

Synthesis Interview with Sha Xin Wei
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- Speaker 1¹: [00:00](#) Hi, I'm Sha Xin Wei and, in Chinese we put our family names first, but I was born in the States, I was born in Washington, DC. I wear different hats. I'm the director of the School of Arts, Media and Engineering and also of, the Synthesis Center at Arizona State University. That's part of my life. I'm very happily here in Montreal the other half of my life, being Senior Fellow here with Building21.
- Speaker 2²: [00:29](#) Excellent. Um, so I thought it started asking you about, um, synthesis but also prototyping social forms and what you're doing here, um, at building 21. So you describe, um, synthesis as a practice of building an ecology of practices for imagining and making the worlds we inhabit. So can you elaborate on those sort of three projects and what is kind of holding them together?
- Speaker 1: [00:53](#) Actually there's a pre-history to that, which is the Topological Media Lab [which] I directed here in Montreal. We can come back to that later on. The "ecology of practices" -- that phrase comes from Felix Guattari. And so we're just borrowing that. But this idea that when we're talking about ecology it's not just the environmental ecology [of] ... the animals and minerals and plants. That's one, of course it's very essential. But there's also this ecology of social relations and ecology of ideas.... And I put it into the ecologies of practices, thinking of Isabelle Stengers, this idea that, well there could be all sorts of practices just like there are all sorts of ...creatures. And or entities with different interests and different genealogies, different ... ways of evolving. But somehow they all must live together in one world, even if they may have different interests.
- Speaker 1: [01:46](#) So this kind of, you know, rough, messy ecology, whether this is of ideas or practices and how do we inhabit that kind of thing. So with the Synthesis Center, the idea there is [to] provide a home for people, adventurous people to invent these new ways of thinking about things, imagining things and even making what they're imagining, uh, and having different practices for how to do that. And how to think about, you know, once we make such a situation or thing or technique, well we have to be able to reflect on that. What do we make? ... Is it interesting? Do we want to do it again? Would anybody else be interested in

¹ Speaker 1 : Sha Xin Wei

² Speaker 2: Damian Arteca

that? So Synthesis means we want to do it in a holistic way. Bringing together all these different ways of doing in one place.

Speaker 2: [02:31](#) Right? Um, one of the things that I've pretty mentioned in your lectures is that there's a difference between bringing together, say an artist, a philosopher, and a mathematician, putting them in a room and asking them to collaborate and producing a sort of synthetic form of science. We call tech ne, you know, other ways of thinking in one sort of individual. So how does that like contrast work and then how do we go towards one rather than the other?

Speaker 1: [02:55](#) Yeah, I mean, yeah, I don't know about here, but you know, I guess there's all this talk about STEM and going from STEM to STEAM as typical in certain kinds of educational circles and then mean science, technology, engineering better. Then we add the A for art. And then recently people who have been talking about SHTEAM, adding H for humanity. ([Speaker 3] So I wonder what's left?) Exactly. It's alphabet soup. So I said it's alphabet soup. That's one model. Just laminating together these different disciplines and hopefully getting something out of that. Um, and, and that's not atypical this modular approach to the world. The only insight that we get from typical ways of thinking about science, engineering -- divide and conquer, right? So now we to put it back together again and hopefully get a holistic education. So instead of that, uh, we've been thinking, um, about other models such as notion of alloy.

Speaker 1: [03:47](#) You know, we have metals, so when you melt them down and we produce one metal -- it's not cladding of two different metals. Well, one metal, one thing -- it's called an alloy or in earlier days the notion of alchemy. It's the idea of transmutation of substances together. I don't want to be hydromorphic or anything, but just this idea --, how do you actually blend together? You know, these different flavors and in practices together. I think B 21 is like this too. I mean it's beginning, right? Be 21 bringing people together from all these different areas out of their particular let's say, uh, elements, right? And here's a space where maybe we can find a way to, we don't know yet, find a way to maybe heat it up so that people can find ways to blend a practice together. In Synthesis, we've been doing that for now some six, seven years, more at the research level. Right. So I'd be interested to see how the we can actually bring these kinds of, with different ways of blending together. Yep.

Speaker 2: [04:40](#) Right. Um, earlier you were mentioning to me that like some of the projects that you've been hearing about some of the interns that are actively working in building 21, you see a lot of potential and kind of collaborating here. Like what specifically

are you envisioning as things that you want? My white one, excuse me, might want to produce here at be 21.

- Speaker 1: [04:58](#) It would be premature for me to say what I want, but I'm thinking, um, uh, I've been talking about those as with Ollivier from the beginning actually, which is -- and now with you guys -- which is, looking at, not making the same thing in different cities and different institutions, but leveraging the respective strengths and particularities. I am the director of arts media and engineering, which is formally inside the arts and designs Institute at ASU and also engineering. So basically arts engineering techne, making -- people who make stuff, right. Uh, in different ways. So at AME we talk about learning through making, knowledge production through making but making can be even making philosophy too. So it's experimental in that sense. Okay. So there's this maker practice. Practice of making, um, there could be more reflection too. And here there's so much strength, you know, and not just in B 21, but of course throughout McGill.
- Speaker 1: [05:54](#) And this is a top, top flight university with research, where all these different arts of and scientists of reflection, whether it's in history or, or neuroscience. And maybe what we could be thinking about is how do we, uh, when we attract we meaning be 21, when we attract people with really great ideas, um, we're trying to reflect in an adventurous way, in a, in a way that doesn't fit inside particular disciplines, say or program, what's the next step? Because for some of those kinds of inquiries, people might want to, um, make an instance of what people are imagining. So some specific examples in mind. Um, but I'm slowly learning that by just talking with the fellows one by one and also speaking with the fellows from the past years one by one, and to understand which of those, um, inquiries might naturally lend themselves to an empirical, empirical work as well. Right.
- Speaker 3³: [06:51](#) So making philosophy, that seems to me to be a sort of a, the way I would define you in way, but in what I've known from you for a number of years, it's always making philosophy or you know, making ideas, but there's always technological part to it. Right? So can you, can you just, can you explore that, that, that dimension, that the machine dimension of making ideas and philosophy?
- Speaker 1: [07:18](#) Yeah. This is a very precise question. It's a good one. Um, so there are several steps. One is why experiment at all? I mean, why would philosophy, any philosophy, philosophical practice require experimentation. And that's a conversation, you know,

³ Ollivier Dyens

it's not for me to just say, Hey, this is why. But the motivation for that has been, if we think if one takes a processualist approach, like a procedure, take a philosophical attitude, which thinks of the world as continuously in flux, as dynamic, as changing all the time. This is very ancient way, an ancient mode of philosophical thinking. In the West going back to Heraclitus and China it would be Taoism et cetera, et cetera. If we take that kind of approach to thinking about the world is ever unfolding and changing then any schema, whether it's ethics or metaphysics, et cetera, -- we can't let it just rest to say this is the way it is and then we're done with it.

Speaker 1: [08:19](#)

You know, instead, we would have to always be making fresh philosophy because the world itself is remaking itself afresh, this is just the attitude I have, with the people that I'm working with, from philosophy but also from the arts and engineering. Given that that's a motivation for doing empirical work, let's actually test the situation, so maybe my ideas or our ideas about what the world is made of and how people ought to be. Well, we might have to adapt it, you know, keep, you know, it has to be adapted so, so yes. So it's informed by, you know, what we studied in books, et cetera. But maybe we also combine that with what we would call experimental philosophy, which means, what do we mean by experiment? Experiment would be, well first of all, empirical means looking at experience. Okay. Looking at experience, but not just my experience, looking at our experience, collective experience and we'll go from there. Experiment would be to change the conditions of experience and for us changing the conditions of experience in a reproducible way. That means to the extent that contemporary life is infused with technology, then if you want to change the conditions of experience, we do need to also change the technologies. We need to be able to adapt technologies. We need to be able to invent new technologies appropriate to the experiment. That's it.

Speaker 2: [09:50](#)

Mmm. In a lot of these kinds of experimental settings that you generated, there's like a focus on, um, embodiment, you know, um, like I think you've expressed kind of explicitly before that. Um, it's not enough to, you know, put a sticky notes up on a wall and put strings between them and say, well, conceptually, these are the changes that need to happen. Um, it's important to experience the differences that you're generating. Um, so why the focus on embodiment? Like what's gained by, uh, if an immunological approach that's not purely theoretical but that's actually revealed to you in, in practice, in play?

Speaker 1: [10:22](#)

Another great question. Um, whenever I say something like [body] or [experiment] there'll be brackets around them, which means there will be initial understandings of what one means by

body. And then we're going to, in the course of working through, let's say, embodied experience, we're going to change what we think bodies mean. Okay, so let's just do it that way. So the starting point for that came from somewhere else, which is about the limits of representation. So there's a lot of work, uh, we see here too among some of the students, ways to starting with things. But looking at, well, what's, what's the representation? Do we do it as a diagram? Do, do we do this as a table with numbers too. We do data analysis. Do we write in English? You know, write it down, as a poem perhaps. And then we'd learn from the humanities, from literature that study very deeply what does language ... what ...can language express, or maybe what can be represented at all?

Speaker 1: [11:27](#) You know, this came up I think yesterday at one of the talks, so in Tanner's thesis. So the question of representation is one of the deep questions for philosophy and humanities actually. But if we started by ...having a little bit of humility saying, well, okay, so I know a lot of mathematics or you know data science and you know, a lot of, whatever you know, you have a lot of narrative skills. Maybe we can say, well, maybe there are limits. Whatever the mode of representation is, it will not explicitly capture everything about experience. That's why poetry is so powerful because it works this way. So, given that, given that can we be mindful of the positivistic limit, saying ... all we need to know about a sign is already in that sign. We don't need to worry about context or relationship or history or genealogy. Well let's say we, we should be content sensitive to that.

Speaker 1: [12:33](#) A lot of the computer techniques for representation have basically started with the assumption that we can exclude from representation material, corporeal, historical sexual context. It's because we think we can, but this is what we know from looking at, for example, how Claude Shannon first introduced the notion of the bits in information that is, it's meaningless and semantics is not actually part of the representation that was given to us by the digital. Not to say we can't use the digital poetically we can use anything poetically. Okay. But it would be a mistake, I think to assume that digital representation can encode everything about experience. Okay, body. Okay. So it's not so much body per se, but more this idea of event that we're starting from in Synthesis Center and in the Topological Media Lab. We're interested in looking at whole events.

Speaker 1: [13:37](#) Events, have stuff, objects, objects. [Damian] Now that's perfect. Well, it's material, ... has objects, has human bodies, has other kinds of bodies, has air, has noise, right? It's all this stuff that's going on and also has symbolic material as well. You know, our memories, our prejudices or histories, et cetera. So we want to, I want to work say experimentally, I want to work in this kind of

thick, messy situation. And that's why in the day to day we say, Hey, let's have living bodies in the room. Because that's the quickest way to get the material back in the live situation. Yeah. So it's not just bodies, but it's is more about events ...material events.

Speaker 2: [14:25](#) I see. So the, the, the limitations of representation in so far as it's kind of discursive can be avoided by producing experience as such, uh, and putting people into those contexts.

Speaker 1: [14:37](#) And this brings up the ethics of experiment from the very beginning, I mean in 2001 or 1999. So...we explicitly wanted to not have a hard division between the category of experimenter and subject, or between artist and spectator. So at any event, we always assumed that that was very porous, that the agents in the situation, some could be both or flip back and forth between, ... a proposer of how the event's going to proceed or the maker of a thing, or a recipient, ... a passive or active participant in the event. So there's that kind of similar transition in our ethic.

Speaker 2: [15:25](#) Mm. Maybe on the vein of ethics. Um, one of the things that, um, plays, I think a part in, in the prototyping social forms is that there is a sort of, um, futurist or political element to it and it, that it asks us to imagine, you know, what a more ethical, social form might be. Um, how do we go from an experimental event to a sort of lived social form? Right. Um, because it seems that like what we're really getting at with the event as a sort of ecological validity, right? And what that implies is that it's not enough to say that we live lives through, you know, information that can be accessed and talked about. It's that, you know, we live information, right? There's a sort of boundless kind of cultural context. And so, you know, um, how do we go about living a new context, um, which is of course very different from merely experiencing an event that introduces novelty.
[inaudible]

Speaker 4⁴: [16:18](#) when I think about that, a great way to approach explaining that is the project that you proposed to us this morning or that you shared with the building 21 team, which is the shared kind of meal experience. Maybe you could describe that a little bit more thoroughly.

Speaker 1: [16:33](#) If I forget, you should ... remind me to pick up some points and maybe we get to address. So with regard to this ethic, this processual approach to the world ... actually ... can go quite deep. That really means that as experimentalists, we need to be

⁴ Speaker 4: Rebecca Brousseau

able to change the schema under which we are constructing the apparatuses for doing the experiment. ...What that means is, for example even the extensive question that's being explored, it's very, it's what people say is co-articulated. So, I'll use an example. I like the example of Galileo. ...The story goes, he constructed his instruments. He ... made telescopes. He also "discovered" we say...satellites ... things like sunspots ... parts of the sky that were not invariant.

Speaker 1: [17:39](#) He also was a mathematician. He invented mathematics or constructed mathematics, the mathematics to account for these observations that were made possible by the apparatuses. And these were all co-constructed at the same time. And that's really beautiful. It's not like somehow by magic I observed the world and bang, I don't question them in the data, [or]... how the data was acquired. No, no. He constructed telescopes that made those phenomena become phenomena for him. ...You see what I'm saying? So it's in that spirit one could call that abductive science ...: this way of approaching the world with ... contingent sets of understandings and practices and even the questions, because ... before seeing those phenomena [like satellites], he didn't even know there was something called satellite to explain....

Speaker 1: [18:34](#) So ...[it's in] that spirit, we're trying to do this kind of ethic – I don't want to say ethical yet. This way of doing experiments ... That's one part of it. The other part is never to imagine that I am outside the frame of the experiment. ... [Whereas typically] ... one says that there's this experimentalist and there's this subject (whether ...human or nonhuman). -- And that's a radical shift, at least for the sciences. ...Of course in anthropology, people are acutely sensitive to this question. ([Damian] Right, we could say it's the discipline that's concerned precisely with that observation.) Absolutely. Yeah. Now coming back to something like the [Global] cafe [project], ... it's a very small but initial step. It's in this abductive sense, right?

Speaker 1: [19:25](#) Because the larger question that it was Yanjun but also Shomit -- Lyu Yanjun and Shomit Barua -- who were giving a hint about the larger question. The larger question was : thickening sociality,... how can we instrument or animate a given built environment, a domestic environment or a humble environment, an everyday environment such that everyday gestures such as setting the table or washing dishes or just cutting salad on the plate, toasting wineglasses, how can the humble everyday gestures acquire great symbolic charge? And this has been a 20 year project. Not just Synthesis, back to the Topological Media Lab. So that's carrying on that kind of artistic poetic, but also a social question. So in that long history of different kinds of experiments, [the cafe project] is the late one

of the latest versions. So in the context of a little table, a cafe table, we... [ask] how can we instrument or animate the objects, everyday objects of a cafe such that, you know, these different kinds of people coming from very different cultures and maybe different intentions get together in a situation that becomes more amenable to certain kinds of sociality without... forcing it.

- Speaker 1: [20:41](#) This is part of the ethics : without forcing [or] determining what will happen.
- Speaker 3: [20:51](#) [Ollivier Dyens] how about yeah, cause you and I, you and I share with people at big between talking billing 21 and I guess I'll, so Michael Montanaro at Concordia with the Topological Media lab, sort of share a share a, Oh, I'm going to frame this a curiosity about new ways of learning and new ways of disseminating information. Do you want to say a word or two about how you perceive this?
- Speaker 1: [21:18](#) And that's how Ollivier and I met. It's through this question. I want to thank Ollivier for this... opportunity to continue that conversation in real, you know, grounded, tangible way. Um, it goes back to, for example, one way to start that is looking at, you know, STEAM education ... You look at the people who say, let's do it. Let's be interdisciplinary. ...So we just clad all these different disciplines together. In fact, at Arts Media Engineering, we have faculty coming from these different directions. They come as highly accomplished people in electrical engineering, English. -- You interviewed Ed Finn for example, from English -- , history of science, philosophy, dance [media arts]. ...But after 10 years now, maybe more like 15, there's beginning to be a blending of practices and that's what we would call transdisciplinary.
- Speaker 1: [22:13](#) This works ... at the faculty level. What about students? So,... the question is: what are the conditions under which ... students can come together where ...we don't ask them to drop their discipline at the door. ...This is the MIT Media Lab thing, they're anti-disciplinary. Sometimes that sounds like saying jettison discipline. No, no,.... Here, we have people who are very accomplished, ... quite competent in their home disciplines coming to us with these competencies. But there may be inquiries that are transversal to disciplines. You know, if we want to think about climate change or something... those questions ... cannot be bounded by any one discipline. So they're necessarily transverse.
- Speaker 1: [23:14](#) So that transversality won't have a home in the typical academic context and it's okay. In a sense, you can say the disciplines get their strength from that kind of, you know, focus and bounding. That's fine. But where in the university can we have a place for

pursuing questions that just cut across [disciplines] just by the nature of the question? Now that's one [aspect of transdisciplinarity]. The other is unlike maybe typical superficial kinds of interdisciplinarity where you have the intersection that's kind of a Venn diagram model...: Here's a big bubble for physics. There's [another] big bubble for, I don't know, [say] history and the intersection is peripheral to both. ... Same thing for the art and science. Intersection. It might be a kind of weak art, and kind of, eh ...old hat science. But instead, if we have questions that are really vital and ... autonomously, they are very cogent.

- Speaker 1: [24:06](#) You know, they're very important questions. That's what I think we should do: to think about those kind of lines or arcs of inquiry that are really strong.... They just ... happen to cut across disciplines. I think that's what is happening, can be happening at B 21 over in the studio, with Michael Montanaro that was more in the art domain, in the arts. And in a sense you might think one might think that some types of art practices are already transversal. But even in the arts, there's this kind of siloing going on. so it's... interesting to see how to pull from the performing arts and from media arts, but to pursue artistic propositions that cut across the different art forms.
- Speaker 3: [24:55](#) [Ollivier Dyes] It reminds me of this professor [Enrique Christopholous] [inaudible] who used to be a McGill Dean of Students.a brilliant man who once told me, he said, we have to explore this space of possibilities as much as we can because we don't know where solutions will come from in the future. Right. Because the problems we'll get, as you said, they'll cut even more transversely than they do right now. And maybe solutions will come from unexpected realms and dimensions. Right? Yeah. And if we only explore the ones that we know, then we'll get solutions that are always sort of the same and they'll never, they'll never address what you, you know, mentioned the, there's those famous wicked problems that we all face right now.
- Speaker 1: [25:29](#) Yeah. Let's pick up on this wicked problems. ...This idea of wicked problems is great. They were, we bring this and people know now probably all the listeners will know this term - w problem, but I still wanted to heard some interesting characteristics.
- Speaker 1: [25:43](#) One is that a solution to wine will not give us insight into solving another. In fact, solving when wicked problem, the solution to that wicked problem may itslef induce another wicked problem. And my favorite is that we who solve a wicked problem, try to solve a wicked problem are often part of the problem. So, given that, and yet I believe that , just looking, observing, ...people

who try to do this all the time, they get better at it even though they know ...they can't just follow a recipe. Okay. And these kinds of, Heidi say meta-skills, that one develops. I actually see that among some of the students here, they're already doing that. It's really interesting. I'm very much moved and, and really admire them tremendously - what they're doing. And they've been -- some of these people have been doing this for years.

- Speaker 1: [26:31](#) I'm tackling wicked problems just because they're in the world. ... We could say that in the world they're all wicked problems, you know, like, transportation networks or ... economies or food, et cetera. Now the issue is that MacArthur Foundation, the big foundations, Gates Foundation ... want to tackle these things like food and war, you know, a polarization of [wealth] economies, et cetera. But unfortunately there's a solutionist approach, you know, put \$10 million down and push a button, you know, it doesn't work like that, I think. I think basically we can only at best navigate, we can navigate complex situations. So it's a matter of adjustments of navigating or seeing possibilities ... as they emerge and, and, and maybe, um, uh, weight our attention differently. Uh, and that's more realistic. One challenge that we will face is that these wicked problems are much bigger than any one person or species. The question is how can we work collectively? ...It's not one ... heroic person navigating how do we build ensembles that can navigate in this ... graceful way.
- Speaker 3: [27:46](#) Yeah. I think what you're saying is, is really, really interesting. I think
- Speaker 3: [27:51](#) one of the thing we share all of us here is, uh, we embrace complexity as the solution. Not just as, you know, we push away from the silver bullet a solution to these complex problems. And I think we all do this here, right? Complexity is a solution and solutions will, many solutions will merge from this complexity and some of them will be very difficult. And that's, that's it was, you know, I was discussing this with my wife the other day and I said, this is probably the thing I as I grow older that I'm pushing back against most, uh, is this, um, you know, a single solution to complex problems. And I S I hear it everywhere and obviously this one, this is exactly what creates the other problems, right? When you applied that, it's like, I had this, I had this image about education and education is like this, this, this balloon, right? So you try to push on one end and it pushes on the other side. Right? And I think if we embrace it, embrace the whole sphere, there is complexity.
- Speaker 1: [28:56](#) It's a better way to move forward. I believe. So theater's very helpful. I think too. I mean in that we can think about the richness of an event, even if the stage is pretty bare. It could be that the stage is very complicated -- lots of people, lots of props,

et cetera, or the stage is pretty bare. But in any case, we can think of these other aspects of an event such as, is it under tension, is it pregnant with possibility...? And I would like to think about the term richness. Um, when I talk to people coming from engineering and we have a foot there, I reserve that word complexity / complex ... [for describing] how many pieces there are and how many ways [they] are related to each other. That's one measure. ... And then richness is something introduced deliberately to such people [to] say what we're after here is how to enrich a situation ... or recognize the richness of a situation.... There you go. It's helpful. I think.

- Speaker 2: [29:59](#) Hmm. I, this is maybe changing the subject slightly, but I'm, I'm interested in, um, and I don't know, um, how frequently this term comes up in your attempts, no pun intended, to kind of synthesize your thoughts. Um, but the term of polices, um, which is what as a, I believe that here, yeah. The art of creation, which proceeds the rebuilding, um, in theory building of course, which proceeds methodology. Um, and so polices I see sort of its counterpart, um, is the abduction that you're talking about, right? So, um, insofar as things are concerned with imagining and making worlds, right, the, the imagining is kind of abductive and the making is kind of poetic, right? And so, um, how do we, how do we balance these two sort of functions because they do seem to be sort of [inaudible] orthogonal to each other.
- Speaker 1: [30:48](#) You mean the abductive and the poietic. Yeah, that's right. Yeah. Maybe you can say the first is ... part of how I think about how we think about what's going on. And how do we, how do we ... intend -- what's our design plan, let's say. I'm not sure that I would even use poiesis as referring to what people are doing alone. I'm thinking of like, Morse Peckham. This is credit to Harry Smoak who was one of my PhD students -- he's back at Concordia -- because he taught me about Morse Peckham (and the [American] Pragmatists) who was talking / thinking about embedding ... the question ... [of] art practice into larger categories of biology, biological [processes] [inaudible]
- Speaker 2: [31:35](#) I see. So poetic in the auto poetic sense then.
- Speaker 1: [31:39](#) That's one way ... And people are beginning to think, theorize about -- I don't want to say posthumanist [inaudible] but -- more non anthropocentric modes of evolution, of creation, of thought, without ...merely mystifying the world. But it's ...very useful, I think, if we try it. This is a part that we haven't touched until now -- another aspect of the work, at least in Synthesis and TML is: how can we think non anthropocentrically. In other words, we are humans, ... we are social. But how can we think all these categories or all these problems without first thinking that we are the only or the most important beings in the

universe. That's it. ...So now we think about poiesis -- this idea ... this term that ... one could use to describe ... origination ... always keeping in mind, however, [that] it's not just a physics thing. It also includes ... aesthetic ...and affective qualities as well. ...And also at the same time... trying to think that non anthropocentrically. So that's all bound together for me when I'm using poiesis....

Speaker 3: [33:10](#)

Excellent. Does anyone else have any questions? I'm good. Yeah, I've run through my list. [inaudible] okay. So thank you. Thank you for giving us your time here. This is fascinating. We'll probably have another one, a third one, and we'll keep having this conversation is really fascinating. So thank you Professor Sha Xin Wei. Uh, and uh, this is the end of our, third, the third. This is the third episode, right? That's right. Podcasts on the Radical Futures. Thank you very much. Thank you, Rebecca. Thank you, Damien. Thank you.

Speaker 1: [33:43](#)

It's a pleasure.