being the use of the term humanoid. Do you see**
160 **this as an exclusively humanoid thing or can you compare it to other entities**
161 **that we normally interact with?**

162 Other entities, yeah.

163 **One of the interesting – as someone who yourself has looked into AI, I find it**
164 **fascinating that we're so obsessed with human levels of intelligence. Whereas**
165 **I almost sometimes swim around in the, okay, what's a technological bacteria**
166 **or a technological plant level of interaction and intelligence.**

167 And I actually have a friend who teaches in fermentation, so looking at the bacterial
168 activity and the level of interactivity and what goes on and the replication and the – it's
169 just a myriad of different things going on in this whole world that no one can see with
170 the naked eye type thing. You get that. And then there was – I saw a video, like a
171 documentary, not long ago of someone who was researching the weather and ended up

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172 connecting hurricane seasons with bird migration. So hurricane not as outcome but as
173 prediction.

174 So being able to predict hurricane activity in the western hemisphere based on bird
175 migrations that happened in either June or July. They found that these birds would
176 migrate earlier in the season to Central America, and they looked at this connection,
177 they were looking at what is this interaction between these birds migrating earlier or
178 later. And what they found was there was a connection between the bird migration and
179 the severity of the upcoming hurricane season. They looked through past data. So
180 there is the opportunity to think, okay, there is a whole lot more going on out there in
181 the world than what humans are capable of comprehending or sending out themselves.

182 **There's a lot in that. Funnily enough, I recently watched a documentary, part**
183 **of it was about these flamingos, there's this particular salt flat somewhere in**
184 **Africa, I can't remember where it is now, and every time it rains they turn up**
185 **perfectly on time, just after it's finished raining, so they can lay their eggs**
186 **there. And it's just, how do they know? They just seem to know.**

187 Exactly. And it's the same thing, how did they— So once they suspected this they
188 actually did some testing and followed these birds and they never did figure out, there
189 never was an explanation for how the birds knew, but they knew to get the heck out of
190 the area sooner.

191 **I wonder, thinking about it, and it's something that I'm equally interested from**
192 **this kind of being perspective that maybe we can talk about, is this idea that**
193 **perhaps it's just an emergent thing. So the birds are all collectively applying a**
194 **simple set of rules and it just so happens that by applying those rules they**
195 **instinctively pick up on something that means that they'll migrate sooner. I**
196 **don't know if you have any thoughts on that? Or if you have any thoughts that**
197 **if you kind of change those parameters from birds to beings and from hurricane**
198 **prediction weather to just general human production data, what you think**
199 **could come out of interacting with a being like a piece of technology?**

200 I think we could all learn from and experience new and interesting things by that
201 interaction, by working with that interaction and developing it. You can even look at –
202 for instance, we have all kinds of radio waves that we can't see and we can't feel but
203 they're real and we can document them. But they're going on all around us all the time.
204 Are we absorbing that and processing it or not? Subconsciously. And then even below
205 the conscious level, below subconscious, if there's such a term for that.

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206 And then you can look at the paranormal. I mean, I don't think that can be totally
207 discounted, that that's a thing. (Laughs)

208 **How would we ever know really? (Laughs)**

209 People who believe that that's a thing believe that. And I actually have had experience
210 with – I've had students who have had computers go haywire on them continuously.
211 Interestingly throughout the semester they would have issues with their computer and
212 you would move them to a different computer and they would still have issues, and they
213 weren't user input issues. I would ask them just out of being weird, do you see ghosts?
214 And every single student that had those issues said yes.

215 **That's quite interesting. Because even if you could – not saying you can, but**
216 **even if you could explain it scientifically, maybe they just admit – for example,**
217 **my hair type and those combinations means I generate quite a lot of static**
218 **electricity. So I tend to zap people. You could kind of extrapolate that into**
219 **maybe I'm just zapping computers too, you don't really know whether or not**
220 **some strange property—**

221 There's something going on in the electromagnetic wave patterns or something that's
222 zapping these computers over and over and causing them to go haywire. (Laughs)

223 **Just to jump back to another topic that you mentioned that's also of interest to**
224 **me. You mentioned the idea of functionality, which I'm going to twist a little**
225 **bit and say purpose – even though I don't want to be too leading on it even**
226 **though you've already brought it up. Do you think that there's a certain**
227 **element of problem solving or something that tends to curtail us from exploring**
228 **these kinds of ideas?**

229 Hmm. Interesting. Maybe. I think that's a good maybe question. So I actually did my
230 dissertation research on problem solving with messy problems. And so the thing about
231 messy problems is that there are no pat answers, there's not one answer. There's a
232 myriad of answers. And so if you go at problem solving in a mathematical way where
233 you have one real answer then yes, but if you go at the exploration where there's not
234 one definitive answer and a lot of different things could be the answer, then actually no,
235 I don't think that problem solving is limiting, I think that actually problem solving could
236 be used as the exploration for that, to encourage exploration.

237 **That's quite an interesting take on it. I've been finding talking with people**
238 **about this that some people will ask me, okay, what's the point of what you're**

239 **doing, what's the point of seeing them as beings and having them live**
240 **independent existences. I don't think I really tie it down to a problem solving**
241 **perspective, I'm not trying to solve any problems. But I'm quite – going back**
242 **to that AI discussion but also design discussion about emerging interactions, so**
243 **emerging solutions that we may not even known could have been put into**
244 **them, but through the way we interact with them they kind of emerge.**

245 Yeah.

246 **I like the maybe answer, that's not what I've really encountered before. It's**
247 **quite succinct and it's kind of like, yeah, you know, depends how you really feel**
248 **about it. But you're right, it shouldn't be a problem of, oh, if it's not obvious,**
249 **because that's what I feel you're trying to say with messiness, it's not an**
250 **obvious problem and there's not an obvious solution.**

251 Right.

252 **I've only got a little bit more from my sheet of things I'm trying to find out.**
253 **What I'm really now curious about from your perspective, because again, you**
254 **seem to have engaged with this really well, is what do you think you'll take**
255 **away from this workshop and apply? So maybe it's the methods in the**
256 **workshop itself, maybe it's more of the broader concepts of the data hungry**
257 **home, it can be in your teaching or in your research practice or your design**
258 **practice that you kind of use from this workshop?**

259 I think realistically the biggest – the biggest, realistic, easy to process takeaway without
260 specifically applying something to a project or a course or even my own work is just that
261 opening of my own mind in this direction. By expanding my mind and opening up these
262 possibilities and these ideas, already it can develop more original ideas and more things
263 that are – like I said before, outside the box, more uniqueness. I find because I teach
264 apparel design function is such a significant part of what we do. You can't create
265 clothing if you can't get it on, sorry, you have to have an entry and an exit to that
266 garment (laughs).

267 So I'm always trying to focus things in both directions. I'm trying to encourage
268 creativity but it's very difficult because you also have to focus on the practicality of this
269 is a garment, if you want to sell it it has to look good on the body, it has to enhance the
270 look of the body, it has to be functional, it has to be comfortable to wear, it has to be
271 able to be laundered. You have to be able to get in and out of it by yourself without help

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272 (laughs). So there's so much physical functionality required that it's difficult to turn the
273 student's thinking around towards creative ideas.

274 And I try to do that more so in my illustration class, I teach fashion illustration also,
275 where they don't have to construct the garment. So draw something, draw something
276 really outside of your normal typical work, push yourself and be creative. I have a
277 particular project where I have them look at historic designers from the 20th Century and
278 have them – throughout the 20th Century they look at four different designers in
279 different eras and have them then do a mashup, make their own line, it's a mashup of all
280 of those parts and pieces together and what was going on in those. And to make it
281 relative to today. They hate the exercise at first because it's such a struggle but then at
282 the end they always love the stuff that they've created.

283 So then once they've created this really cool and interesting stuff, then we look at the
284 functionality of how do you get in and out of it and how do you adjust it so that it can fit.
285 But by experiencing this workshop, actually it really encourages me to keep on just
286 being that weird teacher that tries to get students to think differently (laughs).

287 **Yeah. I completely agree with what you're saying there. I think I've tried to**
288 **describe it to my supervisors a couple of times as to why I take this approach.**
289 **Because I use something – it's described as critical design, although if you have**
290 **ever encountered it you'll know that critical and speculative design is a very**
291 **debated mess of approaches. But it's almost say somewhere between a**
292 **journey and an orbit. So I fly out to the moon and then just kind of come back**
293 **again and it's the coming back that's the important part. But you have to be**
294 **able to take that journey out there and see what you find.**

295 Right, have that experience, and then grow from that and see how can you stretch your
296 mind beyond that experience.

297 **Yeah. I'm really glad it's been of use to you. I'm always happy to produce**
298 **something that people can use, even if it's in the subconscious or something**
299 **like that. I basically have one final question, now this may sound a little**
300 **strange and I've been asking all the participants this just to see how they react**
301 **but also because it's kind of interesting to get the perspectives. The question**
302 **is, how would you summarise my research in a couple of sentences or maybe a**
303 **couple of words?**

304 Oh, that's difficult. I'd have to think on this a minute. I was actually telling my
305 colleague about this workshop that I did and her reaction was that sounds like you.

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(Laughs) That sounds like you, I can see where you would be interested in that. Clearly going, what? No way! But respectful, she wasn't just giving me lip service, you know.

I always have trouble breaking things down to just a few words. Let's see... I don't know, ethereal seems to pop into my mind as a descriptor for sort of all of this collection and dispersment of data, kind of in the air, in the – I don't know, somehow that's one thing that I think is a word that works. Exploration. Yeah. And then just really a stretch. I mean, stretching beyond the norms to imagine what could be.

I like that. I keep making this joke but I'm kind of trying to get people to build my abstract for my thesis for me. I'm just going to combine all of those ideas into one abstract, constructed abstract of my thesis (laughs).

So what I would like to do now is offer you the opportunity to ask me any questions if you had them, or anything else you'd like to talk about?

First off, I would be interested in reading your thesis. I would love to read it. Even in the processing stage, I wouldn't mind being a proof-reader. I don't know, do you have ideas of where you'd like to take this once you get that thesis written, once you move on? How would you like to move that forward, how would you like to move your research forward or move the publication forward, you know, where to with this?

I have quite a lot of ideas, but I'll try and kind of go with the big ones. At the moment – I'm actually going to start my writeup in January because I'm a January starter and I'll be submitting in December 2021, if everything goes well. Although I haven't done my third study yet because of coronavirus, so we'll see. But more or less got this divide forming at the moment which is kind of like, is this about producing an approach that people can use to see things differently? Or is it fundamentally questioning what devices are and when do they become beings? Because you and I are basically just an assemblage of organic chemistry, which is no difference to inorganic chemistry, but something's different, and when does that happen to machines and stuff like that. So there's kind of like this dichotomy of opinion in my own brain about what I'm doing.

But I think what I would really want to do is a postdoc, I'm trying to apply for fellowships. I don't know if you've heard of it, there's a Canadian institution called Simon Fraser. They're kind of relevant to what I'm doing, but I'm also trying to maybe apply for a Bright Star for MIT or something like that, is it called the Bright Star, the US, UK one? Anyway it doesn't really matter.

340 The Fulbright?

341 **That's the one. I really want to continue down this avenue and I think the big**
342 **question I have to ask is, am I trying to find a way to apply this in the real**
343 **world or am I just going to go more and more ethereal as you said and just get**
344 **up into the higher theory plane and just kind of say, okay, this is all about**
345 **theory. So another small aspect of this is do I investigate not AI so much but a**
346 **way in which experiences can shape the way devices act in their own right,**
347 **kind of playing on the being metaphor slightly further. That's the kind of –**
348 **that's three, not two, but that's the three areas I'm currently swimming around**
349 **in. I don't know if that really answers your question, but I do want to continue**
350 **it, it's not just something I'm going to drop and then move on, if I can avoid it.**
351 **But getting fellowships is difficult.**

352 I do think that the piece of developing this as a creative exploration exercise would be
353 very valuable, and it would also – or even as basically a series of exercises, I think would
354 be valuable in getting grants, as far as having a tangible outcome. Because it's so
355 theoretical what you're doing, it's very theoretical and there's a lot going on with design
356 theory today which is part of the reason I wanted to do this, I want to get updated, what
357 is going on in design today?

358 **Yeah, it's crazy.**

359 It's been a while since I worked on my doctoral work. Yeah, so I mean, that's just an
360 opinion idea, sometimes even though you're doing something theoretical if you have a
361 tangible outcome that people can see as proof that something happened in the grant
362 besides just experiential, that's often helpful.

363 **Yeah. I think I would like to generate kind of a toolkit and then have that as**
364 **part of my thesis output. I don't know, it's really hard to tell where this is**
365 **going to go, because in the bygone era when I could do these things, I wanted**
366 **to develop five – build five of these devices, five of the pairs anyway, and just**
367 **put them in people's homes for a couple of months. And just see what they did**
368 **and then just report back on that and go, they did this, or, they hated it, or,**
369 **they loved it. But we're pushing that all the way back to April next year which**
370 **is really fine and we're going to have to cut it down to a week. So I'm kind of**
371 **wavering on how much that's actually going to contribute. But yeah, I've got to**
372 **make something that people can use I guess. It's a tough one.**

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373 Well, you know, if what people can use instead of it being an object it's basically lesson
374 plans for getting others to stretch their thinking, I think I'd be useful. Because people
375 who are in the creative thinking industry are always looking for something new and
376 interesting and I think on top of the fact that that could be marketable. And we all love
377 marketable (laughs).

378 **You'll make my industry sponsors very happy, they'll be like, oh marketable,**
379 **that we can get behind.**

380 Right, that's what they'll get behind (laughs).

381 **Yeah. That's definitely going to be something to think about. If there's**
382 **anything else you want to talk about I'm more than happy to do so now or in**
383 **the future. But other than that, I basically consider the interview part to be**
384 **over if that's all right with you?**

385 That's fine.

386 **I'll just stop the recording.**

387

P21 Transcript

KEY

Bold: Interviewer

Regular: Respondent

[]: Uncertain word(s)

W: High confidence

() : Medium confidence

{ } : Low confidence

-- : Other information

So what I'm going to do now is I'm just going to share with you – it's not a proper presentation, it's just a couple of slides to remind you, as I'm sure – as you've said you've been very busy so perhaps you don't really remember what happened in the workshop, but this is just – we're just going to talk about the tasks that we did in the workshop and just get your impressions and feedback on them.

So the first task was a framing activity where I asked you to respond to three kind of open-ended questions concerning some of the topics that we were going to get into during the workshop. So I'm obviously not going to ask you to do that again now, but I was just kind of wondering how did you feel about answering these questions and about the kind of task in general?

Well, these questions were also in my natural interest so I love – it was okay for me because I am also thinking about the purpose of them so I think okay. Do you mean my feelings while I'm answering them or—?

Oh, sorry, yeah. It's only kind of like did you find it was difficult to answer? It doesn't sound like you did because you say it's quite similar to what you were asking or already thinking about, so would you say they were difficult questions to answer?

No, for me they were not really difficult.

Okay, that's absolutely fine, so just going to kind of hop along and I'm kind of curious now that we're getting into it, what was it really that interested you in the workshop and about like thing-centred design?

In workshop, I think in the last part there were many interesting things that you asked us to choose some of the data and combine them and I think that part was quite interesting because it was open to the different entities, so it was in our choice to combine them. So I think it's something that refers to different stories. And what was the other question?

Oh, it was kind of what interested you in thing-centred design?

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Ah, thing-centred design, yeah, I was working on actor-network theory in my PhD thesis and I was always asking that, yes, technology brings things more active than humans. I mean humans started to just press the button and everything happens out of the control of the human, I mean just buttons human can control but all other things are already organised and somehow in contact. So the thing-centred design could be interesting since they do not seem like us. I mean the perception is so different, but I also wonder if the things could feel something. I mean at the moment we use the data in a very reduced form just to give the tests to do things. However, they can develop a kind of intelligence amongst (the relations) so I think this part is so interesting for me, the feelings of the things, the organisation of the things beside the human control.

Okay, okay, great. That's quite interesting that you talk about the feelings of things and the sensation of things, that's quite an interesting avenue of thought really. Okay, so I'm just going to just turn our attention back to the slides, so in the second task what I asked you all to do was, again, respond to another set of three questions, except this time there were an array of blanks and these blanks were filled with cards. So just to kind of start with the questions, how did you feel that the questions were? Were they kind of a surprise or were they really difficult or anything that kind of you feel about them and then we'll get onto the cards?

I think that the questions were so open and so that, I mean it {didn't irk me} _this could also be hurt/urge_ , it didn't make me feeling – I did not feel uncomfortable _this was "uncomfort" in the original_ so, yeah it was – actually I found it so positive, so open. I (mean you didn't) push us to do something very aesthetic or you didn't define the questions so (specifically) _original transcript was "specific"_ rather you preferred to (ask us) – think about the things so I was quite comfortable with the questions.

Okay, that's good. So then moving on to the cards, so just to remind you, the top two rows of cards or two lines of cards are to do with the first question so that's about using data to do different activities. The third row is the second question which is to do with care, kind of metaphors or ideas of caring for a device instead of, you know, caring for a person or something like that. And then the final row were the much more provocative sort of how do we think about – how would we think about interacting with devices if they had, you know, fears or needs or faith or things like that. So, first of all, I was going to ask you were there any particular cards that surprised you or any particular combinations of cards that you really liked and just generally thinking about the cards overall?

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74 I think cards are quite _unclear speech here, sounds like "brilliard" which might be
75 "brilliant"_. I mean I wasn't surprised about the cards because they are somehow –
76 yeah, they all look at the design issue, I mean as a designer there are some core things
77 that {... to think} about like texture, photographs, colours and like {relations} _sounds
78 like "relustions" in the audio_ and at time and I mean they were so quite open and,
79 yeah, good design, I mean. But I mean I was not expecting so different cards because
80 also they should be – they should identify the concept so, yeah, they are clear.

81 **Okay. Alright, okay, that's nice and straightforward. So kind of just moving on**
82 **to the final task then, if you recall, what we did is that we filled in a framework**
83 **that was based on the data-hungry home approach that I presented to you and**
84 **to fill in this framework we used another set of cards. And then what we did**
85 **was we went on to design two objects, one being called a harvesting device**
86 **and the other one being called a technological being. And then when that was**
87 **done we presented everything back to the group. So, again, similar, how did**
88 **you feel about doing the framework and how did you feel about the design**
89 **cards and then kind of the bit about how do you... you can answer and then**
90 **we'll go on to maybe about how did you feel about designing these two objects.**
91 **So if you want to just start with kind of like the cards and the framework, we'll**
92 **go from there.**

93 Yeah, I think there could be some empty cards or empty concepts that we develop more.
94 I mean {then you give chance for} someone's already identified {things}, they just
95 combine them. And I think, yeah, they were okay for me. I mean I tried to build
96 different relations and different attitudes, like _unclear word_ or (different perceptions)
97 like smell and other things, like I think I used a river and swimming, something like that
98 I remember. So, yeah, there are also perceptions or feelings or things or the places, but
99 I would prefer to be more, how to say, more provocative maybe.

100 **Okay.**

101 Yeah, maybe a lot of the things, like because the things that you asked or you proposed
102 us something we can measure. And so we can read these things in real life but to be
103 more productive, maybe there could be more concepts that are not identifiable.

104 **Okay, so like concepts that are almost completely alien and almost un-**
105 **understandable.**

106 Yeah, yeah. You know the course that – I don't know if you try to transfer Bitcoin?

107 **Mmm, I've never, no, I've never tried Bitcoin.**

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108 Okay, when you transfer Bitcoin there is a huge amount of data that are in process in
109 the (bit cloud) but for your balance you design a password and passwords are really {a
110 lot of things}, like (ten different things) they put in the password and they have no
111 relations between them. So, yeah, this type of gateway, they're more productive and a
112 lot of things just to try what happens if I combine different things from different words,
113 yeah.

114 **Okay.**

115 This was just an idea.

116 **Okay, that's some really good feedback. So just kind of moving on with that**
117 **line of thought into what you design, do you kind of – I feel like you've already**
118 **mentioned it a little bit, but do you remember what you designed?**

119 Partly, yes. Shall I bring it?

120 **If it's easy, yes. But I mean all I'm going to ask is – yeah, okay, go. So all I**
121 **was really going to ask you to do is perhaps just describe it to me again, just**
122 **with maybe a little bit of thought as to why you picked what you picked and**
123 **kind of some of the interactions that go on between them and just, yeah, just**
124 **general thoughts on it.**

125 I remember the harvesting device was flying and collecting the vibration and the sound.
126 And it was above the sky and above the houses and the city. And, yeah, it was
127 {transmitting} the vibration and the (the sound data to the) technological beings. And
128 the technological beings was like a spring and it was flowing in the river and I'm sure it
129 was changing and receiving data from the harvesting device. And I remember that it
130 was reflecting the (sound), I don't remember how it was reacting. The plan, ah, I
131 remember it now. It was giving a plan to the environment while it was moving in the
132 rivers. And somehow it was connected with other entities in nature.

133 **Okay. So yours – when I was listening back to you describing it, you had this**
134 **really strong, I think you even described as such like a post-human perspective**
135 **on it, so – because I remember you saying that it's almost – there are no**
136 **humans in the interaction; it's just the two objects are existing independently.**
137 **Even the harvesting device doesn't require any human interaction. So could**
138 **you perhaps talk a bit more about what made you choose that form of**
139 **interaction? [15:30]**

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140 Yeah, because I think I (used this conceptual framework) because I really want to
141 exercise on what happens if human is – human leaves the nature because humans
142 (dominated the) nature and also from the side of perceptions, we dominated everything
143 here with the, you know, {eye-centred work}. So designers also {talk _about_ eye-
144 centred thing} but I wonder what happens if there is no human interactions in nature
145 because, for example, bees and other insects have connections amongst them that we
146 cannot really understand. So there are interactions in nature that we cannot
147 understand. So this dominance is problematic so we cannot understand everything in
148 nature but still we try to decide everything in nature.

149 So post-human thinking is important to be open to the things that we cannot really
150 capture, that we cannot really reduce to the data. So, yes, also these {eye-centred
151 thing} is problematic, so maybe they use something different, like the smells, the
152 vibrations, the sound, so they use a kind of {silent systems}, I mean the non-human
153 entities in nature use various different sights and vibrations. So, yeah, I love to make
154 exercise on these things.

155 **Yeah, yeah, yours was really interesting because often we kind of talk about**
156 **the kind of purpose of the things we design for humans, but yours is so far**
157 **removed that it's hard to imagine, which is a good thing, it's hard to imagine**
158 **what a human would actually see it as, apart from perhaps in a way that's**
159 **similar to interacting with animals in nature, so these almost natural machines,**
160 **I guess. So, yeah, again, I'm only really speaking back to what you already**
161 **said about the kind of the post-human perspective on these things and how we**
162 **go beyond it just being human-centric.**

163 **So it seems to me that you kind of came to this workshop with quite a broad**
164 **understanding of that and I'm curious, you know, with your perspective coming**
165 **into this whether or not kind of through doing the workshop and through this**
166 **design activity whether the workshop or the data-hungry home approach has**
167 **changed your thinking on things, if at all. And I should probably clarify that it**
168 **doesn't have – no is a perfectly valid answer. If you're going to say, "Yeah, I**
169 **came to the workshop and I don't think any differently," that's absolutely fine;**
170 **I just really would like to know.**

171 Well, I was reading about post-human things and the theories and the things-centred
172 design {so new issue}. I mean the reflection of this theory on design is very new, so I
173 think you developed, you developed a good exercise and your research design was good,
174 I think, because you tried to materialise the process and so the cards are so – the cards

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175 were {making us think ideas} about this concept because they are also so abstract and
176 so {new issue}. I think you were successful (on this to, I mean to) reflect this theory to
177 do design research.

178 **Okay. That's good to know. So kind of following on from that, would you say**
179 **that there's anything that you're going to perhaps take away from this**
180 **workshop? Maybe you'll use it in the future so maybe it's one of the methods in**
181 **the workshop. Maybe it's the perspective, like a technological being. Is there**
182 **anything that you think you'll use in your future practice?**

183 My research, you mean?

184 **Yeah, so I'm just trying to understand the impact, I suppose, of the workshop**
185 **on people. So would you say that if you're going to – maybe you start a new**
186 **project, maybe you'll think of technological beings, it doesn't have to be –**
187 **again, it doesn't have to be a yes, I'm just very curious.**

188 Yes, I can use but I think it's a bit generic, I mean more general, I mean. This approach
189 was so general. I mean you were collecting the ideas how people develop approach to
190 the questions and you collected them but I think I can wonder more details if I make this
191 research, like I can develop more detailed questions, like what (if "blah blah" happens)
192 and to do these technological beings or what if the home that we designed breaks down,
193 I mean different conditions could be created in detail. Maybe a scenario that will all sync
194 with the (participants). I don't know. Maybe, yes, yeah, I can want more details for
195 things.

196 **Okay, okay. So I'm also kind of curious because we've been talking a lot about**
197 **physical objects, and I'm wondering what your reflection on data might be**
198 **having taken part in this workshop. How do you now see data?**

199 Well, I (mostly wonder) quality pictures {while doing these sort} so I'm more like – I
200 prefer to do {conceptual} research. But that, yeah, I use a (phenomenology) in my
201 research but a lot of examples what I decided is, yes, if I can reduce this data, this was
202 information that I received, I can develop it better to understand the reflections of more
203 people. I mean I can reach more people if I generate the data. But data is so kind of
204 thing that is just you remove many features, I mean kind of core, you reduce some
205 quality to have a direct answer, I mean. So I think data should collect some
206 combinations. I mean I think some different data should work together to understand
207 transformation, for example.

208 **Okay.**

209 Like, yeah—

210 **So how do you see, in your design, how do you see data being used in between**
211 **those two objects?**

212 Well, for example, I talk with my cat but cats do not know my language. They just hear
213 my talk it is louder or slower or – so I mean we **somehow** communicate but in different
214 language. And they **{are processing it differently than me}**, I mean the limit that they
215 can hear different and the reactions are different, so what I felt is that keeping the – I
216 mean the standardisation is not really a good thing because data standardised
217 something but I wonder how the reflection changes and I mean even we do not speak
218 the same language with the entities and even we give different reflections, data could be
219 both useful and **{transformable}**. So **data** shouldn't be a single entity, like several
220 entities, **{data should transform}** according to the different things, I think.

221 **Okay, okay. Great. No, that's really, really thought-provoking feedback. Okay,**
222 **so I'm kind of – we've more or less finished the kind of themes and the topics I**
223 **wanted to get out of or look into from the interview. So I have one last**
224 **question that's a little odd and then it's – I'm going to offer you the opportunity**
225 **to ask me any questions. So my final question is how would you summarise my**
226 **research in a couple of sentences or a couple of words, it doesn't have to be**
227 **anything major, but just to kind of get your immediate thoughts.**

228 I think it tries to materialise the **(post-human things)**, so I think it can reach to the right
229 data that you can discuss further processes. I think I feel it could be more provocative...

230 **Okay.**

231 ...more, yeah, I think this.

232 **Okay, more provocative. We can never be too provocative. Okay.**

233 Yeah.

234 **No, that's really great. There is a lot of post-humanism. I'm still trying to wrap**
235 **my head around post-nomological stuff, you know, like how that fits in what**
236 **I'm doing because it's hard to – sometimes it's hard to imagine if there's no**
237 **humans and what's the phenomenological element of that and so on and so**
238 **forth. But anyway, I don't want to get too much into that.**

239 **Okay, so it's been really, really great talking to you so far and because we've**
240 **kind of finished it, I wanted to offer you to ask me any questions that you**

241 **might have about my research or what I'm planning to do with it or anything**
242 **really, if there's anything you want to know.**

243 Yes, well, I know that I mean you may not prefer to care, but I wonder how would you
244 use that data, I mean what are you going to find or do you – for example, do you have
245 this scenario or will you adjust non-human system or what are you going to reach for
246 this research?

247 **Hmmm, that's a good question. So I'm kind of stuck between two ideas. On**
248 **the one hand, I kind of – I'm wondering is this all just a metaphor? Is it just a**
249 **way of seeing data and devices that helps us design unexpected and kind of**
250 **almost purposeless objects, but because we interact with them over time, we**
251 **build new relations with them, we build new meaning into these objects**
252 **through time instead of it being obvious, like this pen. You know, this pen**
253 **serves a very obvious function. My device may not serve a very obvious**
254 **function. So maybe it's just a way of doing that. Maybe it's just a methodology**
255 **or an approach.**

256 **Or, on the other hand, is it more than that? Am I kind of fundamentally asking**
257 **what is a being? When does tech – because I have this thing that I always say**
258 **to people that, you know, you and I, we're just organic chemistry. We're just a**
259 **very particular arrangement of chemicals. But for some reason we're alive. So**
260 **at what point do you get a similar status with technology? At what point can**
261 **you put a bunch of it together and all of a sudden it's no longer a pen or a**
262 **smartphone, but it is an entity. So obviously that one's much more – like you**
263 **said, much more provocative but, in a way, not that hard to imagine because,**
264 **you know, we're kind of asking the same questions with AI, but AI is very soft.**
265 **It's very ethereal, whereas I'm kind of thinking – and also it tends to be at a**
266 **human intelligence level, so AI is all like how do we make it really smart?**
267 **Whereas I'm like, well, a bacteria is alive. A plant is alive, but they're not**
268 **humans, they're different. And so, yeah, I don't know if that fully answers your**
269 **question, but that kind of shows where I'm splitting.**

270 **So I think I'm trying – for most people I'm trying to make it a tool to help them**
271 **think about things differently, but on the other hand I'm really trying to think**
272 **way beyond it, in a way, in a more philosophical sense about what does it**
273 **mean.**

274 Okay, great. I think it's so interesting. Yeah, at the moment, I mean I last saw **_sounds**
275 **like a task or clash_** in-between **actor-network** theory and **phenomenology**. And in my

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276 thesis I tried to develop {auto-phenomenological lens} _this might also be onto not
277 auto_. So I mean it sounds (that). It cannot come together, the actor-network theory,
278 change the objects, it's always the subject. And phenomenology is so subject-centred,
279 but somehow they can work with each other. So, yeah, the meaning is always important
280 because, I mean, we make our comments through our perception. So, yeah, it's human-
281 centred work but, yeah, it's interesting what besides the humans.

282 So, for example, sometimes I wonder if a tree – what a tree thinks, I mean we think
283 about a tree but does a tree think about us? I think the trees don't care about humans.
284 I mean they just exist in the nature so, yeah, I think your research, I did wonder your
285 research, I wish you good luck and hope I will read your research. It's really interesting,
286 exciting.

287 **Thank you. You mentioned there, did you say auto-phenomenology or was it—?**

288 Auto-phenomenology, I mean it's something that I {proposed}.

289 **Yeah, so was that in your thesis, you said? You said that was part of your**
290 **thesis?**

291 Yeah, yeah.

292 **Yeah. I'm quite interested in learning a little bit more about that. Do you have**
293 **a link to a version of your thesis I could read or—?**

294 Not yet but I will publish paper - I mean I had recently finished the thesis and now I'm
295 working on the paper and the journal paper. Whenever I send it to the journal I can
296 share it with you.

297 **Yeah, yeah, that would be really great, kind of because I've been wrestling with**
298 **a similar kind of concept with phenomenology and like kind of where the actor**
299 **network theory meets phenomenology, so I really would like to get your**
300 **thoughts on that and to see – because I find that I think, as you said, the**
301 **problem with both of them really, but more specifically post-phenomenology, is**
302 **they're too human-centred. They're just always thinking about the human. But**
303 **especially in terms of mediation, humans aren't the only things that can be**
304 **mediated. So, yeah.**

305 Yeah. And did you read the papers of Lambros?

306 **Sorry, I'm not quite sure I can hear the name well, but could you possibly type**
307 **it in? No, that doesn't ring a bell but I will look them up because I keep**

308 **encountering, you know, obscure French philosophers talking about existence**
309 **and stuff like that that are really interesting.**

310 Which (philosophers) do you follow?

311 **Oh, is it Lambros? Is he MIT Press, is that—? Oh, yeah, yeah, sorry. *How***
312 ***Things Shape the Mind*, is that one of his – their books?**

313 Yeah, yeah.

314 **Right, right, okay. Alright, I'll definitely take a look at that. Yeah, okay.**
315 **Alright, that's – yeah, so definitely send me the journal once it's submitted and**
316 **I would love to have a read of it.**

317 Okay. At the moment - I mean, I met – I mean I saw this article so late in my thesis,
318 but I think it's so {,there is a field} between post-phenomenology and material
319 engagement theory, so some academics talk about how other things shape us instead of
320 the humans shaping the environment. So, yeah, I think it's an important issue, yeah,
321 for me.

322 **Yeah, and it's kind of got – yeah, it's that kind of materialism because I keep**
323 **kind of not wanting to learn too much about materialism even though – and**
324 **then kind of object agency and all of this kind of stuff is – it's really confusing.**
325 **That's why I keep saying I don't want to talk about agency in my thesis**
326 **because I can't spare the space just to talk about all the difference opinions on**
327 **agency.**

328 Okay. By the way, work about agency might be good.

329 **Okay, yeah. So I'm sure I'll be – I'll be referring to you, saying, you know, I**
330 **don't want to talk about agency. People have written entire theses about**
331 **agency. Leave me alone (laughs).**

332 (laughs) Okay, yeah, this is a – yeah, just follow your interests and keep your
333 excitement for your thesis and if you need any suggestions or I mean anything to
334 discuss, you can write me after this {participation}.

335 **Okay, yeah, that's really helpful. Yeah, that would be great. Okay.**

P22 Transcript

KEY

Bold: Interviewer

Regular: Respondent

[]: Uncertain word(s)

W: High confidence

() : Medium confidence

{ } : Low confidence

-- : Other information

What I'm going to do is I'm just going to quickly share my screen. It's not a big presentation, it's just a couple of slides to bring you back, as you say you've been very busy, so I'm sure you don't remember the workshop in great detail. I'm just kind of bringing you back to what we did in the workshop, the three main phases of it and just to kind of talk about each phase and get your feedback on them.

I'm not going to ask you to do them again, just to kind of tell me how you felt doing them, or answering the questions or doing the activities if that's okay?

Yeah.

So the first activity was, I called it framing and it basically involved these three questions that should be up on your screen now. So really quick with this one, just tell me a little bit about how you felt answering them and how you felt the activity was.

Yeah, I think answering them helped me to frame (laughs) my thoughts, and then also, like to understand which, from which angle I'm looking at this, the topic of physical digital devices, because also hearing others' answers made me really think, are we really talking about the same thing or not; so this was helping me to understand where I position myself, but also to see how others are positioned, because yeah, I think the term itself can be everything, physical digital devices can be also a smart one but can be something which, for instance, I see more for me, like dependable interfaces that have a special certain look, than a device that we use in a certain, like in daily life; so yeah.

Okay great, I mean that's pretty concise, so they weren't too daunting even though they're quite ambiguous questions.

Hmm.

All right, so we'll just quickly move onto the next bit. By the way, I'm curious, what originally was of interest in the workshop, what made you kind of sign up to it?

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Yeah because I'm, yeah, in the last years I'm quite reading a lot about this thing-centred design approach and also my students as well are trying to understand and practice this. As well, it's something new for them, something new for me and so on, and I think what I'm doing as a designer, researcher is very centred, thing-centred design, although I didn't call it like this. For instance I do, like I do start – I mean I do some workshops with children as well and so on, and in these workshops we, for instance, start listening, the object first and then writing a story around that and then so on.

So actually we are doing these kind of practices, I mean as a designer or _unclear_ painter, I'm doing these kind of purposes, so I wanted to see if it is matching with your matters and how you see it as well, yeah.

Was it what you were expecting, or was it completely strange?

No, no, it was quite interesting and similar to what I was thinking. But it was more, yeah, I'm trying to find the right word; you were trying to put it into, I mean I do it in a more intuitive way, let's say, I don't have a kind of, a special method to do that.

But what you were making us to experience was more like, okay, let's analytically understand what it is, where it can be and what it's doing, what's the relation, so it helps to put this kind of intuitive action of a designer, putting the thing as a living being to, you know, to design. What you were offering with this workshop was another type of method to do it in a more conscious way, yeah.

Okay right, so something structured, like you say, conscious, yeah okay. That's really great. I think when we're done talking about this I would love to talk a bit more about maybe your work on that further.

So just going back to the second task, I don't know if you recall at all, but I asked another set of three questions that had blanks in them and these were, kind of increasingly provocative questions about how we could use devices, how we could use data and the blanks were filled in with a number of question cards, which I'm now going to show you now.

So if you recall the first two lines of cards were related to the first question about using data in a physical digital device to do something. The third row in red was the one related to kind of metaphors of ways we could think about taking care of devices.

69 **Then the final was a much more provocative exploration of imagining these**
70 **devices or whatever, had these traits within them and how we would have to**
71 **interact with them and engage with them.**

72 **So just thinking back to that, how did you feel about kind of undertaking those**
73 **tasks and were there any particular cards, or combination of cards that really**
74 **stood out to you as really interesting or difficult or anything like that?**

75 Yeah, this part was really interesting, because the cards were helping us to, to also think
76 in a different way, which we might never maybe think without those cards and images.
77 The images were also helping, than maybe the word itself, the term itself.

78 What was surprising me the most, maybe yeah the faith, like if, what if a device has a
79 faith and so on, I think there I was like, ah okay, I never thought about that. I mean
80 about care, taking care, I already had some idea, like okay, technology's taking care of
81 us, we are taking care of technology and so on; this part was not so new for me.

82 Yeah maybe the most, yeah, the last line was really making me, ah okay, these are
83 interesting things which I never thought about. For instance, the example you gave in
84 the beginning, conspiracy theories, what if the device makes this – I don't know, what
85 was the last line, how would you call this?

86 **Sorry, the question or?**

87 Yeah the pink one.

88 **So the question was, so the question's a little bit ambiguous and I think I**
89 **should've defined it a bit better. But it was, how could we design for physical**
90 **digital devices if they had, so instead of designing it in them, but imagining if**
91 **they had and how we would interact with them.**

92 **So again, like you say, with the conspiracy one, my example was, what if we**
93 **had to take a device to a detox where we had to disconnect it from the internet,**
94 **how to convince it the conspiracies weren't real and so on and so forth. So**
95 **yeah, that was kind of a, very provocative question.**

96 Yeah this for me, like ah okay, um, then really think that the device itself could have
97 kind of (pause) yeah intelligence as well, of course they have all intelligence, but
98 intelligence can also create fear and theories and so on, so yeah. This was interesting.

99 **So when you came across this activity, would you say it kind of made sense at**
100 **that point, so kind of when you first encountered it, or did it kind of become**

101 **more clear as to why I was asking these questions when I went on to then**
102 **present the next bit and we did the final design activity?**

103 I think this stage was helping us to get a little bit – yeah, as you said, I think we needed
104 to be **provokated (provoked)**, because otherwise we cannot go to the other step, the
105 design part.

106 Here we were, I think, going a little bit beyond the limits of what we call these kind of
107 devices, or what these devices can be. So it already starts, it makes us question; then it
108 was easier for us to maybe think beyond, yeah.

109 **Yeah and your group actually did really well at that, you had some really**
110 **interesting outputs from this, so yeah, I'm glad it was helpful.**

111 **So just kind of, move onto the final task and then we're going to talk a bit more**
112 **about what you actually designed as well.**

113 **So at this point what I did was I introduced you to the data hungry home**
114 **approach, if that's what we're going to call it, I'm not really sure what to call it**
115 **yet; and we used a framework and another set of cards to fill in a, fill it in and**
116 **understand kind of what the devices were going to be, or what the beings were**
117 **going to be, just to give us a grounding or a starting point from that.**

118 **Then we went off and we designed a harvesting device and a technological**
119 **being, and finally we then presented them back to the group.**

120 **So again, just kind of asking you, how did you feel about doing that and how**
121 **did you feel kind of using the framework and the designing cards, and also**
122 **actually going off and designing these two objects was?**

123 Yeah I think I really liked the concept of data hungry devices, yeah; the name that you
124 already gave which was also quite ironic and yeah, already puts us in the spirit that we
125 are not in a, seriously designing something, but it's somehow different.

126 I also like that there are two objects, like normally in these kind of devices, the sensor
127 and activators, they are put together and then it's just one device. So the way that you
128 separated them was also, made me, like it was kind of a challenge for me, ah okay, what
129 if then they are separate and then they are connected; so this is an interesting aspect I
130 think.

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131 Then also when you were showing your devices you didn't really talk about them so
132 much it was quite abstract, therefore there was space for us to redesign them or put our
133 imagination on top of it, yeah.

134 **Okay, great that all sounds really good. Do you remember what you actually**
135 **designed?**

136 Yeah, yeah.

137 **Would you mind just kind of very briefly going over it again and perhaps**
138 **digging a bit more into some of your choices, or what made you choose what**
139 **you did and maybe a little bit more about how people can interact with it or feel**
140 **it as part of their daily lives?**

141 The solution, the design, the devices I later imagined, right?

142 **Yes.**

143 Yeah actually my idea was quite - this topic as I was also mentioning that, it was also
144 putting us to question rather than maybe to be used. I imagined that it would be, it
145 would reflect our behaviours that we are like every day doing and then we just think that
146 they are normal, so these devices were also kind of a way to see how weird we can be if
147 we want in the future. So yeah, therefore I would not see them as like daily life usage
148 but more like, yeah provocative artefacts.

149 **So quite speculatively, quite critical design-led objects.**

150 And maybe since I am also interested in this field maybe I was a bit performed to do
151 that, but I could have also done a very functional object, I don't know, yeah, I don't
152 know. Maybe I'm not so (laughs) positive about the future or humanity, therefore...

153 **Yeah it was quite interesting, you really, I think you possibly were the only**
154 **participant that actually went full dystopia.**

155 Okay.

156 **Actually like, which is interesting in and of its own right, but again like I think**
157 **it's because your background is a bit more towards that kind of Dunn and**
158 **Raby, speculative design kind of stuff, so it is an interesting environment to**
159 **play in.**

You mentioned the term 'function' there, do you feel that your, even though you talk about reflection, sorry the devices you designed, enabling a reflection, would you say that the devices are primarily functionless or useless?

Um, I mean they have a function in the story I imagined, so in the context that I imagined they had also quite an important function of making people feel better being in nature and seeing the main thing as this environment and so on. It had a function, somehow, but I was, yeah maybe I can explain to you how my brain was working in these line forces, so before, like thinking about the kitchen, we had the kitchen and garden, and so on, and these were like not forcing me but leading me to really thinking about something functional. Okay, kitchen maybe I need something, so I was thinking about needs and, you know, something more functional then, yeah, then my brain jumped into another dimension where maybe there is this weird situation, yeah.

Do you feel then, when we're designing stuff, we often get a bit stuck in functional problem-solving?

Yeah, but the first thing that came into my mind, okay maybe prepare something functional with a, you know, but functional in that sense I was always thinking about the human beings, you know, like it helps the human beings. Maybe it's also a kind of, seeing the technology as a servant or, you know, technology as a tool to solve a problem and so on, the first maybe.

The thing which the brain is coded to do, but afterwards if you jump over this then you can maybe see a bit, other dimensions.

Do you feel that framing, at least one of the devices as a being or an entity of some kind helped you make that leap or was that just because you have a natural predisposition to making those leaps from your background?

Hmm (pause) no I think, yeah, thinking, like having the metaphor also, having this two device connected they have some kind of, like they are entities. I think it helped me a bit to imagine the scenario, otherwise it would be difficult, yeah, I think it's really good.

So it sounds at least that the workshop was quite enjoyable for you, quite possibly useful for you.

Yeah.

So I'm curious, would you say that after doing the workshop that perhaps it's changed the way you think about design, or maybe different things, but then

192 **as, how you came into the workshop? Sorry, that didn't make very much sense,**
193 **so I can say that again.**

194 Sorry, can you repeat again?

195 **Yeah, sorry, I think I'm having some minor technical difficulties as well. So I**
196 **was just very curious about, if you feel that having done the workshop and**
197 **encountering the data hungry home, whether or not that has changed the way**
198 **you see things, or think about things?**

199 (Pause) yes, I would say of course it had an impact on how I'm thinking about devices or
200 technological artefacts in way. Yeah the first thing which I also expressed before is
201 separation of the sensor and activator but I was not really thinking about those. Like
202 really separation of intelligence as well because they can work together but still in
203 separate bodies, so it was – I haven't thought about that before as a designer.

204 The second thing is the way that you were using visuals and like random picks, actually
205 we were not randomly picking, but in a collective way we were picking things and then I
206 was also using, for instance, one thing which another participant was picking there. I
207 think its randomness of, randomness but also, randomness inside the structural thing
208 was helping a lot so I can come up with an idea.

209 So the provocation's quite important too. I learned that provocation's needed in these
210 kind of workshops to really go more than what you can do.

211 **That's interesting, especially the kind of, almost like the drawn structure where**
212 **you're allowed to do randomness. It's like, you know, in design they normally**
213 **say you have the blank canvas, but in a way maybe I just made a very small**
214 **blank canvas. It was like, okay you can go in this space.**

215 **But also, something that I think we haven't talked that much about but was**
216 **kind of inherent to the discussions that were being had at the workshop, was**
217 **data. Do you think that perhaps you see data in a different way through this**
218 **workshop, or is it more or less the same?**

219 (Pause) Maybe it was not the core point what I got from that workshop.

220 **Okay.**

221 But it helped, yeah I mean doing the workshop I was trying to think how data can be
222 used in a more meaningful way, because we use it like everywhere, and then there's no
223 real function or real sense of it. It helped me really question, what can we do really with

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224 this data. I think yeah, yeah I would say, yeah, yeah, I think this was the main, main
225 output of that from the data point of view.

226 **Okay, I'm quite curious then to perhaps provoke a little bit, so how would you**
227 **respond to, especially in the case of your two devices or one being one device,**
228 **depending on how you want to see them. If I were to say that the data is**
229 **destroyed in the process, so it's collected, transmitted and then the being kind**
230 **of eats it and then it's no longer accessible. You can't see a log, you can't see**
231 **anything like that, how would you respond to that?**

232 I think this could change our perception of time. We adapted to this kind of, really
233 storing every data, everything. You can just go and then see it later and later, so you
234 don't have this fear of losing anything, so everything's stored. So if we have these kind
235 of devices which the data is just there at the moment to live, or to experience then I
236 think it would have changed our behaviour towards those devices because maybe we
237 become more caring to them, because they are, there is a moment where this device is
238 telling me that, I cannot just push the button and then make it, okay, tell me again what
239 was the thing and so on.

240 So maybe it could really create an interesting relationship, maybe more than what we
241 are doing today.

242 **What would you say, what we're doing today, what is our relationship with**
243 **them right now?**

244 I think, yeah, although they are quite important, I mean I'm talking about this device
245 generally, and they are somehow a part of our daily life, we still don't care about them.
246 I mean we don't have a relationship where we see those are entities, no, living entities
247 or, and so on. They are still, we think that they are, we still have control over them, but
248 probably not.

249 **(Laughs) yeah probably not.**

250 So if they, if there is, yeah, if they have their own will to tell me when and how and so
251 on, I think I would have a different relationship with them, which we would be maybe in
252 the same level. I would not feel myself dominant or, not dominant, but how do you call
253 it when you feel yourself more important?

254 **Superior? Something like superior or, because it's almost like, you're almost**
255 **describing the kind of, predator/prey, master/slave kind of relationship...**

256 Yeah, yeah.

257 **...that we currently have with them. Then, like when you say, a level playing**
258 **field, it makes me think of kind of, they're, in nature these communal of**
259 **symbiotic relationships where, you know, there's no real person or a thing**
260 **that's dominant, it's just that they're coexisting in the same space more.**

261 Yeah.

262 **Okay, yeah that's a really interesting line of thought. It is also something, you**
263 **know, I've kind of been reflecting on in this, what is our relationship with them.**

264 **So the kind of, the final bit of this interview, what I'm quite curious about I**
265 **suppose is, do you feel that you're going to take forward or use again, or kind**
266 **of embody any of the knowledge or tools, or experiences that you've had from**
267 **the workshop in perhaps your design practice, or your research going**
268 **forwards?**

269 Yeah, I think there's a way of using visuals and words which are, like more like, game
270 like, a way that you have used in the first exercise. I think I could, even since I'm
271 working with kids and children, I think it would be an interesting way to maybe, I mean
272 not directly the same one, but that I could evolve more this randomness in it.

273 I mean we do it more like, body storming exercises, or object theatre for instance I do
274 with kids and so on, but maybe if, maybe this visual or more logic thinking could be also
275 applied, I can use this as an outcome, yeah.

276 **I was just going to say, I think I've, I really recently came across that and I'm**
277 **wondering, object theatre, the term, oh it was Jacob Burrow, that's right, I was**
278 **reading something by Maria Crida, Karyda? I'm terrible with names, I'm really**
279 **sorry, it's called *Imagining Data-Objects for Reflective Self-Tracking*, and they**
280 **talk about object theatre. I don't really know what it is though (laughs).**

281 Yeah it's more like using objects as if they are alive and then you start acting together
282 with the object in a more inclusive way and, for instance, we use it together with kids
283 and shadow theatre, so they were taking objects with them and there's a person like
284 behind the curtain and they were acting without talking and so on. So more, maybe
285 more experimental let's say, but that is nothing concrete, but will give some kind of,
286 yeah, glimpse of different ways of interacting with objects.

287 **It's really interesting that you work with children like that, because I can't**
288 **remember where I read it, but I was reading something about, kind of seeing**
289 **life, or seeing intelligence in robots and how children are far more ready and**
290 **willing to see a life, or a separate entity in a robot. Whereas adults are like, no**
291 **it's not alive, it's a tool, it's a machine and I don't recognise it as such. So I'm**
292 **quite curious, if you could get children to design technological beings that kind**
293 **of feed off data, instead of feeding off food. Their imaginations would probably**
294 **go really far with it, I can just see that, that should be really interesting, but**
295 **yeah.**

296 I mean if you did a workshop maybe with kids, you would definitely have a totally
297 different result.

298 **And in a way, it's funny because I was thinking about the framing and the**
299 **provocation section, you could almost bypass all of that and just say, hey these**
300 **things are alive and you need to feed them data, and you can collect in these**
301 **ways and then you can feed them in these ways, and they'll just, they don't**
302 **need to be told why that should be a thing. I don't have to justify that.**

303 Yeah.

304 **Okay. So that's more or less the kind of end of the formal part of the interview.**

305 **So the only final question I have to you, it's slightly odd, but I really want to**
306 **see, because I've been asking every participant this just to see how they react**
307 **and just to see what they say. But if you could try and summarise what you**
308 **think my research is in either a couple of words or a couple of sentences, I'd be**
309 **kind of interested to see your reaction to that.**

310 Your research, I think your research is, you're trying to, okay, you're trying to find
311 different ways of designing technologies that are collecting or working with data in a
312 more experimental way to understand also how hard the relation would be human
313 beings and with other beings as well, I don't know if you know what I said made sense.
314 Because normally if you ask me what's your research I would be in difficulty, so defining
315 research was quite difficult.

316 Okay, no, no, I make again my thoughts, I think your research is, first of all your
317 research is about, I think about the methodology that you're trying to create a
318 methodology, right. Methodology of designing different interact modalities, or ways of
319 seeing devices, and starting from, them to question rather than, like okay what we need
320 and then okay, and then make a device but really defining the device as if it's a human,

321 not human being, but it's a being, yeah. So you are changing, yeah, you are trying to
322 change the methodology, I think (laughs), design methods, yeah.

323 **Yeah, I think that's a fair summary. I think that there is definitely a**
324 **methodological element of this, but I'm also trying, instead of just writing it**
325 **I'm also trying to do it, you know, I'm trying to make the devices to kind of,**
326 **well not, prove is not the right word, but you know what I mean, just to kind of**
327 **show it in action and that's kind of what we were doing with this as well. I**
328 **wanted to see other people may be trying to apply it and see what they come**
329 **up with. The good thing is, is that it's been really different, everyone's had**
330 **such different outcomes, every time I run this workshop. But no, that's really**
331 **good.**

332 **I keep jokingly saying that I'm looking for someone to help me write my**
333 **abstract for my thesis, so I can just get, get lots of people to say what it is and**
334 **I'll be like okay, I'll just put a load of those together and there you go, there's**
335 **my abstract.**

336 **Okay, so that's pretty much the end of that. Now if I could just offer an**
337 **opportunity just to kind of ask me any questions that you might have, or any**
338 **other comments, yeah and then that will be the, pretty much the end of the**
339 **interview.**

340 Maybe one question, kind of a curiosity, because sometimes when we work in these kind
341 of fields, we are the ones also like constructing those devices, leading to a code, or you
342 need to collaborate with someone who is really helping you in coding and making more
343 objects. So how, for instance, you do, like are you the one also really entering to the
344 technological aspect and making everything work, or do you collaborate with another
345 technical mind or engineering person?

346 **I actually did it all, I did all the CAD, all the coding, all the design work, which**
347 **in a way was really fun for me, because I like doing it all, I really love coding**
348 **and trying to code like algorithms or functions that are more about imitating**
349 **life and death and kind of thinking about how that works in a 3D space was**
350 **really fascinating. But also it meant that I lost a huge amount of time working**
351 **it out.**

352 **So like in my PhD there's this big chunk of, like one to two years of me trying to**
353 **design these things, and I've put that down as like my first study in my PhD, as**

354 **a kind of, an excuse as to why I didn't have any data in my first couple of years**
 355 **of PhD, but no, yeah I did it all myself.**

356 Okay, and do you think, having this knowledge of how to, I would not say, yeah, maybe
 357 technology or how to work with technology, do you think it, does it have an effect on
 358 how you design the technology? Or also I would say would you like to be more informed
 359 about what the, like – because for instance, I feel like whenever I do, I also code by
 360 myself, but I'm not like, I don't have a background from computer science and so on, so
 361 I have a limited skill. So I feel sometimes, okay if I knew more I would maybe design
 362 better, or I would understand better all the possibilities and so on. So it makes me still
 363 like, I don't know if you have this kind of feeling and does it, for instance, for me, doing
 364 everything by myself is really giving me the possibility to understand everything behind.
 365 But on the other hand it's also a lot of time I'm spending on making, so I have less,
 366 maybe time to reflect, I have, yeah, I don't have less time to reflect, but I need to also
 367 create time to reflect and so on, so I don't know how you...

368 **Yeah, I mean I do sometimes wish that one of my jobs could've been done by**
 369 **someone else. Maybe not all of them, because I like, I especially enjoyed the**
 370 **coding element of it. Like the 3D design stuff was good, but I'm perhaps not**
 371 **the best at that, so I think someone else could've done that.**

372 **Yeah I kind of, I completely agree with you that, when you have to spend one**
 373 **day doing the coding and then one day like doing all the soldering to make all**
 374 **the circuitry work and then you kind of lose a lot of time that I do think**
 375 **would've been great to have someone do it with me, but then comes the really**
 376 **complicated part, so I see some, I don't know if I mentioned them to you**
 377 **before, there's people like, who come out of this lab called the Everyday Design**
 378 **Studio in Simon Fraser in Canada. They really work a lot together, so they have**
 379 **really high fidelity prototypes, because they've got other people that do it. But,**
 380 **and that's great when you're a research group, but I really would wonder how**
 381 **you separate things from what your PhD is and what your PhD isn't.**

382 **Because like, mine's quite clearly, everything is in my PhD, so it's easy for me**
 383 **to say, yeah this is all me and you don't have to worry about if someone else**
 384 **has done all the work, or something like that, so yeah, it's a really tough**
 385 **balance. So I would say, beyond my PhD I don't want to be doing all of these**
 386 **things anymore.**

387 Yeah, I see.

388 **Yeah, but I think going, what you said about the technology I think that, too**
389 **often people either ignore technology completely and they kind of just say, I**
390 **don't want to know, or I don't want to know how to code, which means that**
391 **either they end up doing things that are impossible, or doing things that are**
392 **dangerous sometimes like, because they don't really know how data can be**
393 **used, and how coding can be used.**

394 **But I also think that it's really worthwhile forcing people to try and make**
395 **something real; because we get too stuck in speculation, we get too stuck in**
396 **futures that we can never actually make real. But if you say, okay, you know,**
397 **you have this crazy idea, but I want you to make it so that you could put it in**
398 **someone's home tomorrow; make a version of that, that it can exist in**
399 **someone's home.**

400 **Because I made my devices, even though to most people they don't make any**
401 **sense, they don't have a purpose, but I could make them and actually, I wanted**
402 **to, even though coronavirus stopped it, give it to people and say, okay live with**
403 **this thing for months and then tell me what that's like, and then I'll be able to**
404 **work on that so, I don't know if that answers kind of the whole of your**
405 **question, but yeah, that's kind of...**

406 I think yeah, because also, I mean obviously the scenarios that we made, they are
407 possible, not impossible, they are possibly today to apply, so why not really putting the
408 scenarios into action and things, what happens now, right now, not wait like twenty
409 years, yeah.

410 **Yeah and I think that, especially when you're dealing with something like that,**
411 **that it's almost quite different to what we expect. You have to make it real**
412 **because otherwise people will just say, oh that doesn't work, it doesn't make**
413 **any sense. Whereas if you test it with people and then you can change their**
414 **minds, then all of a sudden maybe something real comes out of it, maybe we**
415 **will start living with beings, technological beings all around us now, I don't**
416 **know what that's going to be like, or whether it's even going to be real, but**
417 **yeah.**

418 By the way, just one idea popped up in my mind, because I'm working on a project
419 together with my two other colleagues, who are in the university. [REDACTED]

420 [REDACTED]

421 [REDACTED]

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422 [REDACTED] [REDACTED]

423 [REDACTED]

424 [REDACTED]

425 [REDACTED]

426 [REDACTED]

427 [REDACTED]

428 [REDACTED].

429 [REDACTED]?

430 [REDACTED]

431 [REDACTED]

432 [REDACTED]

433 [REDACTED]

434 [REDACTED]

435 **Oh okay.**

436 [REDACTED]?

437 **Oh yeah, I haven't read it, but I think my sister's read it, but yeah, that's a**
438 **classic isn't it?**

439 Yeah, yeah. Then now we are working on a project, like reading his description of
440 devices that he was describing like twenty years, thirty years ago and how they were
441 translated into films, so if you like, big directors and so on, and how they are influencing
442 now how we have the devices. Because those ones who were putting them into the
443 films they were somehow shaping it, but maybe the author of the book was not really
444 defining it as it was in the film. So making all these questions, we are now working on,
445 like we take again back to the finish (from the author) like we are trying to re-learn, to
446 re-learn what technology is and now the students are working on different devices to
447 redesign them or design them from the definition coming from the book.

448 Ah to say that, why I am saying this, because we will do a kind of seminar series where
449 we invite different people to talk about devices, like designing, and my part is, I am
450 organising the part where I invite people who are talking about like, how can we design
451 unexisting devices and somehow like that. So would you like to be a part of this series?

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452 I mean it will be kind of a seminar, where it would be in different – starting from January
453 next year, like every two months we will invite someone and then they will share with us
454 their research and their way of seeing how they design devices and so on, and then I am
455 also creating a kind of publication from all contributors. We would have an article and
456 then we will work on a, kind of a book for publication.

457 **Yeah that sounds really interesting. I would love to take part and I would also**
458 **love to see everyone else's stuff. I really like the sound of that project, kind of**
459 **taking the old definitions. It reminds me of, oh there's this, you must've read**
460 **Speculative Everything?**

461 Yeah.

462 **So there was two projects in that, that I'm always reminded of, they're kind of**
463 **alternative history ones. There's that one where, if David Attenborough was a**
464 **designer and they had the David Attenborough products, and then there's that**
465 **one which is a car that chases lightning to generate power, like those are**
466 **really inspiring kind of alternate history ones that I really like.**

467 **So yeah absolutely, please send me the details, I'd be really happy to take part**
468 **in that.**

469 Sure, and then soon I can send you more details about the programme and so on. I was
470 also, I want to invite – I forget always her name, she's also working on thing-centred
471 design, [REDACTED]

472 **Oh do you mean [REDACTED]?**

473 [REDACTED]...

474 **People's names are so difficult.**

475 [REDACTED]

476 **That doesn't ring a bell, there's so many thing-centred design people, I've got**
477 **to kind of try and collect them all.**

478 No not [REDACTED] - anyway there's another person that I would like to invite from
479 [REDACTED], which is called [REDACTED], but maybe not [REDACTED], I'm not sure. I think
480 [REDACTED], yeah, anyway, I'm quite confused with all the names and things.

481 **I always remember the name of projects, or like the objects, I never remember**
482 **the people, it's so weird isn't it, the kind of thing you remember easily, yeah.**

483 **But no, that really sounds fantastic, and yeah, please send me through any – if**
484 **you want, I can send you through any of my current, like I've got a couple of**
485 **papers published, but you'll see that it's more of a progression of me thinking**
486 **about things, as I've kind of been going along going, what does this mean,**
487 **what does this mean, what does this mean, but yeah, and please feel free to**
488 **send me anything that you've done that you feel is also relevant, because I'll**
489 **have to read it.**

490 Sure, yeah definitely. Maybe I would invite you to our university.

491 **Yeah hopefully when everything's finished. When we can travel, that would**
492 **also be nice wouldn't it.**

493 Probably the seminar will take online.

494 **Yeah that's fine.**

495 One more question, maybe when we go back to physical (back) again, would you like to
496 also like conduct a workshop in our university, like something that you did online with
497 our students as well, just to...

498 **Sure, I mean I would definitely be interested in looking into it. Depending on**
499 **when that is, so just to give you a timeframe, I'm supposedly submitting at the**
500 **end of next year, so December 2021, so within that time it's great. After that**
501 **time it's going to be a bit confusing, because obviously I don't know what I'm**
502 **doing next, but that's not to say I can't do it, I'm just saying that it might be a**
503 **bit more up in the air.**

504 Yeah for instance in March, April we do a workshop, physical, if it is possible of course.
505 It would be nice also to have you here and then make something together with the
506 students and so on, which would be a way to maybe test some more methods that you
507 do, and then it would be also nice for the students to have like, to see another approach
508 on design.

509 **Yeah that would be really interesting, and just kind of conscious of time,**
510 **because unfortunately I do have a second interview straight after this one.**

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511 **We can definitely talk about this more, and if you wanted to perhaps organise**
512 **another meeting like this, to talk about it more, I'm also happy to do that, if**
513 **that sounds good.**

514 Yeah, great, okay.

515 **Great, thank you, thank you for all these opportunities, it's really nice of you.**

516 Yeah things can just emerge from all the connection.

517 **Yeah absolutely.**

518 The devices, yeah.

519 **Okay great, well thank you very much for your time and I will speak to you**
520 **later.**

521 Okay great, have a nice evening then.

522 **Thank you bye-bye.**

