Unfolding in the post

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ABSTRACT

While many fledgling collaborative research projects might have faltered (when the lockdowns came into effect, the full SciCurious research team had not yet met), SciCurious did not. The site of SciCurious (and scicuriosity) has always been abstract, transient, and removed from the act of being SciCurious. Before becoming part of a SciCurious Research Project, Sci Curious met (and continues to meet) pre-site, as Science Gallery Melbourne - the gallery we were brought together to advise on - is not yet physically built. Our experience as researchers, practitioners and as SciCurious unfolds primarily in the post[1]: post studio, post collaborative, post relational, post disciplinary. The adaptable thinking that underpins both the SciCurious community and the speculative approach to this SciCurious research occurs as a result of, or perhaps regardless of, the absence of a fixed physical space to be attached to.

KEYWORDS

Research, scicurious, post, science, studio.

INTRODUCTION

Perhaps it's a nice bit of serendipity that my first experience with *post* was in the *ps* and *pps* and *ppps* with which I would end childhood cards and letters, and my most recent foray back into physical letter writing has been the research zines shared between the SciCurious research team[2]. Enforced isolation due to COVID-19 has meant that, in lieu of meeting and creating

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[1] With 'post' not indicating that which comes after; instead, it simultaneously encompasses and expands that which has gone before, bringing the future together with the past in the present.

[2] The SciCurious research team, a collaborative, intergenerational group of researchers, is composed of researchers from the University of Melbourne and some members of Science Gallery Melbourne's young

physical research artifacts together, our research has gone postal as well as digital; during Melbourne's first lockdown, the research team participated in a collaborative zine sharing project to generate research data and collaboratively explore what it meant to be SciCurious and what *scicuriosity* might entail.

'Unravelling' zine [unfolding]

After its third in(ter)vention, 'Unravelling' is a palimpsest of drawing and threads that has been made, unmade and remade.

While many fledgling collaborative research projects might have faltered (when the lockdowns came into effect, the full SciCurious research team had not yet met), SciCurious did not. The site of SciCurious (and scicuriosity) has always been abstract, transient, and removed from the act of being SciCurious. Before becoming part of a SciCurious Research Project, Sci Curious met (and continues to meet) pre-site, as Science Gallery Melbourne - the gallery we were brought together to advise on - is not yet physically built. Our experience as researchers, practitioners and as SciCurious unfolds primarily in the *post*[3]: post studio, post collaborative, post relational, post disciplinary. The adaptable thinking that underpins both the SciCurious community and the speculative approach to this SciCurious research occurs as a result of, or perhaps regardless of, the absence of a fixed physical space to be attached to.

Unravelling, one of many collaborative zines that swarms throughout suburban Melbourne (and some tentatively voyaging abroad), is a visual metaphor for the post studio. As it has been passed from hand to hand (via the post), the zine has been made, unmade and remade with processes

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advisory group, Sci Curious. An early emergence within the research was the shift between Sci Curious, the group at Science Gallery, and SciCurious (or *scicurious*) which is a way of being.

[3] With 'post' not indicating that which comes after; instead, it simultaneously encompasses and expands that which has gone before, bringing the future together with the past in the present.

and practices layering on top of each other at home, in a personal site. New hands have unpicked stitches once laid down and, in thread of new colours and textures, have left new imprints. The prefix *post* is tricky in itself; as much as the post studio indicates something that happens *after*, it also represents the *un*-studio where learned practices are undone, unpicked. *Unravelling* is in a state of flux as it lands in new hands, physically falling apart and being remade by the transdisciplinary practitioners who reinvent this small site for practice-based research.

***'Unravelling' zine* [front and back view]**

SciCurious is technically a noun but the more we use it within our fledgling research site, the more it takes on the role of an adjective. It is, after all, a doing word - a practice through which we become. It was also the name given to us by Science Gallery Melbourne, our local node of the Science Gallery International Network. With eight nodes across the globe, Science Gallery International develops exhibitions where art and science 'collide'. The development of these exhibitions is 'steered' by SciCurious, a group of young people that ensure the exhibitions are designed to engage young people in deep thinking around science and technology. When we first joined SciCurious, we did not meet at the physical gallery but in a borrowed university studio space. This is because there was not one yet built. Most of the members had not been to a Science Gallery Melbourne exhibition because, at that time, there had only been one pop-up exhibition.

So, why were a group of teenagers and twenty-somethings sitting in a university art studio on a Saturday morning with little more than social media advertisement to go off? What did they plan to get out of this experience, or think they could offer? It was not paid. There was no grade or extra credit. Why – two years later – did they sign up to collaborate in a co-research-creation

project that would take up more of their weekends? What can we learn about post studio methods practiced by SciCurious, and from being scicurious?

It is likely the different ages of individual SciCurious (14 - 26 years) contributed to different experiences in the SciCurious conversations. It is also likely that the range of affinities with art and science also contributed to differences in experience.

[BRANA] Personally, I have always struggled with art and creative thinking. I was told at a young age that art was not where my talents were, and so throughout my years of schooling and tertiary studies, I have always leaned more towards a 'scientific' style of thinking. As a result, I felt like I had to work hard to shift out of a 'trained' mindset of scientific thinking during the SciCurious discussions – so that I could engage in the art-science collision space.

[ANA] I have always felt a tension between arts and sciences and the way I can behave within them; as a child, nothing drew me in more than animals and the environment. I would read non-fiction all day and draw what I had learned. Scribbles of frog life cycles and wolf skeletons littered my bedroom. I had never thought of the two things I loved so much – drawing and biology – as being at odds with each other. In high school I had to pick between visual art and biology because those subjects ran at the same time. I made my choice. I picked art. It was not until I went to art school that I fell back in love with science.

[CAT] Even within the SciCurious space, I sometimes feel as though I do not fit in. In school, I would always struggle in art class while I excelled in math and science. The two seemed distinct: I was good at one, bad at the other. Then Science Gallery Melbourne offered me a chance to explore the intertwining of science and the arts. Something I had failed to see was how my love of the performing arts could be something valued in the scientific space. Being a part of SciCurious, I was able to meet like-minded young people who also wanted to learn, explore, and imagine. I began to forge a new path in which science and music could come together to create new ways of sharing the joys of science.

'Unravelling' zine

[NIELS] I wanted to unpack *unravelling* from a mathematical point of view - I tried to reference charts (that we now see every day in COVID updates), how they evolve independently (as we compare countries and states), and how people lose track.

HOW TO PLOT A SPECULATIVE SITE

In troubling SciCurious, and considering the transdisciplinarity that underpins the thinking of this community, this text theorises accordingly. The research space is rooted in speculative poesis, and wrapping academic theory, which tends to be inherently discipline-based, too tightly around some of the thinking undoes some of the post-disciplinary scicuriosity we are working within. As a result, the theoretical ideas that drive the data events underpinning this paper come from a multidisciplinary landscape that sits neatly around our notion of post-disciplinarity; Octavia Butler's *Parable of the Sower* has been adopted as a model for speculative research, and complex multidisciplinary Rube Goldberg contraptions have been used as a vehicle to explore creative thinking that sits outside disciplinary bounds. This paper draws on critical autoethnography (Holman-Jones, 2016) to purposefully emphasise narrative style throughout and uses footnotes to indicate a connection to theoretical discussions that inform this writing but, in attempt to ensure the text is not choked by over theorisation, are not explicitly discussed on this occasion[4]. Theory is acting as a quiet subtext.

The research that has unfolded over the last few months has been situated within the realm of speculative research, a type of research that is informed by process philosophy and relational

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[4] See Coleman et al. (2020) for a more detailed account of the onto-epistemological and theoretical underpinnings of the SciCurious research.

thinking.[5] Entering research this way felt daunting to the uninitiated, wondering how the scheduled Saturday morning Zoom sessions could come to constitute research. That is, until we entered the research space through a familiar lens: speculative fiction. And what better time to contemplate the role of speculative fiction than in the midst of a global pandemic, holding onto whatever threads of hope, optimism and resilience we could? Thinking with Octavia Butler's strangely current dystopian futures, we began to wonder how we might begin to imagine ourselves out of seemingly impossible situations that we find ourselves in – how might we travel beyond the event horizon?

[ANA] Researching with SciCurious is exactly that – not *on* or *about*, but *with* and *within*. There is a tension that pulls at this, however, because I sit in a strange liminal space that is simultaneously inside and outside; I was brought into this project as a research assistant before the other SciCurious members, so I engage with the research differently, and I have a different relationship with the chief investigators who are not members of SciCurious – even though they may have become *scicurious*. It is only because I am simultaneously inside and outside that I can unravel how SciCurious is situated as a site for research. I have worked within, through and around SciCurious for three years now in several iterations of myself. I was also insider and outsider in my Master of Education research, and felt the same tension. As outsider, I could not allow myself to fall into the trap of conducting research *on* SciCurious or f*or* SciCurious. As insider, I had to mediate some of the confusion and tension surrounding the research.

[CAT] I saw myself as more an outsider than insider in SciCurious - someone who doesn't think like other members of the group. I get frustrated at my lack of imagination or creative thinking, because I wonder what I could possibly contribute to the group with my ideas. I feel like they understand something I do not, because here I do not hold any answers, numbers, set goals or theories like I do in the laboratory. Am I part of the speculative research, or am I merely watching it unravel?

[BRANA] What do you think were the sources of confusion and tension? Was it the concept of 'research', or something else?

[ANA] There was something I felt like I had to consistently justify to people within Science Gallery but outside the Research Project. It seemed like the research was too far removed from the traditional research undertaken in science-led fields.

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[5] See Mazzei (2020) for a more detailed account of the relationship between process philosophy (of Whitehead) and speculative inquiry.

[BRANA] I think this has to do with how people view 'research' generally. Do you think it was the specific style of research that made people somewhat uneasy? Do you think they would have responded differently if it was just a survey to complete? I know that when I have asked people to participate in classic/traditional scientific research, I felt like I had to justify it and make sure that they know that the time they have given up to participate in the experiment, along with their participation itself, is valued. Do you think that because this style of research is not 'traditional' research that was expected, it was something people scoffed at?

[CAT] In 'traditional' research, there is also a clearly defined hypothesis that you seek to investigate, and a clear-cut end with the data generated. The data consists of numbers, facts, figures. The research here is potentially not something that is necessarily scoffed at, but more likely, simply not understood by others too far removed from the (virtual) creative space in which the speculative research is being undertaken.

[SARAH] As a SciCurious co-researcher, did it make you want to do the research more or less?

[BRANA] Honestly, a bit of both. I think, particularly at the beginning, that it made me want to do it less - because of my scientific training and being accustomed to a particular routine and method, this led to frustration. "What is this going to achieve? Why do this? What are the methodologies? The limitations are endless!" Particularly the latter took some work overcome because I have been trained to look for potential pitfalls (e.g., finding limitations in others' and my own research), and speculative research, to me, seemed to have too many. Once I got over all of that, it became really exciting and I began to see it as a luxury. I realised that the process was important, not just the outcomes. Then the possibilities, rather than the limitations, were what seemed endless.

**"Freedom is dangerous but it's precious, too.
You can't just throw it away or let it slip away."
Octavia E. Butler**, *Parable of the Sower*

[ANA] I have experienced the tension and the politics of research when I step outside the SciCurious site of this project. When asked to justify the speculative space, there has been tension. Within the constraints of the research site, those research politics fall away, and I have a few speculations as to why.

The first consideration when plotting a speculative site is to consider the territory. Within the designed research site, the tight, academic constraints about how research is done (and who does it) do not exist. How else could you ask a seventeen-year-old to engage in a genuine speculative research dialogue with university professors, without being lectured to? Some members of SciCurious have experience working in research-led spaces across the sciences, where the underpinning methodologies differ significantly from the speculative processes explored within scicurious research. Research is happening without the academic territory telling you how to do research or who is qualified to do it.

'Unravelling' zine
A site of spiralling

[BRANA] The speculative concept also led to initial feelings of discomfort and unfamiliarity to us based in the sciences. This form of research is so free-form and so different to the intensely criticised realm of study that I am accustomed to - the kind that needs to be defensible from every angle and follow a familiar narrative and structure. This kind of research, I think, could be seen as a luxury in the sciences.

[ANA] I think it is a luxury outside the scientific world as well … I think it works because we are operating in a trans-, multi-, and post-disciplinary space that is trying to reconcile knowledges from a vast range of disciplines (and ages)!

[BRANA] I guess with any research, though, there are certain boundaries within which we have to operate, and I don't think we really have focused on so far. Eventually we will have to consider the limitations of this kind of work, which we haven't really discussed yet. I suppose it's difficult to consider limitations for something that is still unfolding, in a way. I guess that could be a limitation in itself - this is a sphere that is still evolving

The second consideration is that SciCurious members are inherently *curious*.

'Unravelling' zine
An act of connecting - reaching

WHAT IS POST STUDIO?
The other key data event, along with the travelling zines, was a morning writing the hundreds.[6] It was 10am on a chilly Saturday morning and, through our digital connection, site was relational and distributed. Where we located ourselves was spread across space and time – transported to childhood science/art classes (remembered) or a ball of wool (imagined) or a fig tree outside the

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[6] The hundreds session was inspired by Berlant and Stewart's (2019) book also entitled 'The Hundreds'. It was also informed by Kathleen Stewarts practices of exhaustive listing as a scaffold into poetic ethnographic writing about the ordinary.

window (observed) or a rock that is also a planet (philosophised). Belonging to the post studio site connected us.

Writing the hundreds: 100 words to explore SciCurious

[ANA] My personal understanding of studio is deeply embedded in my experiences at art school and my subsequent time at an artist residency in Iceland. These experiences are so intrinsically connected to people and place; even the most personal work was made in tandem and informed by those I worked around. When I was stuck, I would poke about the studio and see what others were doing, or steal them away for a coffee to chat about whatever thoughts were rolling around my head. The studio was an exercise in collaboration, even when I did not mean to collaborate.

Similarly, the *where* of the studio is integral to the *what*. In Iceland, I swam every day until my body was bruised from near-freezing water and waves, and in Melbourne I would watch one of my co-conspirators in the studio trace the afternoon shadows from the window.

[BRANA] I feel like art studios and labs both have this weird feeling of 'things are created here', using probably relatively similar mentalities or skillsets in terms of creativity and process, but just with different outcomes and tools.

The physical environment, social environment, and social context are all integral to how a studio functions (if they were not, collaborative artist-run spaces would cease to exist); how can SciCurious, devoid of site exist as a studio, let alone post studio?

The post studio sits outside, around and beside traditional studio processes - studio and post studio are not mutually exclusive - and this is where SciCurious conduct their research. Curiosity

is in their very name; those who are SciCurious embody a model of lived, practice-based research that is playful and genuine.

> [ANA] In separate iterations as artist, researcher and teacher, I have sought to reconcile the liminal space between being artist and being scientist (and what that might mean for the way we teach artistry or teach across disciplines). Lived inquiry and practice-based research exist within the same curiosity-driven process of artists and scientists alike, "characterised by an urgent and relentless search" (Dudek & Cote, 1994).

> When I critically reflect on my own practices as an artist, and the practices of artists around me, I consistently return to the idea that being artist is engaging in "research that serves curiosity" (TEDx Talks). It is what artists do. It is also what scientists do. It is at that intersection of artist, scientist and researcher that something truly curious happens, and I think that is part of the reason why these young people decided to become - and stay - SciCurious[7].

> [CAT] The results are truly genuine. SciCurious provides a safe space to be playful with ideas and thoughts - something that I am not used to as a laboratory scientist. I wrote three-hundred-word responses to the first, collaborative hundred. One was a personal admission. A thought that I had not allowed myself to think much of because it was something that I let myself believe had to be tucked away. But words from others gently coaxed it out of me. I also had put barriers up between my scientific and artistic endeavours, and donned a mask when dealing in the scientific world. By participating in SciCurious, the mask fell off. My true nature was revealed: a singing scientist who is quirky and had passions outside traditional research that I want to merge together. I am not alone in the growth and feeling of acceptance for our genuine selves that comes with being *scicurious.*

We see this in the hundreds. There is an emphasis on words like *childlike, curious, discovery, safe in not knowing, interrogate, pursuit, safe to fail, comfortable uncertainty, asking but not answering, speculating* and *surrendering* that indicate, in the most authentic way, that this group identify with a desire to learn and question.

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[7] There is significant overlap in artists and scientists, whether they be methodological, innate, or practical (Keane, 2016; Dudek & Cote, 1994; Watson, 2017). Buchanan considers design to be central to both processes, whether creating artifacts or knowledge (2001), while Watson discusses the iterative nature of both art and science to be a defining characteristic (2017). Art and science are both "rooted in inquiry, imagination, design, building, evaluation and refinement", they write, referring to both disciplines following design thinking processes (Watson, 2017).

[ANA] In one of my earliest experiences with SciCurious, we were at a structured meeting for Science Gallery Melbourne. We were asked to write and discuss the things we were most excited about and most concerned about for the next 10, 50 and 100 years. I wrote *'bioethics?'*. One of the other SciCurious members wrote a 'plus' sign next to it, to indicate that she concurred.

'I'm really excited to see what happens with genetic engineering, too. Not in a eugenics kind of way or anything, but I'm excited to see what kind of dialogue it opens up.'

I did not correct her and say that I was kind of terrified of the capacity for intervention and genetic engineering. She continued that she was part of a hacktivism group and that she was interested in different ways humans intervene in technology, biology and the environment.

It would become a theme, I would notice, that SciCurious members had carved out their own unique niches, and find ways to deeply explore those things. From writing songs and making theatre and art to hacking and collecting and reading, these people were consumed by their own *urgent and relentless search*. I had previously believed that to be SciCurious was disciplinary or methodological – Science Gallery, after all, claims to exist at the collision of art and science – but the data was pointing me to a new hypothesis: that scicuriosity is characterised by a post disciplinary approach to searching.

[BRANA] Could it also be argued that scicuriosity is characterised by a pre disciplinary thinking too? For example, having a particular approach to thinking about a problem that exists through methodologies such as creativity and logical thinking that exist before any specific discipline, rather than after it?

[ANA] I think that harkens back to a playful desire to find knowledge and learn new things … that feels like scicurious to me. The kind of learning and thinking we do before we understand how disciplines work.

[BRANA] Disciplines have their own norms, things we learn as we pass through them.

It became necessary to disentangle disciplines and studio practices. In a return to *Unravelling*, it was necessary to unpick and restitch and disrupt practice. As James wrote for his hundred on that same cold Saturday:

10:34:45 From James Urlini : How are you all so good at writing?
Do you write often? I often struggle to put thoughts into words,

opting rather to put thought into form. I see pontifications and speculations, drawing similarities between the happenings of the natural world and the actions we take every day. I see questionings of the unknown, the matter of the universe, our place in the universe. I see manifestos, proclamations and absolutes. I share some, most, all, of these views.. but still, I find myself struggling to express these ideas. Perhaps I need practice or 5 minutes more?

Part of making sense of the post studio SciCurious site is the disciplinary disentangling of how research practice is supposed to work and how we are supposed to *do research* or *do art* or *do science*.

[BRANA] We are in a unique position with a 'room' full of people willing to work collaboratively in a transdisciplinary space. If this is the future, what does this look like?

[ANA] Do you think that willingness is integral to why this works? What do you think actually makes SciCurious willing to work collaboratively and do all these things? I have thought a lot about why SciCurious works at all. *Why do we go? It can't just be for the provided lunch … we don't get a grade or university credits or money.*

[BRANA] I think willingness is a huge part of it, but there's also this idea that abstract thinking and humility need to be applied for it to work. The idea that different fields can work together requires humility, but also bridging them requires that kind of abstract and applied thinking that can be a cognitive challenge (there's also a cynical part of me that thinks this could look good on a CV. There are other networking opportunities, so that could be some incentive). I think there are just people that like to be curious and talk about things, and giving them a platform to do so could be enough.

There could also be this idea of breadth/depth. The two aren't mutually exclusive, but I think the more we engage in a particular field, particularly after tertiary studies, we are less inclined - due to exhaustion, investment, etc. - to be bothered to be curious. We just want to advance what we already know. I think people that are more willing to think broadly are more likely to engage in something like SciCurious.

[CAT] I believe that we are people who want to see change. We came together because of our interests in art, science, or both. What attracted me and a few others initially was our interest in science communication. But what is that at its core? We want to break boundaries between disciplines and share stories about

innovative science that everyone can understand. That means speaking in different languages - dance, song, jargon, English. We are all willing and active participants in the change driving curiosity, exploration, and education.

MOVING FORWARD; TOWARD PRE DISCIPLINARITY

The notion of pre disciplinary thinking has come up in discussions of being *post*. The deeper we delve into the shared, multi-disciplinary speculative inquiry of our post studio, the more relevant the *pre* has become. This is echoed in many facets of the project; the collapse of disciplinary boundaries, the flattening of academic hierarchies, and the emphasis on creativity all resonate with a playful, inquiry-led way of researching and living the research.

> [KATE] The power of this participatory speculative research has been that you, as SciCurious members, have done the collision work on your own and seen what happens when we disrupt the disciplinary spaces of art and science. In this research, you have been able to show what that curiosity might actually feel like, instead of telling a story. Working in this project has changed the way that I begin to speculate as an artist and practitioner. My learning from this project is that sometimes theory or method or the language of the academy can actually almost direct a project in the way that the project doesn't want to, or need to be, directed. In response to this project, I have actually been able to strip some theory from my work.

> [SARAH] The theory is still there, and it is almost infusing the practice with theory - it is truly inextricable. You stop needing to have these theoretical discussions because it's embedded within it.

> [ANA] These data products are quite an interesting visual representation of this praxis; there is something inherently speculative about packaging something up in an envelope and putting it in the post, not knowing where it is going to end up or if you will see it again or if it will be lost in the postal system. The zines are potentially an apt visual metaphor for speculative praxis.

Working in a speculative pre- and post-studio site has allowed emergences untethered by disciplinary and academic rules to be picked up and played with. The result is playful, open-ended and hopeful - particularly given the climate this work was born out of.

> [KATE] Also this is happening in a major health crisis. All of us are doing this weird thing where we are posting these stories about ourselves and the world we are currently living in without commenting on the way we are living in it.

I recently got one that did not come in the post, so it had come from somebody who lived locally to me. They just left it in the letterbox, and it did not have an envelope, so I literally just had this curious thing, sitting there, waiting for me to come and engage with it.

Again, the lovely thing about speculative work is that once you keep adding those layers and mapping, all of those pieces come together. We have a project that goes on forever, which is what is so beautiful about this kind of reciprocity and trust. Even the inherent trust is a really interesting thing for me. We all know where each other live and that is a really interesting thing for a group of people who come together to work in a gallery that does not exist… and then you all give each other your home addresses, and nobody balked at it.

I just think the concept of trust is so amazing. So, where trust lies in a concept of curiosity and imagination and speculative futures is really lovely because I think what's missing to a lot of people in this crisis is the concept of hope. Being SciCurious is one of those opportunities. I think it's a nice thing for us.
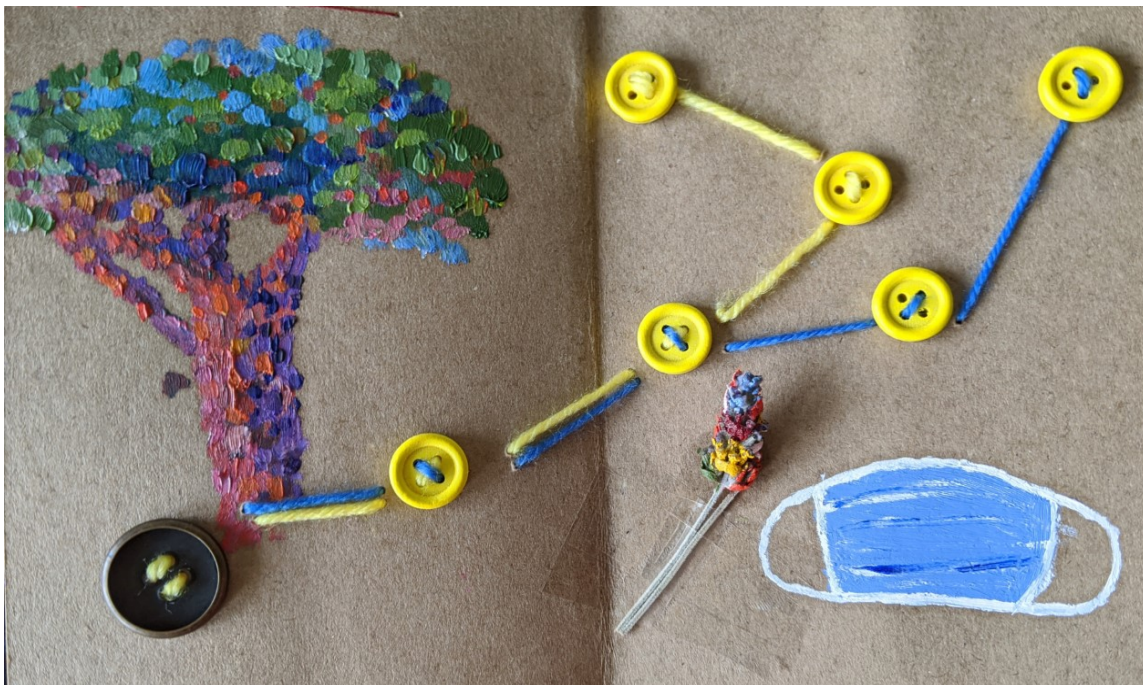
'Unravelling' zine
A hopeful and resonant conclusion to a speculative zine that has traversed suburban Melbourne.
A snapshot of a pre disciplinary post studio housed in an envelope, ready to be unfolded.

Biographical Note: The authors are an interdisciplinary team that are behind an ongoing University of Melbourne – Science Gallery Melbourne collaboration. We act as the custodians of the SciCurious Research Project which is an intergenerational research collective. Across our collective, we have collaborators who identify as artists, designers, engineers, scientists, coders, biologists, researchers and inter/trans/pre disciplinarians who aren't defined by disciplinary labels. What we are, is scicurious. This conceptual collaboratory offers us a space to explore scicurious, scicurious as method and scicurious as becoming.

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