

## LAMAG | Playing with SCOBY Workshop

---

Hello, and welcome everyone! At this time, I want to remind you that we will be recording the presentation portion of this program, so that you can come back to it at a later date. Also, today we do have closed captions available, so if you would like to activate the closed captions, there should be a button at the bottom of your screen that has a CC. We'll drop that link into the chat. We also have an ASL interpreter, and you can pin the interpreters screen by hovering over the three dots on their screen-- it should say ASL interpreter Robbie and then clicking pin.

So good afternoon and welcome. Thank you so much for joining us today for LAMAG play Playing with SCOBY workshop with exhibition artist Maru Garcia, which is inspired by our current exhibit of Garcia's work in membrane tensions. If you have not already had a chance to do so, I highly encourage you to check out the exhibit as well as our program with Maru from a couple of weeks ago. We're going to include the link to the exhibit in the chat and the recording of that program should be available soon.

My name is Marissa Gonzalez Kuchek and my pronouns are she/her. I'm an educator here at LAMAG. This virtual play program is an extension of what we usually do as drop-in family events held under the terrace in the gallery during normal non COVID times. So we've adjusted the typical format for the virtual space, And I hope that you enjoy it.

Before we get started, I'd like to acknowledge some people who this program would not be possible without. So thank you to Maru for developing this workshop and sharing your practice with us today. I also want to thank the curator of this show Steve Wong, as well as the whole LAMAG team for all of their hard work on this show. And finally, I want to thank all of you for taking time out of your busy schedules to be here and join us.

So today, you'll be learning more about Maru's process, specifically in relation to her work with SCOBY, and you'll learn how to make your own kombucha culture. Just a few housekeeping notes before we proceed. Again, if you plan on following along, make sure you've gathered your materials which are listed on the screen.

The format for today's workshop is going to be a little bit different than our other virtual programs. For the first five to 10 minutes, we're actually going to do some community introductions, and we're not going to record that portion so that everyone feels comfortable. Then, Maru will share a brief presentation about her work with SCOBY. And after that we'll have the demo, and Maru will show us how to harvest a more mature culture and paste it onto a window. Please note that the cultures we are going to work on this afternoon are not intended for consumption.

At the end we'll have time for Q&A but feel free as we go along to unmute yourself. If you have questions during the demo, you can also put questions into the chat-- we just ask that while Maru is doing her presentation that you keep yourself muted. A final reminder, yes keep your microphones muted so we can avoid any feedback and technical issues. And if your microphone is inadvertently unmuted, pardon, we'll take care of it for you. So with further ado, let's get started.

It's my great pleasure to welcome Maru Garcia. Maru is a trans disciplinary artist and researcher working across art, science, and environment. Her methodology includes both the social and hard sciences, combining a versatile laboratory and field work from her background in plant chemistry and the chemical industry. Her use of media includes research installations, performance, sculpture, and video-- usually with the presence of some kind of organic matter to help understand the biological processes occurring in complex systems.

Her areas of interest are explorations on bio systems, inter species relationships, and the capacity of living organisms, including humans, to act as remediators in contaminated sites. Her work highlights the importance of eco aesthetics where relationships and community are proposed as a way of building a sustainable culture. At the same time, she questions the way science and technology have influenced the relationship between humans within the natural world. She has participated in conferences, solo and group exhibitions in North America, Europe, and Asia. She was an artist in residence in the National Center of Genetic Resources in Mexico, and received awards from Los Angeles Sustainability Collaborative, Clifton Webb scholarship for the Arts, and Fundación CUMEX. She is based in LA and holds an MFA in Design and Media Arts from UCLA, MS in Biotechnology and BS in Chemistry from Tecnológico de Monterrey, Mexico. I'm now going to pause the recording so that we can do our community introductions.

OK. Thank you so much Marissa, thank you for the introduction. And thank you all for being here. Of course, thank you to LAMAG for commissioning this installation called Membrane Tensions. This piece, as Marissa has already said, it's now on view at the LAMAG website, and it includes a site specific component and a sculptural and digital work. And this workshop is actually meant to be part of the piece and that's why I am very excited to be chatting with you.

This is kind of the moment in which the viewers people can respond and interact with the piece. So, next one in this workshop, we will learn about the SCOBY culturing. So you can have and relate with your own SCOBY culture and be able to produce a biomaterial. At the end, the main goal is to feel invited, to intervene your own windows of your place if you wish.

We will cover a little bit of what is a SCOBY, what are the materials that were required for that culture. How to start. We actually would do it, and I would show a demonstration of harvesting and how to intervene with this. Next one-- Disclaimer, as Marissa already said, the contents of this workshop are for educational purposes, not for producing your drink, we don't want anyone to get sick after this workshop. It's not that it's bad but it sometimes could lead to something that could have contamination and we don't want anyone to feel bad after this.

Another thing is that although I will mention a little bit I will show a little bit of the process to produce vegan leather. This is actually not the main objective of the workshop but you can always explore the possibilities of the material, and I would be super happy also to help with that too if there are questions.

First, next one, first I want to start this workshop putting us in the context of Membrane Tensions Next one. Membrane Tensions is a piece that explores the contained, the merged, the engulfed and the stretched. In order to understand common origins and ways for building a culture able of healing and regeneration. My intention with this piece was to go back and try to see life in its origins and explore the metaphors that are around them. Next one.

I chose the membrane because it's an organelle that was key in the emergence of life. And because what can be considered as a minimum expression of life which is a cell, it's contained inside of a two layer membrane, made of lipids. Here you can see actually an image what could be a protocell-- encapsulating probably RNA something like that. And the membrane is and now these cells is the outer lipid that separates itself from its surrounding environment. But more than imagining as a rigid and a static structure, it is more a permeable fluid active and responsive the limitation. It contains but does not isolate the membrane through ion channels, electron flow and the transfer of other molecules is the basis of communication.

And I like to imagine this-- that this limit allows the creation of new relationships. Next one. So for this piece the first section presents living cultures of this SCOBY-- that it stands for symbiotic culture of bacteria and yeast. The same culture used to produce a drink called Kombucha . This is exactly a community of organisms living together in the same container. What one produces one of the type of microorganisms can be food to the other ones.

And the cultures that are in those containers can be in the gallery since November and the conditions are monitored weekly by LAMAG staff and there are harvests happening every week. Next one. So some microorganisms in the culture are able to produce a bio material call bacterial cellulose, that is harvested on site and use them to intervene through the covered windows. For me, the act of covering the windows is an invitation to stretch our membranes and be able to interact with the other to extend our range of care.

And this intervention wants to place us all inside of the same membrane. And as a reflection of this, as we stand the membrane that brings us together the side is extending in the metaphor of the window. The one that is giving us access to the core work through the use of technology, in this case, the screens that we are right now facing. And forming a sense of common experience and at the same time separating us from the work, but also that window that is shared where the sense of community is born as we are forming what is right, right now.

As we are all invited to continue intervening spaces with membranes. This is why the workshop playing with a SCOBY is part of the piece and the windows of our own homes can become an extension of this site specific installation. Next one. I will skip the explanation of the second round of exhibitions you can explore it yourselves at LAMAG website but let's go a little bit more to start with this SCOBY.

These pieces are made out of the SCOBY, too. Next one. Next one. These are actually 3D sculptures made out of the SCOBY. So before we start with the hands-on part of the workshop, we have to see and check a little bit of the science behind that or the facts that are related with this type of culture. So probably during the past you have tried the drink called kombucha and as you may know is actually a drink made from fermented tea. And this fermentation is made by the SCOBY. Next one.

Yeah you can see fermented teas and there are so many brands out there selling already. [LAUGHS] Kombucha with different flavors. As I was mentioning, you can do this too but the objective of this workshop is not work with a liquid but more with what happens at the top of that culture. Next one.

So fermentation tips for remembering a little bit is the metabolic process in which microorganisms convert carbohydrates or sugars into organic acids and alcohol. Usually under anaerobic conditions. There are two types of fermentation, alcoholic and lactic acid. Alcohol fermentation is used to make kombucha-- wine, beer, spirits, vinegar and more. Lactic acid fermentation is used to make yogurt, kefir, cheese, pickles and kimchi. So fermentation has been with human, with humans for a long time and we are like really we have the use of this technology for so many years. Next one.

In the case of kombucha that microorganisms involved, as I was mentioning, are called the SCOBY. And as I said this stands to symbiotic culture of bacteria and yeast. And what this means is that it's a community of microorganisms that are living together. Here you can see a picture of this diversity of microorganisms. Next one.

Something that is characteristic of the fermentation with the SCOBY is the presence of the material floating at the top. To have seen that many in this jar you can, it's very well observed that you can identify something that is kind of a slimy, kind of like a film that is formed on the top. A lot of the times people call this a mother or it can be also called a starter. And this material is actually cellulose that has a net embedded with different types of microorganisms.

You will find yeast that produce ethanol, and you will see bacteria involved in the production of the Acetic acid like all mixed together. But then the studies have shown that the ones are actually producing the material that it's there that's like slimy thing is the *Bacterium xylinum* is the name of that type of bacteria. That secretes filaments of cellulose out of those cells, and through the creation of this type of film, they allow the rest of microorganisms to be here and to live together in this chunk of material.

So, there is a list of the different organisms that can be found usually in kombucha cultures but as I was saying the bacterium xylinum is the one that actually produces the cellulose or the bio material that we're working on now. So next one.

So this bacteria what they produce-- they secrete this polymer, that is the bacteria cellulose, and actually cellulose is the same material that plants produce and have in their tissues too. And that it's used for the production for example for paper. And as you can see it's very inter crossed because these filaments grow very long and then they start to inter- cross and form that type of material.

So in this case, you can see all sorts of polymer of glucose what we are seeing in this material. Next one. So it's now time to start our culture and probably I want to see if there is someone that will follow with their own materials there or like here, Yeah can we see? If they have their materials prepared otherwise I would do it myself and you can always do it later because it's very simple. As I was explaining to Marissa first when we were planning about this workshop, it's very simple.

I would now share-- Oh let's take the materials before. So we start with that. So we would need the SCOBY starter that is also called-- Mother. Half a cup of sugar, and I would do this material list I consider in one liter of water. So if you have containers of the different capacity just like cut it in half or multiply depending of the amount of culture that you want to produce. This is something also important to consider because depending of the shape and the size of your container is the shape and the size of the SCOBY that you will produce.

So in my own lab, I have big boxes where I put the same liquid that we're going to produce right now. And then the films that come from there like they are very big. But for example in the case of the gallery, we are having this round kind of containers that are producing circular shapes for the SCOBY and that's also another way. So the bending of the-- what you have in your house, that's what you want to choose for this. So yeah you will need to purified water two black tea bags and this are all also shared somehow in the website I imagine, because we are going to move on from this.

OK. We also need vinegar, pH strips just if you have them. They can be handy. Glass, and a spray bottle with rubbing alcohol, a pot and non porous container that is out of the container that you will have. The culture and the measuring cup and in the case of the finishing, usually use their wooden board or any other absorbent board that where you can dry the leather on. And coconut oil for the post-processing part of the works. OK. With that let's do the next one.

OK. And instead of just reading this I will now change my video so you can see what I'm doing. So OK I always say that it's very important in all the cases to start with clean surfaces and that means that we have to be very careful of cleaning everything that we use with alcohol. So make sure that every time that you start working with this you clean.

What happens because we are going to be preventing any contamination from other type of organisms that could then propagate in our culture, and we don't want that right. And the other thing that I recommend is for starting the culture to wear your gloves for them. For the harvesting you will see that I will take them off because I usually like to touch the [LAUGHS] kombucha the SCOBY but it's OK it's just for basing it.

OK. So, we're going to start cleaning the surfaces. We also have to clean the container we're going to use. In this case I would use one that is very similar to the one that we have in the exhibition and it's because I want this to become circular. So yes I would use it like that. First you have to be washed before and everything. So this is just like a last moment OK. We spray it inside too. Let it dry a little bit. OK.

Then and you stay sharing the screen.

I'll share it again I turned it off

Yeah, that's good thank you. I want to keep the as I wrote the instructions. [LAUGHS] OK. So we have that. and then I will boil the water here. You need to-- like in this case boil half of the water because what we're going to do is that we are going to create the tea first. And then, add to the mother. What we are trying to avoid is to kill the microorganisms if we add the cold water to them to the water, and I can show how the mother is-- it's just a piece of the bigger material.

If you buy it maybe will arrive like a circle. So this is what we're going to use. I already half measured the sugar, so it's going to be safe. I will pour the water here. So [INAUDIBLE] already have prepared my tea bags-- two tea bags. So let's give it a couple of minutes

Maru do you mind if I ask you a quick question while you're waiting?

I cannot hear much should I?

Oh sorry maybe I talk louder-- can I ask you a quick question while you're waiting for the water?

Sure, please.

I was curious about the type of tea. Do you have a recommendation or advice on what type of tea to use? Well, then can you give me there?

Yeah.

The most common one is a Black tea. Usually that's the one that we use but it could work also with green tea and even people have used like other types of tea to add color. So yeah, this is the most common one but yeah. And also, depending on the color, sometimes you add a lot of the tea. The result will come like super dark. Like the water would be super dark. And then what will happen is that you are like having this film. It's just going to be super dark. So it depends of the type of material that you want everything. In this case, for demonstrations I didn't have a specific idea like the color of it. So it will come as like the natural color but it's like since it's very dark because we are harvesting every week it's actually transparent so it doesn't matter.

I usually like to work with them in a more transparent state. Compared with like obtaining a leather. For leather, just have to wait really to obtain very thick films on top. So that's how you can obtain the material. But in this case for this [INAUDIBLE] the sculptures and for intervening the window. Like really it's not that needed to obtain that thickness budget

Thank you so, curious.

OK. So, which is it again? So, the water, I would just measure to two cups. That's it. Well we're like I would leave the tea bags a little bit rest. It says for 15 minutes but of course we're not going to be waiting for 15 minutes right now. [LAUGHS] But, yeah. I don't know if there are other questions that can be asked right now since we're waiting two seconds?

I was wondering if you could talk about some of the mishaps maybe that you've experienced especially for us at home that could be trying this for the first time? [LAUGHS]

Like, OK. So, for example-- one of them-- that's why I always put a lot of effort to explain that is very important to sanitize everything, because that sometimes happens and it gets contaminated. So you will see some other type of microorganisms growing on that. So that's a little bit sad.

Another thing is that I usually recommend people like having their cultures. Well I recommend using beets, because sometimes like this is a very, like attracts a lot of like a lot of flies. So you will see [LAUGHS] your space covered with flies. So yeah. Some people don't like that I don't know why. [LAUGHS]

What else?

Did you see using like a net like a cheesecloth or something? Or is that what you meant?

No, like actually it covers. So, I was going to ask. So, for example, I had I know this is not like a typical thing that will happen. But like something like this and it has like a lid . I've used like this type of containers and then he has something to cover them like so-- Works. In this case, the one that I'm going to use-- it has, also it's a lid. So, it would be like that.

I bet one of those things in the microwave, that type of cover would probably be good, too.

Which one's?

Like you know those things to cover your plate if you microwave something?

Yeah, yeah, yeah.

Something like that, yeah.

Yeah, that's a good idea. And yeah, I cannot move the camera. But like yeah, for the big things, they are like normal plastic containers with lid those work. So, I think the tea is now looking better-- you can see, it's actually very. Yeah, you will see, it's very strong. Then, we will add the rest of the water. Sorry, I'm following my instructions. [LAUGHS]

And then we will add the sugar but it's all ready. Yeah, sometimes that happens that I just do it like without paying attention. And I know that I think that the result will be the same but just for consistency really when I showed that story like that. So, yeah it's basically- you have now a tea, right? [LAUGHS] What else? Well we'll have to make this get a little bit cold before we add the water because I was saying-- since this is very hot and the microorganisms are there, do you know what happens when you wear things in very hot temperature, right? In this case, the microorganisms die and they wouldn't be able to survive for this. So, knowing that, then, now we'll add-- two cups of water. Of course, it won't fit that.

My container was not big enough for this. [LAUGHS] So I will just do it like that.

This is usually how I cook. [LAUGHS]

I have the wrong size container every time.

Yeah, I know that's the type of things that could happen, you know? [LAUGHS] OK. It says that we have to add the vinegar. And this is something that I found to be helpful-- sometimes when you have it like that and you start-- it can be easily contaminated because it's not in the right pH. So, that's something that without taking the page I know that it's around the 6 7 you know? And you see? There you go 7. So, I usually try to help the culture because as in the explanation we review they actually will produce their own acid and that's why I want to drink too kombucha it's actually a little bit acid. Remember that it's because yeah some of the microorganisms. Some of them-- they are transforming the sugars into ethanol into alcohol and some others go out produce acid acetic acid. So that's how we want to make sure that we help them a little bit

So. OK. How are we on time? [INAUDIBLE] then and I'm sorry I speak to things, [LAUGHS] and speak to myself. OK, so we are now, and you can see more in the form so 4 3 4 that's a good place to start. So the microorganisms are going to be the ones are going to go ahead and get into the tree. pH-tree So with that, which is how to make sure that it goes inside.

OK. We have the water that I was not able to be fit here and so we can complete the two leaders. There you go. And then I will ask the mother to the culture. OK. Come here. And it's just covering it and that's it! That's how do you start your culture. OK. So now probably something that I really enjoy doing is actually the harvesting part and I want to. Show that, ah-- can we continue with the presentation, please?

So before I move to other things-- some of the comment is that yeah this is the process in which you are learning to know in this case someone new in this case, this is SCOPY. So it's like starting a relationship you have to get to know what it's like with a new life. Yeah what is there is now? What are the conditions that could help them grow better? So one of the suggested suggestions that I can give you is don't move it. So if you already are having your culture prepared, there is a set place for it. It doesn't have to be actually exposed to light. So consider that.

Don't move it because the bacteria will start producing this film like it's better when it's just static so the film can be produced better. And learn to identify this now and right now the smell of the room smells like a tea but as time passes, it will start smelling more like vinegar, and that's a good sign that everything is good. So if you start to notice some other kind of weird smell that it's not vinegar not tea, that means that probably we have contamination. So that's why I always suggest learning to smell, touch, see any changes.

And then take every week the progress of the culture, it's very important. It's not like OK, I already have it and then I will just abandon it. [LAUGHS] Now, you have to take care of us plants they need my work here. So it's the same. OK next one. OK now it's harvesting and now for that change to Camera. Could you do next please?

So, as it says-- in about well it depends what you want. In our case, I will probably do find something ever after one to two weeks of putting the culture there. But if you want as I was saying something that could be bigger yeah it can take about four weeks for a film that can be completely developed. And one inch is kind of the optimum thickness to work with if you want it as leather. So let me take one of my cultures how to do it [INAUDIBLE] so don't mind my container. It was in another box. Yeah that's how you will find it. In this case [INAUDIBLE] Yeah super acid [LAUGHS] it has a very characteristic of smell and right now to be honest, I actually like it very much. Like that now that I work with them like a lot it's kind of something that I like yeah that's a SCOPY. It's the healthy SCOPY.

OK. Do you learn with time? So, yeah as you can see there is this film that it's on the top-- formed and I will just show that to you. I can see this is a very pretty one because what I've discovered is that it has a pattern. And this is the very first time that I found that. I don't know if I can hold it to the camera so you will see. And it would be a mess but it's OK. Just for the sake of demonstration. I don't know probably it's not visible. There you go. Can you see anything? Yeah, like circles?

I see the circle.

I didn't do that it was the culture! So, yeah I don't know why. Sometimes that type of thing happens like they're just like surprises. So yeah I think it happened that for example this one was still forming, and you have some kind of residues just like there so I would always make them back. So, this is it-- I will bring it back and then I will do the other part of the workshop, let me see. OK, with gloves-- yeah, OK we already did that. It

turned out, and this is as I was saying my very favorite part. Because I just like the material and I actually you might not want to take off my gloves because I usually do it without and this part because I just enjoy. [LAUGHS] We don't want is to contaminate the rest because we want to still use it but this one is the one that I want to show. And yeah, it's really slimy and delicious. OK. So, now that I have this, OK. If you were to do the other type of process I will show it later. But maybe we should go to the intervention part because I already have it in my hand.

So let's change my camera OK now you can see me. OK, you have it here. Very delicious one. OK. And I will intervene this window in the right. I don't know if we will be seen for the camera, hopefully? But it's basically taking it as it is. Maybe don't want to take some of the liquids out. So it would be just like trying to drip everything in another container. Just fine, Oh. Pressing a little bit, like so. So you don't have a lot of drips on the window. That this is yeah what is happening at LAMAG and that John help us every week. To do. So.

He's an expert now because he is your top student! [LAUGHS]

Exactly! OK. So I would just go for it. And I, OK, I will clean later. [LAUGHS] So, he falls right? It means that it's less water. So I had to keep going. Taking out the water that it's embedded and then. If I don't that, I will just keep falling. In this case, what I can see is that this is actually holding a lot of water. So it's very well hydrated. So that will be that would mean that sometimes when you have this type of situation you have to collect it and then probably put it in another container without water, and leave it there for about 15 minutes so it starts to lose the water by evaporation.

Once that happens the material will be less hydrated and more prone to really get up here to the window. And yeah this idea of going to the window was because of the development of the work because, but also because I really enjoyed how it looked when it's like recently harvested. Still with water so I wanted to see through it and it's very transparent. So that's how the idea came of intervening windows besides the concept.

OK. Let's try again. Let's see if we have more opportunity right now so it's a little bit broken Come on, stay there. Yeah OK. Needs more. You see there is a part of things that you cannot control! [LAUGHS] So I don't want to bore you all with this. I will probably would need to continue doing this until it's a little bit less watery. But normally I would just like putting aside. So, we can keep with the time because I don't want to take everyone's time. But I will show it after. So don't worry I would do it anyway. But before we end I just want to show probably for Paola, that she mentioned that she already uses this material for [INAUDIBLE] for alternatives for leather or other type of things.

Yeah let me just show you some of the work that I've been doing. Placing this same film that it was obtained but now in a two-dimensional shape. So it's basically you're seeing the same material and then trying to make it form. This case, they are like the shapes of the cells that I was imagining to be living like thousands of years ago. For mine, there were intentions. Exhibition. But also it can be something that came for the material. And it's like very big in this case translucent. So, this is a film that was obtained from a big tank and that's also in our opinion like you will produce the material that will produce the material and you will see the film that it's very thick. Sometimes I've seen films are like this thick and they will get to this [LAUGHS] very thin material because what we are having it shows water.

So, when everything evaporates it's a moment where you have to think of that. And, lastly probably can you go next? So I can-- yeah so it's finishing. Let me change again the perspective of the video. I would set aside this. One way of making this dry is if you have your very big film is to put it-- place it in the wooden boards that will allow it to dry and you will have a flat. That's one way to do it. Since it's not the case for the latter because it is very thin, let me show you. We will have the material. And then try to run it with oil. And I put coconut oil but you can also use any other type of oil. So, you have the material and then it's just rubbing it like very lightly. So you can obtain the leathery like appearance. And this is one of the, I forgot to mention, this is one of the sheets that were produced for also for LAMAG's exhibition. And the second part, in which some drawings were able to I was able to draw on it. So it's a very versatile material.

So you can see how it starts to hydrate, after the application of the oil. Yeah, otherwise this can get very brittle and it can break. Let me go back with a camera. Now I know what I'm doing this, if you have any questions, comments, complaints.

I had a question. When you're drying it into instead of putting it on like a wooden board for you to get like that specific shape are you drying it into that shape? Or creating that shape after it's been dried?

No. Like I create first the shape and then I put the film like this-- like just [INAUDIBLE] into it.

OK.

Yeah, so the thing is that the shape that you make it drives the shape that it will end. So, yeah if you put it flat it would be flat. One good thing about, I forgot to mention, one good thing about this is that when you dry the material you can always put it back to water and it will re hydrate. You will think that it would be the same as when you first harvest it but it still you can re- shape if you water it. So, yeah that's a way.

Do you have any recommendations on what to dry in that shape because I've used I think it was plaster before where I molded something and then I dried it on top and that didn't work. So do you have any recommendations on what to help what to create the mold out of? To dry it on top of. Does that make sense?

Yeah the thing is that it usually gets to the stick to the surface. So, yeah that's not the usual part. So, right now what I've just made possible is to actually use less surfaces. So for example for flat and instead of like make it drying the wood I would have like a line with [INAUDIBLE] I can put it in there. So, it's very easy to tend when it's already dry. Make it like take it out and then use it as a material. But it's to-- it gets attached that's the property of this material. [LAUGHS]

So, one way would be probably first adding the oils, so they can prevent that adherence. Yeah, I would need to see what type of molds you are trying to use. Because any time that you put things and there is a surface like it will adhere to the surface. And then you won't be able to take it out.

I don't have a solution for that that's why probably working with an armature can help because it allows the film to just be like in its own way adhere to it but it's still like floating like it's not touching anything else. So, yeah that's one thing. Yeah, let's chat later you want to make it more of that situation. Very well, one good thing, and I've seen so many artists and do you've seen it plus the leather and then they can sew it and they produce very beautiful garments with that. I've seen wallets made out of this. Bags, yeah things like that. So they're more like you work it more as a leather.

Any other questions?

I have kind of a follow up to the mishap attack. [LAUGHS] That we had earlier because I had tried to make a SCOPY as like a novice a while ago and I remember I think it got mold onto it and I had read that that's not good if there's like the white fuzzy mold. And then it's no good anymore it's contamination, right?

Exactly. Yeah, that's why it's very important for you to start with clean surfaces. Always alcohol helps because you helps you clean the unwelcome visitors. But yeah, once it's contaminated you will need to start again. Because if you actually use that yeah it would be contamination with you and you will be--

Oh Yeah. Yeah, and I think I had heard previous to that but it's good to keep it in a more like humid environment. So I think I had it in the kitchen nearby the sink. But then later I thought maybe that's a bad idea. And that's why it failed

I would recommend having it like close to other like food sources because yeah that also has like its own flora, microbiome, whatever you going to call. And it can just like float and get into your culture. It also helps having the lid because also that prevents other things too from that. So yeah, that's usually what happens. What I've seen happening that people can have, like contamination coming out of it.

I'll have to try again now that I've learned so much.

I'm glad! Yeah hopefully you can start with it because it's just a thing that you can learn how to manage it. Yeah let's try it again. Let's see if they want to stay in the window. I will try this other one. Probably-- and, yeah, so it's like and probably you cannot see it right?

Yeah. Can you? It's because at the camera let me bring you up to there and probably we can finish up with that. [INAUDIBLE]

I love that

And yeah, it was not like completely formed of the shape but it's still-- you can see some of it. And yeah, and I love this state when it's like already having water [INAUDIBLE] So.

You can really see the texture now it's really pretty.

Yeah! So. Yeah, thank you so much for being here! I have one more question for you if we still have time Maru and I know I want to see if anyone else does as well but I know that you've been working with SCOBY for a long time that predates of course, the pandemic. And I'm wondering if over this year of isolation has your relationship to the SCOBY changed in any way. Or do you think about it differently? Especially thinking about membranes and everything that you were talking about earlier?

Yeah, well for me it was like first I didn't know much about this type of material actually when I started the school was when I was introduced to it and it was such a thing like I don't know the SCOBY that it was for me well this is amazing. I really want to work more on this. So that it started for me the relationship of getting to know each other.

For the pandemic I can just say that it was just a continuation of learning to live. Now, in a different context because for [LAUGHS] to be honest-- Probably my room mates in the past there were not that happy with me. [LAUGHS] Because sometimes I get somewhat of a smell. So, yeah, there is other human implications are related with that. But you have to consider but it's part of it. Yeah, I felt that there was like a little bit of push back from some people. But still like I needed to make room for them and make sure that they are still alive. So, just like remembering once I get like and don't do that please! And even it wants to hide in my own room because [LAUGHS] So, yeah that's part of the difficulties that happens when places are closed and then you have to sort of take care of what you're responsible of. So in this case, I felt responsible for my cultures and my plants. Brings another level of commitment. [LAUGH]

Should we open it up and see if anyone else also before we close has any further questions-- did you have anything else you wanted to share Maru? I think it's just the invitation, maybe if you can share the last slide that I had prepared? Of thinking of the possibilities of course of learning to know, oh Yeah there was another video that I didn't show.

That's when I was like developing the method and all that you can click again. Those were my first tests for this. But please yeah if you want to test yourself-- you want to make your cultures for materials or for window interventions, I would love to see them. So you can send me an email or tag me your Instagram, I will be super happy for that. And yes, I was saying this is an extension of the piece. So if you want to be highlighted and participate in this intervention on windows, which we are really trying to put us all together in the same membrane and to try to push this idea of bringing more inside of the same range of care-- let's do it and share it. And I will be super happy to also collaborate with you as part of this piece.

Thank you so much Maru that was wonderful! Super interesting, and I just want to check one less time to see if there's any final questions before we end the program today. All right, well take note of Maru's contact info and if you do end up making your own culture please tag us on Instagram. And until next time thank you so much everyone for being here. We look forward to seeing you the next time. Have a good day and weekend!

Bye everyone!