

Facilitator: Recording in progress. So there would be 3 presentations today. I have thought of each of them lasting 10 to 15 minutes. I don't think the third one will take place because the person who was coming to this session today sent me a message a couple of nights ago saying that they had COVID symptoms and would be tested yesterday, so I don't think they're feeling well to join the session.

In any case, I don't know, Tom and Fred, are you available for the full hour or do any of you want to start first?

Male: I am, for an hour, it's fine.

Facilitator: Okay.

Male: Yes, I'm available as well.

Facilitator: Maybe we could go, I don't know, alphabetically or starting from the western most perspective. So Fred, can you start presenting and talk about it from your morning time in Brazil, how are things?

Male: Can I share the screen?

Facilitator: Sure. I'll just mute and hide my camera just because of my connection here.

Male:

Thank you Felipe. It's good to be here and to minimum collaborate with the lab. I tried to be more present but in these crazy times I'm not having such time for that but I'm happy to be here today and try to collaborate in the best way. 10 to 15 minutes is not a lot for talking about [Gambilonghi 00:01:55] as you may know. So I'll try to be fast because I was supposed to have 68 slides, so I'm going to go in a hurry and I hope you can catch a little about what it's all about.

I came from computer science school and university and then I changed my path to the arts and to graphic and web design at some point. I used to be the owner of a graphic design studio in Brazil and at some point in time, back in 2008 we developed a campaign for a media arts festival. And then we brought this concept of improvisation in the Brazilian way which we call Gambiarra that can be translated as makeshifts or kludge or Macgyverism.

Then from this campaign it was very well succeeded .We decided to form a collective named Gambilonghi which was supposed to be the science of Gambiarra or a mix between Gambiarra and technology, something like that.

Then we started to make art works and design pieces and we got into education, to the maker scene and then I started to organise exhibitions and then we promoted a magazine. It was, like, a crazy different types of opportunities that I decided to get into the MO and then the Gambilonghi Collective broke up in 2005. Now I present the project as a platform, as an independent platform that is a little of artwork production and invention, a little of production company, somehow, because we organise those initiatives as exhibitions and stuff. Third, education, because we are into the workshop scenes.

Actually we have been pioneers here in Brazil in these hands on types of workshops and also the publication, the magazine is, of course, type of education. So nowadays this platform acts in these 3 different realms.

I'm going to show up a few images just for you to have a notion of what I'm talking about. So we started as a campaign and then we got into a collective and from 2015 we changed to this creative hub or platform. Now we divide our production in those 3 types of activities, so invention, production and education.

So this is the basic inspiration. A few samples of those types of Gambiarras that I was talking about. So we have a notion of reuse, we have a notion of scarcity or resources. We have this notion of improvisation of creativity and somehow repairing as well.

My idea was to bring this to the electronic art scene, this type of, as they say, inventive. That is a term I just forgot, but to bring this type of popular innovation and creativity, reusing materials to the art scene and this is [Anisai 00:05:45] a photographer from my city which is called ____ that have this big essay about Gambiarras with a book published a few years ago and stuff. We are trying to bring this to the electronic and digital scene.

I just discovered a few years ago that the possible definitions of Gambiarra and technology are very similar and they basically differ in what I would say this improvisation or an attitude. I wanted that we have a very perceived relationship with technology. And the word 'attitude' is not underlined here for chance because I think when we start to have an attitude about technology we start to produce technology and have a critical point of view about this and this is also a worry that we have in all activities of Gambilonghi.

This was the first piece that we did 13 years ago for that campaign and today I call it an iPhone 20 because you have all features as a smartphone in this piece. 13 years ago, I don't remember having a smartphone here. I think we were lucky to look at the, not a bright future, chaotic future but this is supposedly a smartphone.

We did this helmet, those glasses, it's a piece from 2011 and mobile broadcast unit, [The Gambio Ciclo 00:07:37] and then we did the second version of it. This is a combat chat system which is a pair of [valises] and they promoted a video conference using only analogue signals. So it's radio and TV and it's broadcast openly so you have no privacy. And small lamps with reused objects. This is the type of stuff we are using for workshops.

Installations, so this is more recent project I did in the middle [____ 00:08:22] during Interactivous. It's an installation made out of this shopping cart and in [Madri], the gypsies are the ones who collect stuff in the street and they use those shopping carts for that. We unbuilt a shopping cart and started to collect objects all around the streets of Madri and change all of them for electronics and decorative stuff and this is the result.

There is this video which I won't have time to show. I invite you to come to Gambilonghi YouTube channel so you can see the video of the process and the making of.

This is another piece I did with a few fellows in summer school in France 2 years ago. It's a stamping machine. So it's supposed to be- it's an irony about the efficiency of machines actually. So it's an extremely complex machine to make the most basic bureaucratic task which is stamping. It was also all done with reused materials found in the streets of [Neverch 00:09:50] which is the name of the city we were-

Facilitator: Fred?

Male: Yes.

Facilitator: Okay, the video, sorry.

Male: Ten minutes, five minutes more?

Facilitator: No, because I wasn't seeing the video run. Go on.

Male: Were you able to see the video, the other guys?

Facilitator: Very short.

Female: It was great.

Male: Okay, thanks. So production is the second category of activity we are involved. So I basically create exhibitions, inviting artists who are connected to this type of production that the Gambilonghi Collective was producing at that point of time. We are in the third edition of this exhibition. This is the catalogue. Can you see me in the camera as well or only the slides?

Facilitator: Yes, I can see you in the small-

Male: I love to publish books, so I prioritise type of publishing together with the exhibitions always. So this is the catalogue of the last exhibitions. It took place in 4 cities in Brazil and it's the third edition of this exhibition which I call Gambilogous. The first one was in 2011 and we had the privilege to count with text from Felipe [Franseque 00:11:45], it was that the beginning of Gambilonghi, so it was pretty much important to have the beginning of a concept of reflection what we are about to produce and at that time I didn't imagine how big the project would be able to become.

So this is the last edition. There is this video which is not translated. I'm going to just for a few seconds so you have the climate, the feeling of the gallery.

[Break in conversation 00:12:24 - 00:13:01]

So those exhibitions, they are basically about low tech technology and improvisation in reusing of materials. And I just discovered from those exhibitions that this is not ideal only for the global south, the idea of Gambiarra may be present and visible from any country. We had artists from Japan, from Europe, from US in those exhibitions. So this is about a known romantic viewpoint about technology. To understand that technology maybe any type of technology and have a critical approach about this, using, of course aesthetics as the centre point.

The fact is Gambilonghi magazine, now I'm working on the fifth issue. We have no specific distance and time, I don't know the word. I just forgot the word. It's yearly. It's supposed to be yearly but it's not, so now I'm talking on the fifth issue which

will be about gender and technology and Felipe also collaborated on the first 4 issues.

It's online on the channel of Gambilonghi on issue U. And education, as I said, we were kind of pioneers in maker education in Brazil but don't use this word, 'maker', when we started to make workshops back in 2010. I still didn't know the use of the term 'maker' as it's used nowadays. We have different approaches, no burning plastics with 3D printings, reusing materials, no preconceived kits. All objects are customised. So that type of stuff, like, flash lights from chocolate package and small robotic stuff, using reused materials.

So very basic stuff with this starting of notions and knowledge about technology with a critical approach on reusing, on making Gambiarras, on expanding creativity somehow, like, rediscovering that we are able to create, anyone is able to create.

Those are the workshops. Then we got into bigger programmes, like, this one, I'm going to show up. This is the results of a residence I did in Colombia 3 or 4 years ago.

So using [Arduino 00:16:20] to make non-functional stuff or nonsense stuff. This is a bigger programme I coordinated 2 years ago in a Favela which is [lamp]. It was supposed to have many seasons and episodes but we were able to make only 3 with children, with women and elder women actually. Then we got into COVID and we had to stop this programme because it was 100% present. It was impossible to make it online. So we are paused on it for a few and I hope we can go back to it next year maybe.

We had a street carnival workshop on creating masks and clothes using electronics, like, wearables and stuff. Now I'm

just starting this project which I also invited Felipe to collaborate. We got a grant from British Council in a commission that they are doing for Cope 26 which will be held in November in Scotland and then we proposed this project about collecting a thousand objects, a thousand repaired objects. It's a collaboration amongst Gambilonghi, the University of West England through Repair Acts which is a project from Bristol and an NGO in India. So we have those 3 countries working together and the idea is to collect a thousand stories about repairing objects. A third in each country.

For getting to that we have a programme of seminars and discussions and workshops and then we will have this set of images, both of images and stories, statistics, social discovering that may happen during the research. So we are just starting this and launching a landing page probably in a few days. I think we have good time on this project. It's an opportunity to get Gambilonghi more effectively into the repair discussion which is far away in terms of, I don't know, sophistication about the discussion in Brazil if compared to Europe and England.

I know that Felipe doesn't agree with me that much because we talked about this a few days ago but I think it's an opportunity to have Gambilonghi more into this discussion of repairing and to expand this discussion in Brazil somehow. So that's it. Thank you. Sorry, probably I took 20 minutes.

Facilitator: Yes, almost 20.

Male: Thank you.

Facilitator: Thanks Fred. I have some questions but I'll leave it to the other participants to start if you want to. Kamie, Mary, any questions for Fred?

Female: Yes, Felipe. Fred, amazing, amazing what you're doing. I'm wondering, you mentioned in the latter part you got for your current project you did get funding, how do you fund yourself with the previous projects?

Male: We have these cultural laws in Brazil which they call cultural incentive laws. So the government allows you to use part of the taxes- the government allows you to go to a company, to an organisation and instead of paying taxes to the government, they support projects. So it's like two steps commission, first, you approve the reduction of the taxes in government and then you have to find out a company which will support your project. Then the money goes straight to the project.

So basically I use those type of incentive mechanisms to [verbalise 00:21:23] the projects. Also invitations from organisations and basically I go to this chamber of commerce and try to sell a project to them.

Of course, I've been working on this for 13 years and somehow we have already have recognition in Brazil. We have been pioneers of this discussion. I would say it's easier for me to get to the right people and making things happen. I still have to do some graphic design for clients unfortunately.

Female: It's always the way. I love the way you coin phrases like attitude of technology and stuff like that and functional or nonsense stuff, I think was something you said as well. My question is on your next project, the idea of repair, is the project going to be completely about setting up workshops or is it creating pure awareness in other words you get the thousand people involved or whatever and you create an exhibition out of that and then is that how it'll work?

Male: Just to explain, it was a creative commission launched by British Council. So it's like Cope 26 have invited British Council to be the creator of their creative part of Cope 26. So they made this open call and actually I was invited by Theresa who is the girl from Bristol who is in charge of Repair Acts. She's a teacher in UWE. She invited me and this guy in India, so we wrote the project together.

So the idea is to be launched in an exhibition during Cope 26. Our final result will be a website which will be like a repository of stories. From that repository we aim to have statistics, images, maybe a publication, toolkits to discuss about repair in those 3 countries.

It's very wide and, I don't know, provocative, maybe we offered too much stuff for the open call because it's not a lot of money. The final idea is to have this repository and the toolkits which are calling manifestos. Not manifestos, okay, toolkits for promoting repair in your territory. To getting to that we have those programmers of seminars and round tables and stuff and workshops.

Female: that's great. Felipe, is it Mark Philips, would be interested in documenting this, right?

Male: Yes, I just mentioned Mark Philips, I still didn't have the chance to watch his presentation in the reuse lab. I'm going to watch it probably during the weekend but I just mentioned him to Theresa because we had a meeting 2 hours ago and probably she will try to connect with him at some point.

Facilitator: I think maybe it's also interesting for [Ria 00:25:40] who presented yesterday who is in India and as the third country of the exhibition project is India because she is involved with Netflix. I know Kamie who is here is and also Mary. I think there may be some bridges on this future projects as well.

I think I'll leave my questions for later because I know that I can resort to Fred later on to ask them.

Male: Do you still have questions about Gambilonghi? You've been following this story since the beginning.

Facilitator: Yes, the more I study it the less I know. So maybe I think we can pass to Tom, we have another 28 minutes before the hour is done. So maybe Tom, can you-

Male: Yes, I'll take it away.

Facilitator: Yes.

Male: I'll just press buttons. What have I got here? Sequel, Miro board, yes, presentation. I was introduced to this via Twitter. Someone was just like, "Oh you should get involved in this." I actually don't really know what's going on, so it'll be nice to have a chat with you afterwards, if that's okay, to confirm a few things but that's fine.

So my name is Tom. I'm a co-founder of a tech company called Disposal. So that's their organisation on the left, it's like the lightbulb and green plants in the D. We've actually got social enterprise now called Your Disposal which is that purple house on the right. Both of these are really predominantly at the moment around waste and about how we in England interact with waste. So Disposal, the blue one, is all about how professionals deal with waste and then the purple one is all about how members of the public deal with waste.

Quick separation of the two, so social enterprise is are just about, "I've got a sofa, it's a bit of furniture, it's this waste code and how do we get it into the reuse market, second-hand market and how do we recycle it?" Kind of, in that order of reuse centre, refurbish and then recycle.

Disposal is much more technical, it's about constitution of that material, where it is in the world, what percentage of it is then if we can understand that then we can much better understand it as a commodity rather than just as a piece of junk that people want to get rid of.

I've worked in the waste industry in local authority and then in hazardous waste management company and then I've ended up working in our health service, the NHS as a data analyst and I wanted to merge all these together. So that's how we set up.

What I wanted to talk to you today about was this project we have just finished and we're about to launch, it's called Open 3R, like, using open data to turn rubbish into resources. So we got some funding from the Open Data Institute to create a data standard and to create a data set around all of the household waste recycling centres in the UK. We want to create a world where everybody knows what to do with the items that they no longer want. We don't think they should be going into incinerators or landfills because they still have life left in them. So we want to make sure that people find the right place for those.

The lowest hanging fruit for this for us was these centres called Household Waste Recycling Centres, people know them as the tip or the dump. So get local authorities involved, get all of the data around those and then be like, "Cool, what do you accept? When do you accept it? What are the access restrictions?" and all of this put it on one nice, neat standard, get everyone to buy into it and then release that data and the standard into the open so we can then improve on top of that.

One of the things that we found out is literally everybody, local authorities, members of the public, professionals, consultants actually want to get more people into the reuse side of things rather than just into dumping it, because actually if people dump it at Household Waste Recycling Centre, that costs the local authority money.

Local authorities are cut to the bone at the moment with funding, so actually it works so much better for them if someone gives it to a reuse centre, gives it to a charity or reselling it, takes it to second-hand, sell it on eBay or use Freecycle or something like that or the Restart project get technology used up. So actually what we realised was we were looking at this, just pinpointing people to household

recycling centres but there is a massive ask by the local authorities to actually take this to the next level with this, to start mapping out all of the charity shops in the UK, all of the reuse networks, all of the repair cafes. So that this whole idea in the UK of reduce, reuse, recycle actually becomes a data set that anyone can use.

Again, because live in breathe open data standards, it means that anyone can pick it up and play with it and then create additional products or find ways of improving it. We're a group of people that are just interested in it and happy to run these projects but there are people that have much more creative ideas around it than we do and getting that out into the bigger world I think it's just so much easier for people to then go, "You know what, this is the idea that we had and then we've created something from it."

So the next step of this project is actually we're talking to an organisation in the UK called Freegle and we've talked to Restart Project before about similar kind of things, so continue talking about that. Then also all of the furniture reuse networks we have in the UK as well to basically go, "Right, you've got an item, you want to take it to the dump. There is a better step here and we need to interrupt that journey." Because a lot of people when they've gone online just go, "I just want to get a shot of this, I want to get rid of it." They instantly want to just take it to their household waste recycling centre in their car and get rid of it.

We believe that actually we need to interrupt that user journey basically to say, "Okay, cool, that is a thing to do but there are these options before that as well and some of them could give you some money back, some of them will be quicker and easier for you to do."

It's all around this idea that we have which is called passive compliance. So people accidentally do the right thing with their item. So instead of just junking it, that they can do the right thing and give it to somebody that will give additional life to it. We're taking that from a very data orientated view, mainly just because I love data and local authorities are very happy to get involved at this data level. Whereas when it starts getting to communications or guidance level, they shy away from that a little bit more because they've got overarching targets. So that's what we do, that's what I do. That was my presentation. Just short and sweet really. I've got no more slides. I'll stop sharing on that. That was me in a nutshell.

Facilitator:

That's great. So we have extra time to discuss. You spent less time than Fred. I find it very interesting. I've seen your website I think but I haven't explored much of it. So you say you have created this open standard for this data. This is interesting because one of the things that I have on my research, so as you arrived now I'll just do a quick intro. The origins of Reuse City was my PhD research that started in Dundee and went to Northumbria University and I am researching waste prevention in smart cities mostly because I was supposed to research smart cities and I have been involved with reuse in different kinds of projects.

What I found was that most of the literature about smart cities focuses only on improving the efficiency of collection for recycling. I think it's fair to say there is something akin to a consensus that recycling is not the best option if you can still reuse or reduce the consumption. But when it comes to smart city literature there's nothing being said about reuse.

One of the things that I have identified in previous phases on my research was I think something that you are actually

working with, that is the lack of data about reuse. So I'm sure you are familiar with this dataset about waste collection in the UK. I have interviewed a data scientist last year who is working on visualisation of that data which is very interesting. Again, she doesn't have any solid access to data about- she has some access to data about what is being recycled, the volume of white goods or books or things like that but there is nothing about reuse. This is something that I think would be very useful when it comes to creating policy to generate data and to even show the amount of things that are recycled, sorry that are reused.

I have no idea in terms of data but I would say that it's a number of times more than I think they are actually recycled.

Do you have real data about that or you're still in-

Male:

We're still trying to find it. Some of the good places to find information about reuse is from the charity sector actually because it's seen as a commodity in that, they have good data and because it's a commodity, so they know what they get in. They class it as a stock, they then add a value to it and then they sell it. So then you can see that but that data, even though it's there and it's not the best data in the world by any means but it's not regarded in any recycling stats. It's like why? Because basically if it didn't go to that centre, if it didn't go to that charity, if it didn't go to that furniture reuse facility then it would have ended up as waste. So therefore it is a form of recycling but it's not taken into account.

This is why one of the things that we wanted to do as well is actually try to find all of those disparate data sets and to be, like, this is what as a nation and hopefully we can grow wider, but this is what we as the world are doing with the stuff that

comes into our country. At the moment it is like no one has a clue and it's such a waste because again, I see all of that as a commodity and it should be. It's a commodity that we as citizens have brought into the country and so the citizen should benefit from those assets. The best people to do that is government because they're the ones that can have control over it and give it back to the citizens as it goes round. But no, it's all over the place unfortunately.

Facilitator: You're focusing on transactions, is that correct, not on particular data or information about different objects?

Male: It's a mix of both, so we have a theory that you should always follow the money because that's what people care about and then on the side of that understand what materials were involved in that transaction. So if you could figure out, I bought a - people are willing to tell you that they bought a - think of something random quickly - a television, because it was behind me and it caught my eye. Cool, we got a television and you'd be okay, cool, we know how much it costs because that's the barcode on it, sold by AO, all of this.

Theoretically we actually know how many materials are on that, how much aluminium, how much are glass, how much are plastic, how much cadmium, how much lithium, whatever. Then actually when that's turned over to a waste of things that should be coming a commodity and it's that transaction, that financial transaction later that allows that, kind of, additional secondary data to flow as well but only if you get into the granularity of it. Sorry, kind of rabbited on a bit there. That's what I find fascinating. This commodity layer that people don't

interact with in the waste industry and it's such a waste, it's a wasted opportunity.

Facilitator: Does anyone else have questions? I see Kamie there, otherwise I'll just go on.

Female: Could I ask a question please?

Male: Yes.

Female: Hi Tom, this is Mary. I love what you're doing. I, up until COVID hit, I was working on a start-up in the reuse space. It was starting off in the clothing business and going to your idea of the commodity, what we wanted to do was create- it wasn't about the buying and selling. It was more about the actual object itself, what they were buying and selling. We felt the ownership cycle was really, really important. So it was more about what was being owned. Before I started that, I actually looked at option trading models which is more in the financial world and so the idea of putting an option on that.

It gets too complicated if you go that route but the broader idea around that hits somewhat you're talking about and I completely get it. My question was in your eventual website where the data is available, will it be a place for the regular citizens to go whereby they can say, "Okay, I have a chair here, these are the places in my local area that I can go to, I can either have it repurposed, resold," blah, blah, whatever. I assume it also would have the businesses or the non-profits, it

would have that side as well. That'll be potentially subscription based and that type of stuff.

Male:

So we have this dual entity, so one is disposal, that's much more about large waste producers, so let's say the NHS or local authorities or large waste companies. So in the UK we have Suez or Viridor or Biffa, whatever, so they would pay for that and then everything else that is public facing, so even if that is a charity with a reuse facility is, it's free for their use.

Again, we need to incentivise this behaviour and the best way of doing it is this- well how we think is this idea of accidentally doing the right thing. So like, "Oh I accidentally gave my chair for reuse rather than leaving it on the side of the road, because that was the easiest option."

I think if you put a financial barrier for either sides of the transaction, like, the giving transaction then it creates friction that shouldn't exist. The other thing that we're looking into - and this is a bit crazier idea - is this idea that waste is a commons. So like on a small scale it should be free and it should be accessible and people should be able to basically retain value from it at a small individual level. Once it becomes - I don't know what the right word is really - once it becomes like an enterprise level of extraction then you have to start paying back into the commons with actual money to then to keep the commons there.

It's quite hare-brained at the moment, not very well structured because we've only been thinking about it in the last 5, 10 months.

Female:

I get it. Thank you.

Male: No worries, thank you.

Facilitator: I just posted a comment here on the chat about this idea of a waste commons. This is another of those things that last year for my research I have created 8 different concept ideas, clues to what I would be developing at this phase right now. Some of them are more conceptual in a sense but one of them was the reuse commons. I had some discussions with the project and with my supervisors. I have 4 supervisors and I think we all agreed that this idea made sense but for a 5 year project, not 2, not for a PhD that I must finish next year.

This idea of having this multi-stakeholder approach in which even the ownership - and I think Mary brought this up from a different perspective - but even the ownership, the things that you make available and even thinking about that, you have this model of individual ownership of stuff and then you give this stuff away, you donate things to other people and they are not yours anymore. Sometimes you are concerned that you are donating something and that thing may end up being recycled or incinerated or in a junk yard. You may want to get that thing back when you need it later on, so this kind of commons governance would be interesting for material objects in the cities.

There are some specific initiatives such as tool libraries and the UK has very, I guess, exemplary tool libraries that are interesting in that sense but that could extend also to other objects. Even think of this fluid ownership model in which you own a share of this common stuff and you can possibly use stuff along the way.

One question that I want to address to both of you, to Fred and to Tom, how do you see value assessment being part of the equation both in terms of Fred's creative practice, so how do you understand the potential value of stuff that you see in this sensibility or understand how this thing can be useful or I'll keep that or see the connection between one thing that you see here and something that you have, I don't know, stored or you must look for it from other people?

Also Tom, how do you see this ability to assess the value of materials in this kind of chain of reuse, how that's useful? And do you see the possibility of using data to improve that? Because this is totally connected to what I'm trying to pull up with my research. I have no idea, as Kamie might know right now, I don't know I have no idea where to start working on data and there may be some clues for that.

Male: Do you want to go first, Fred?

Facilitator: You're mute.

Male: I think the value in the artistic aspect is relative because we are not dealing with a large amount of reused objects, I would say. I see this type of work which Gambilonghi is involved, more like a possibility of inspiration for people to reuse stuff and see value in stuff that is not supposed to be valuable. So to be effective we should see Gambilonghi acting together with organisations with projects, like, Tom's, with researchers like you. I see it more both bringing this reusing point of view to the art scene because you know that art is not sustainable as now we are facing with NFTs and stuff but also to society.

I think this type of idea of reusing and giving value to stuff that people just discard is a possibility of making this bridge between functionality, value and somehow making the idea of reuse cool again. Using old stuff, using second-hand stuff is not cool and it should be. If you customise something, if you transport something to art installation it gets to be cool again. I think we act more like in the realm of inspiration than effectively acting upon reusing or repairing.

Did I answer your question?

Facilitator: Yes, just to clarify-

Male: Sorry, just to complete, I basically work with people who are interested in objects since always because of its functionality because of its form, because we just love to collect garbage and leave it in our studios to use it somewhere at some point of time in the future or not. So it's like hoarder artists somehow which at some point start to establish connections between objects and technologies to get to results.

A few years ago someone wrote about Gambilonghi, I think it was [Giselle 00:51:18] and she said that it's the opposite of the traditional artistic point of view which an artist wants to create something and then he goes to the world to find parts to make this idea real. So there is the idea, there is this utopia of an artistic production and then you look for what you need to make it happen.

In our case somehow it's the opposite because it's like, "I have this, what can I do with this? What can I create with what we have?" So it comes more randomly in the opposite of the traditional design direction, of course, because it's not

replicated, it's not serialised. It's always unique objects but it's the opposite of idea of the traditional way of creating, at least in the romantic viewpoint of the artist as this creator, if you can name it.

I think we are in this middle, proposing this discussion in the artistic point of view but also bringing art or opening a possibility of art dialogue more effectively with society, with sustainability, with repair and everything else.

Female: You almost make the objects, they're living objects, they become living objects when you take them over as an artist.

Male: Yes, of course, because if you carry an old object in your life for many years, it's effective relation with objects and this is part of artistic creation because art is supposed to sensible people. Besides the fact that digital art is not worried about this but in my point of view, even if you use technology you must connect to people, you must sensibilise people, you must make people think about reality somehow, about their presence in the world. Even using technology it's possible and old reused objects, they already have history on them. It gets to the art piece as part of it.

Even [esoterically 00:54:12] somehow, these objects have passed through many hands before getting to that installation. I believe that a little piece of DNA of each one who carry it up this object is part of it somehow.

Female: I feel artists they are in the forefront of movements and because it initially starts as a feeling and a belief and then using the landscape around them to see what's needed or

what's in the air or what's to come, and then it's manifested in whatever objects are used. Also to bring attention to either political or whatever is going on in the world. I believe art is more and more throwing attention on stuff but they're also helping communities in a more utilitarian way.

For example, I'm here in San Francisco and it probably happened all over the world, but when COVID hit and all the small businesses had to close, in order to draw attention to the small businesses artists got together and did paintings on the boarded up doors. It became this thing that was documented and sometimes they would change the art.

Then someone in the community could buy some of that art when they changed the actual drawings and that. Thanks for doing what you do.

Male:

It's completely different. I mean in the workshops, for example, the Gambilonghi workshops, it's completely different if you get children into a fab lab and then they get into a computer and they start to learn one more software and to make 3D and then that machine which is far away from them just magically happened to laser cut something or to 3D something. It doesn't differ, it definitely doesn't differ of the traditional relationship with objects, with technology and so.

If you are bringing packages of products that they are used to consume in their everyday life, besides the fact that we are recycling or reusing, but this is something that they are familiar with. So it's a path for them to get interested about learning technology. You should start from basic technology. You can't start from Arduinos, for example. the first exercise in any technology workshop should be using scissors because people

don't know- I see many children who don't have ability to use scissors anymore because they don't need.

We have this fingerprints to touch the world and to feel the world and we are forgetting this. So I think there is going to be a way of establishing that bridge with reality again, with their daily life and then you get the technological content because they are opening up. And art acts as the same form. Art maybe a way of opening sensibility to discuss about politics, to discuss about sustainability, to discuss about aesthetics as well. I feel more like this about all those [____ 00:58:19] initiatives.

Female: The Campbell soup can, it's been recreated and recreated by different artists in different ways.

Male: If you love to eat Campbell soup, and then you get to the [Tomoma 00:58:41] to watch an exhibition for the first time in your life.

Female: That's right.

Facilitator: Tom, can you talk about value along the chain.

Male: Sorry.

Male: I'm fascinated in this kind of value chain because it feels like at the moment as soon as someone buys a commodity for some

reason it loses all of its value. I think that's a societal thing and I think it's bonkers. I think it's insane and I think, like, Fred was saying there, it has so much more value in so many different ways after that point. But actually even just within the data, suppliers, manufacturers know what these materials are, they know what the volume and the weight of these materials and these products. We know on a global market what the value of a tonne of aluminium is so therefore we can start making educated guesses at the actual raw material costs of these products that we have.

I think for decades now, even longer maybe in some instances, prospecting in mining and drilling, they would happily lose hundreds of millions of pounds looking for a rich scene. But we've got so many resources on the planet now that we've already extracted and if we can start using these same algorithms, we know where they are. I've got an item here, it's easier mining than actually ripping it from the planet. It already exists, it's already been refined. I don't know, I think that's where the real value- that's a massive amount of value. That excites me because it's honestly a data thing.

I've got 25 micrograms of cadmium therefore this is how much value it is. Okay, how much is it going to extract that? this amount. Okay you need this to create a facility. How do we get that amount? Cool, we need to have 100,000 iPhones every 3 months. Brilliant, cool. How do we commoditise that? How do we incentivise that?

Then you can just go on a map, brilliant, we put a plant there, we can guarantee that many. Then you've created a virtuous circle and it's better. But then what I think on top of that is this whole commons idea that that should then go back into society because it's society that has brought that in. It's simple maths for me.

Female: [____ 01:01:43].

Male: What was that sorry?

Female: I appreciate the digital ____ that you have behind, you guys are talking about this circular concept.

Male: Yes.

Female: It's very much reflective even on your site, I've been looking at it. The concept you're talking about.

Male: I think it's important because it's complex and it's confusing at times but actually when you get your eye into it you can really see it and it comes to life.

Female: Is it time for a question for you, on a follow up about your site?

Male: Yes, go for it.

Female: I see that you have people where you they can sign up. I'm curious about how people interface with this. Is this primarily something on the web right now that they interface with, if they're moving or when they have large bulky items or is it

something more on a frequent basis where- something I dispose of something a little bit smaller but I dispose more frequently, this is like a large item.

Male: It's both and all of these things. People ask, "I've got a mattress, how do I get rid of a mattress?" Cool, this is your household waste recycling centre, do you know that there's these options available or there is, "Hi, I've got 25, 000 litres of hydrochloric acid because we create pickling stuff, what's a good route for that, we produce this amount, is that okay?" Then we get a lot of questions about basic, not even basic, quite complex technical questions around waste as well. So people are using it in loads of different ways which is great but at the moment we don't charge for any of that. So at the moment it's all just free resource. In lots of different ways people are using it.

Female: When people approached you asking for how to dispose of hydrochloric acid and you're not quite sure, do you have researchers internally that go and look for options for them or do you just tell them what you know?

Male: We'll tell them what we know but then we have a really good relationship with the Chartered Institution of Waste Management here in the UK, with a woman called Tina who is the font of all knowledge. Then also we've actually got quite good relationships because I'm from the waste industry and I've got quite good relationships with a number of waste management companies who are like, we don't do any brokering. We're not a licensed waste company. We'll always

offer, we're like contact these 5 companies they will help you out and if they can't, they will signpost you further.

We don't want to do the brokerage game. We just want to provide the data to- well to provide choice actually that's what it comes down to. We want to give people actual choice.

Female: Understand what's happening in the community if it's available to them.

Male: Yes.

Female: Make the connection in a sense.

Male: That's the other thing we want to do as well, later on down the line is actually show people, you gave this item to this person, this company, this organisation, this is what happened to it. We want to do that for local authorities as well, so if you put something in the bin, you can be like, "Okay, it got picked up on a Tuesday, it got taken by this lorry. It went to this recycling bulky site. It then got turned into this and this is where it ended up. This why you recycle. This is why you put this in the right place."

Female: Telling the story of the thing, that's cool.

Male: That's what we want to do. It's good, I enjoy it.

Female: It's fascinating. I come from a different industry but this is really cool stuff.

Male: No worries.

Facilitator: I agree and I'm curious to learn more about the data specification Do you see that scaling up or how do you see that scaling up with centralised approach for the database?

Male: So I mean scaling up is an interesting one, so basically we would like the idea of getting all of this information out into the open as a dataset and as a standard, so any nation can use it for their population. So that anyone in any given situation knows what to do with an aluminium drinks can, for instance. No matter where you are in the planet you can order an Uber but you don't know how to get rid of a drink's can. I think that's a bit flawed. How do you provide that but then also, how do we provide professionals that produce waste, what do they do with their waste? How do they comply with it?

It's two tactics for scaling up, one of them is very much federated/franchise model of open data releasing in and having a community around it that all kind of wants the same thing and have a bit a loose governance structure just to make sure that it all works together. The other one is just pure having a software service, technology platform that waste companies and waste producers use and then hopefully interlinking again federate or franchise that model around the world, so that we can see that waste chain everywhere.

I don't know how to do that yet but we're trying.

Facilitator: That's the thing about building the future, right. I'm also curious about potential conflict between for instance manufactures and recyclers and users because these things can emerge and also trust on the data. How to make sure that you build mechanisms that allow people to trust or different kinds of organisations, the different stakeholders to trust the data.

Male: Yes, trust is a very interesting one especially in the waste industry., especially in the materials industry.

Female: When you say the materials industry, what do you mean on that?

Male: So it's the idea of circular economy, this idea that anyone that has a material and is able to, a, buy it, or, b, sell it, they're part of that materials industry. Then you have to actually have governance around it. You have to have supply chain management, you have to understand that. I think everyone understands that pretty well when it comes to traditional supply chain.

I buy a jumper, where does the wool come from? Where does the cotton come from? That's fine. As soon as I've bought this, no one cares about what happens to it next. But actually it should be a material, it should be a commodity. There isn't that kind of governance on that side of it once someone's decided to throw it away or reuse it or whatever.

Female: Yes, again, Felipe, we had that discussion I think with Mark was involved that first call, it's the supply chain, the governance throughout. It's really tough and the corporations, they get involved because they have to a lot of the time because it's good publicity which is great to have but it's almost like you have to force their hand.

Facilitator: Another thing we mentioned, and particularly wool is one example that comes from that book, 'Second-hand' by Adam Minter that I never get tired of recommending. It's an amazing book about second-hand markets throughout the world.

Kamie is going. I think we could stop recording, otherwise I think people will have time to watch everything. This was a very interesting discussion and I think somethings keep coming back from our other meetings and I am sure that for my own particular individual PhD research this is very productive.

Tom, I will be sending you some emails to ask more about the data specification. I think that you have posted this [____ 01:10:57] repository. I think there are very interesting developments to come out of this. I just want to thank both of you for your presentations. It was very inspiring and more data for me now to process on my thesis eventually.

Wishing you all the best and good luck with your projects and we hope we can keep collaborating soon on other aspects as well.

Male: Definitely. Wonderful, thank you for that.

Female; Nice to meet you guys. Love to connect outside this a well.

Male: Definitely.

Male: Thank you Felipe. Thank you guys. I hope to be back at some of the future meetings of the reuse city lab. I'm trying to but it's hard times.

Facilitator: I have scheduled the lab to be active for this month, so I guess next week will be the last week but the idea is that this community keeps on interacting and I think we can also share here when we have news about the exhibition and whenever there is news about the other projects we can keep this going.

Male: I watched your previous videos yesterday and I loved them. Now I want to watch Mark Philip's presentation because I think it's going to be very inspiring for me more specifically.

Facilitator: And Rhea's as well, yesterday.

Female: Hugo's had an artistic slant to his, much more digital than yours but yes.

Male: See you guys, thank you so much.