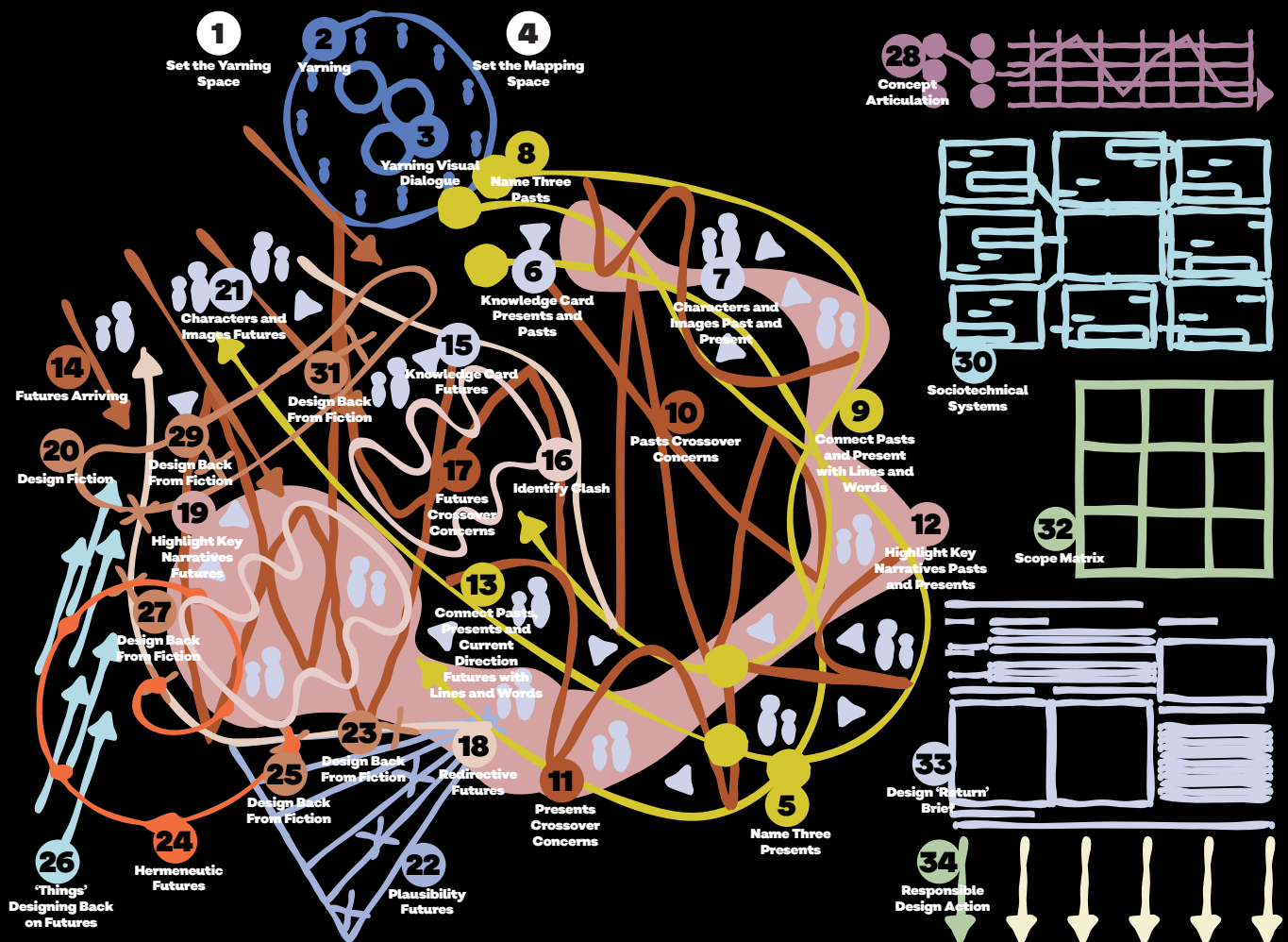


# Critical Mapping as an Articulatory Design Practice

## A Visual Guide



Tristan Schultz

B. Des, M. Des Futures (Hons) PhD. Cand.

Dec 2018

# Why and How to Use This Guide



**This Critical Mapping as an Articulatory Design Practice Visual Guide is written and designed by myself. It forms a key component of the PhD, Decolonising Design: Mapping Futures, 2019. It is designed to be practical and useful in isolation from the full thesis.**

**It has been compiled as a guide for designers, activists, organisers and others wishing to utilise a loose methodology that might help them map out their concerns with decolonising and future-oriented perspectives. The guide features participatory, speculative, strategic, creative and design thinking tactics combined in an order that have been effective in encouraging transformative conversations and radical ideas. The Evolution of Insights and Key Studio Projects Related to Mapping Practice table below indicates the growth of creative syntheses and insights as the practice formed over several years.**

**There are over 30 possible steps featured, however these do not all need to be undertaken. Some can be skipped or amalgamated for shorter engagements. For example, a few steps repeat to placeholder the greatest iterative process possible, but some of these repetitive steps might be considered as**

**one. Each page has four sections: the step as it relates to the overall maps steps, theories, practical steps and resources/ tools. Each page therefore has enough information to be read in isolation so it can be recombined with other step sequences.**

**The visual growth of the map template on each page is deliberately messy and relational to encourage the same engagement. Theories, practical steps and more information are included in each step. A Visual Templates Appendix is also provided to explore, follow and hack loosely and liberally.**

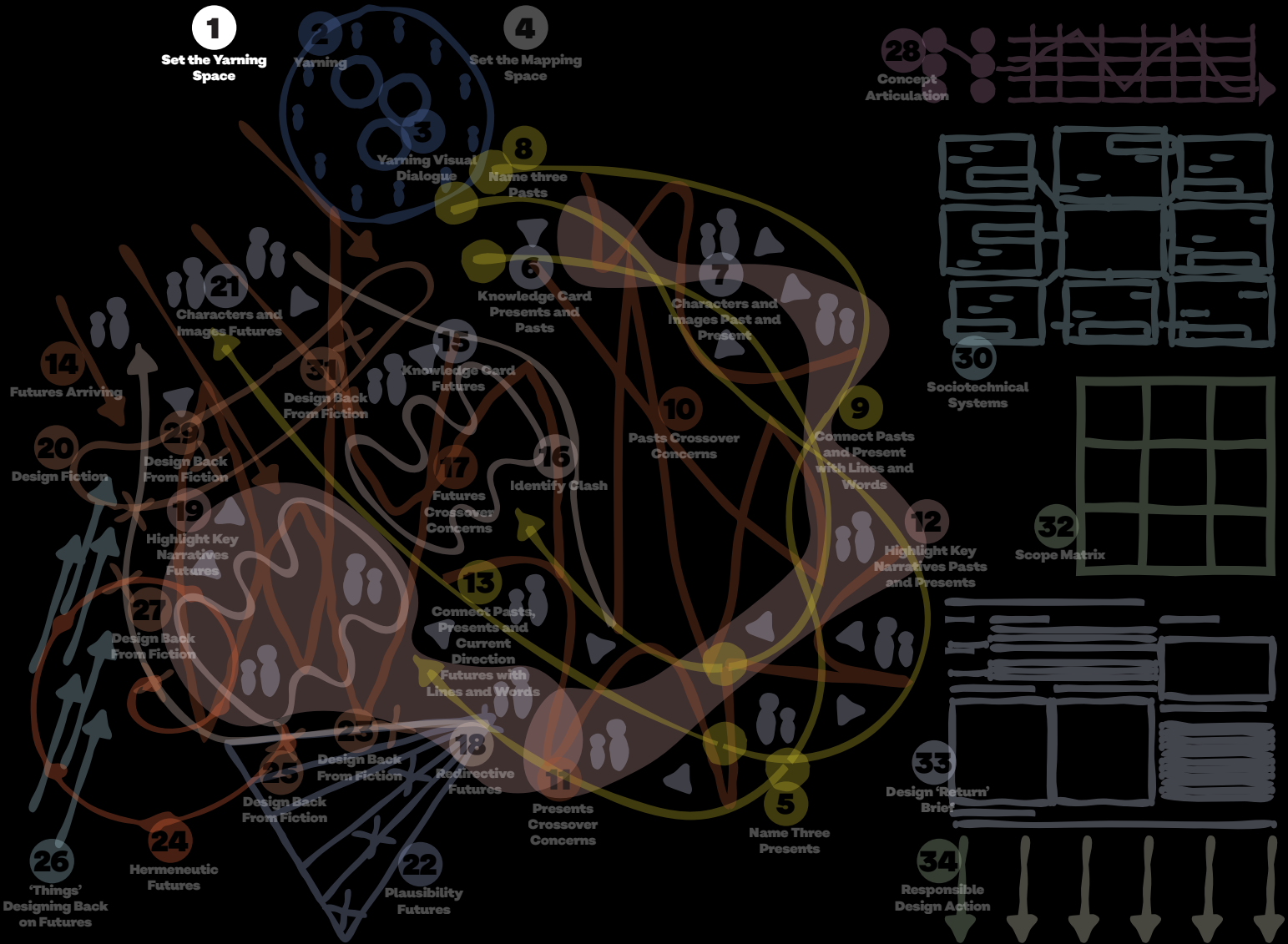
**These experimental methodologies have worked for me, in my contexts with my own bodily and identity politics inevitably at play. I will continue to iterate and explore their efficacy. I offer this guide simply as a gesture in solidarity with other socially engaged politically active individuals in the hope that, autonomous from my presence as facilitator, they might find ways of reconceiving these steps usefully in their worlds too.**

Tristan Schultz  
B. Des, M.Des Futures (Hons), Phd.  
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# 1 Set the Yarning Space

## 2 Yarning 3 Set the Mapping Space

### 28 Concept Articulation



## Theories

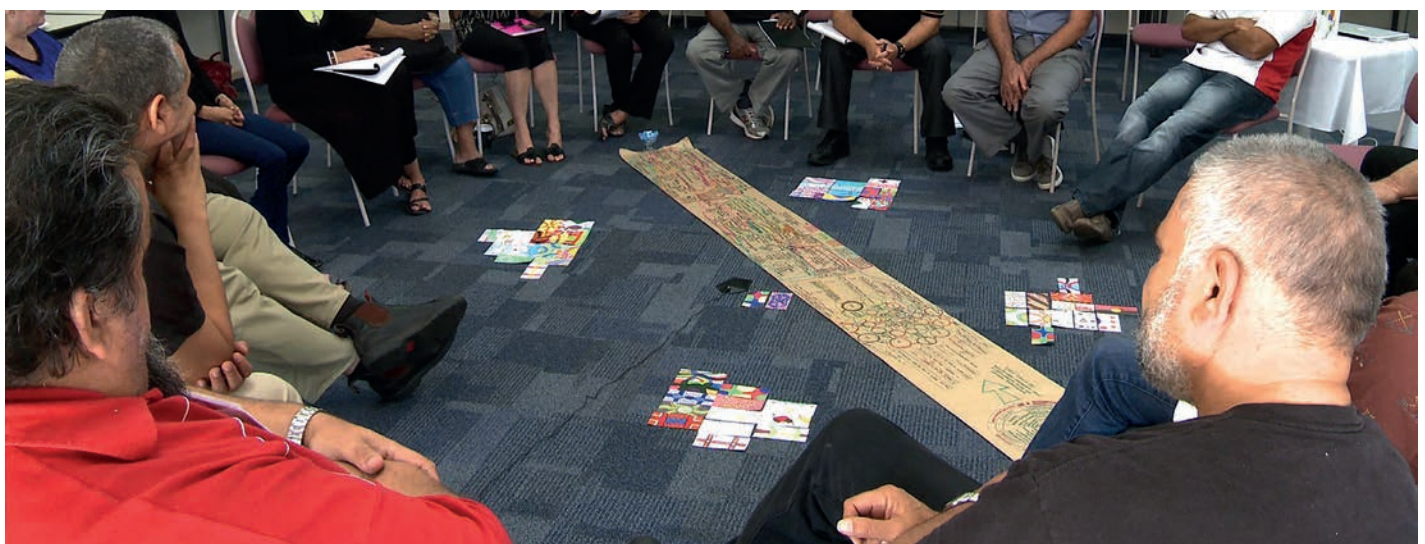
Yarning circles are conducted under the simple rules that each person speaks in turn, holds authority for the time they speak, and reciprocates by speaking responsibly from self and not about others. This simple sequencing structure provides a safe space that enriches the creative potential of a group because, as the speaking role moves, individual statements become more spontaneous, merging and connecting to become an emergent and creative conversation between minds.<sup>1</sup>

## Practical Steps

- Find a safe, respectful space.
- In a clockwise direction, each take turns in having the time to speak and listen to one another.

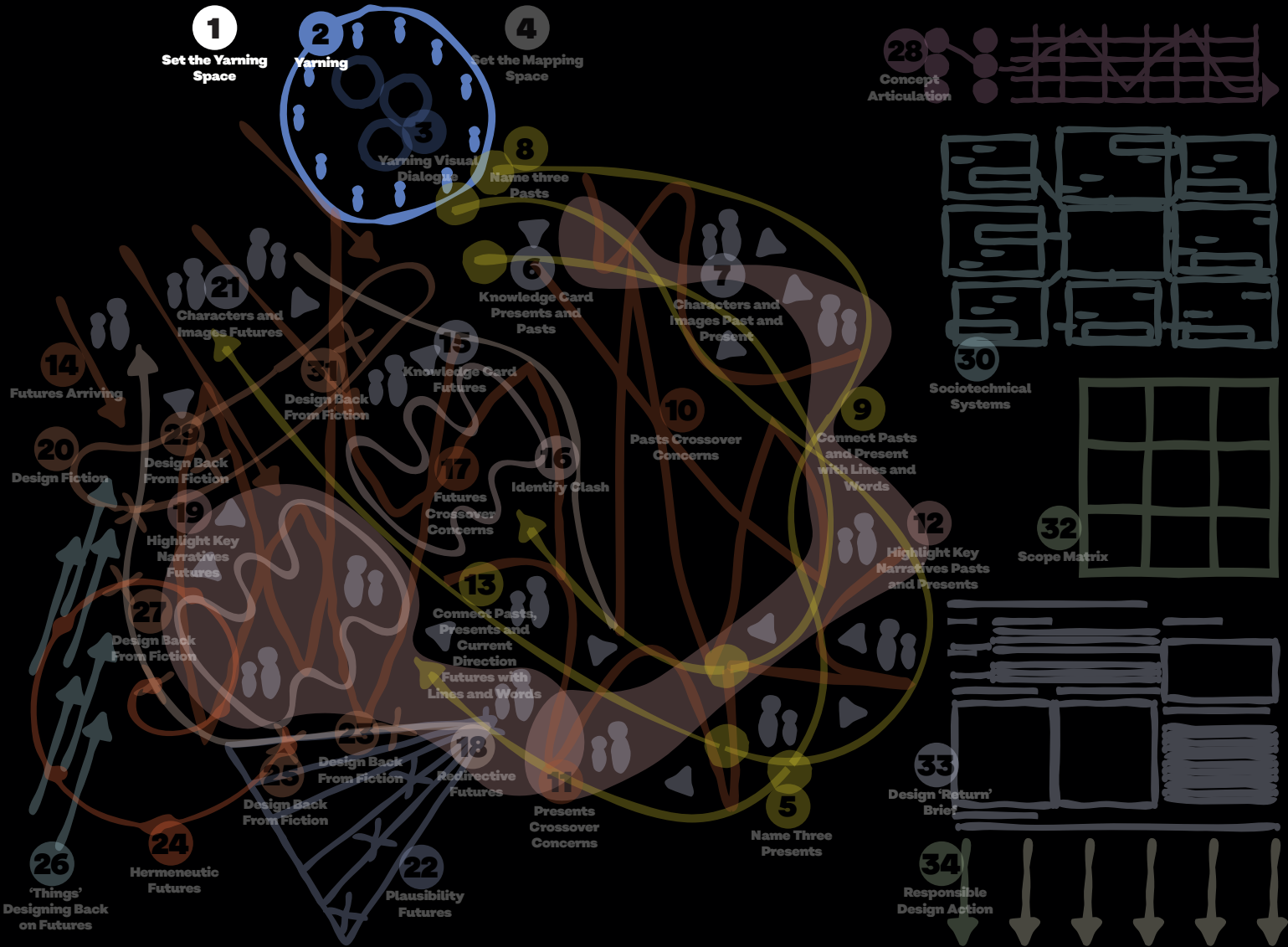
## More info/tools

<sup>1</sup> Norman Sheehan, "Indigenous Knowledge and Respectful Design: An Evidence-Based Approach," *Design Issues* 27, no. 4 (2003): 68-80; Norman Sheehan, *Respectful Design: Connective Art, Indigenous Cultural Development and Wellbeing* (Brisbane: Link Up (Qld Aboriginal Corporation, 2011).



GNIBI Futures Yarning





## Theories

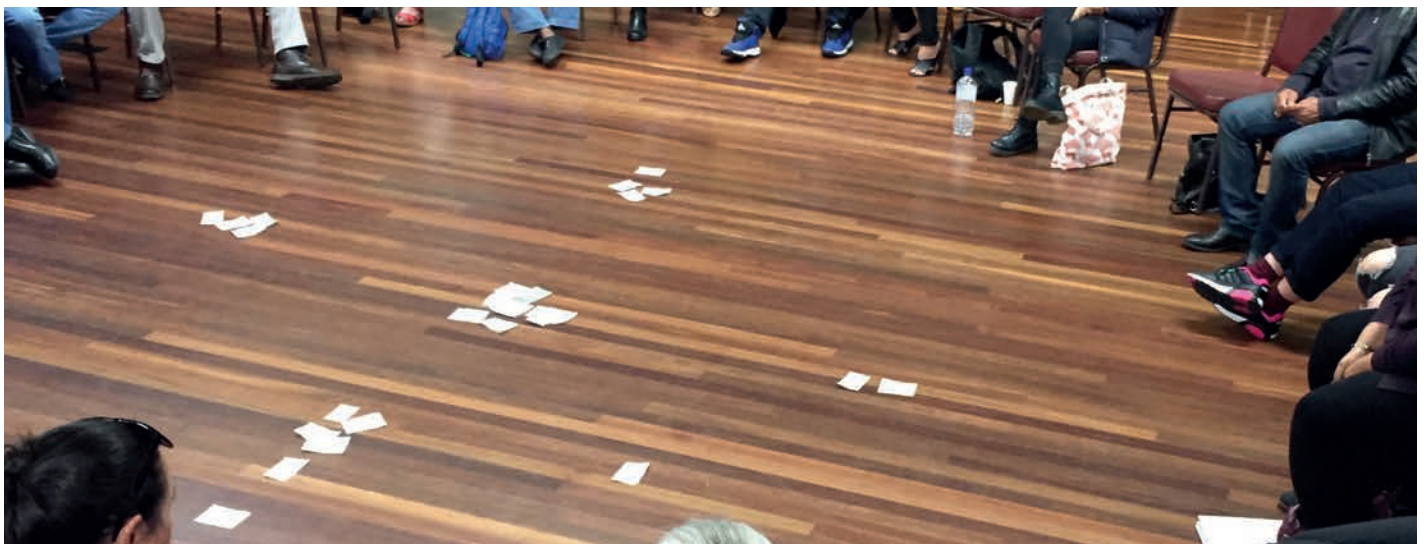
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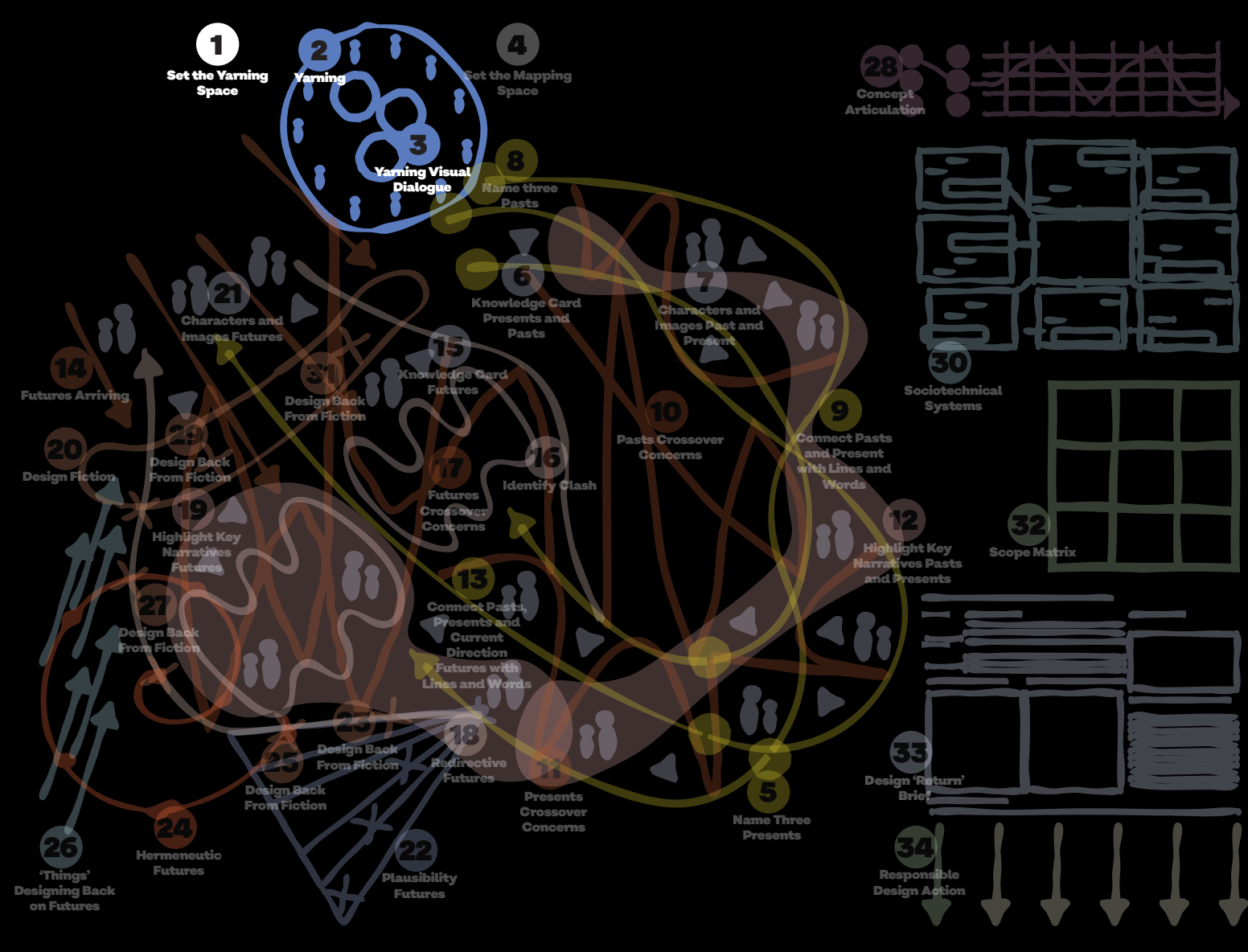
## More info/tools

<sup>1</sup> Norman Sheehan, "Indigenous Knowledge and Respectful Design: An Evidence-Based Approach," *Design Issues* 27, no. 4 (2003): 68-80; Norman Sheehan, *Respectful Design: Connective Art, Indigenous Cultural Development and Wellbeing* (Brisbane: Link Up (Qld Aboriginal Corporation, 2011).



Arts Front Futures Yarning





## Theories

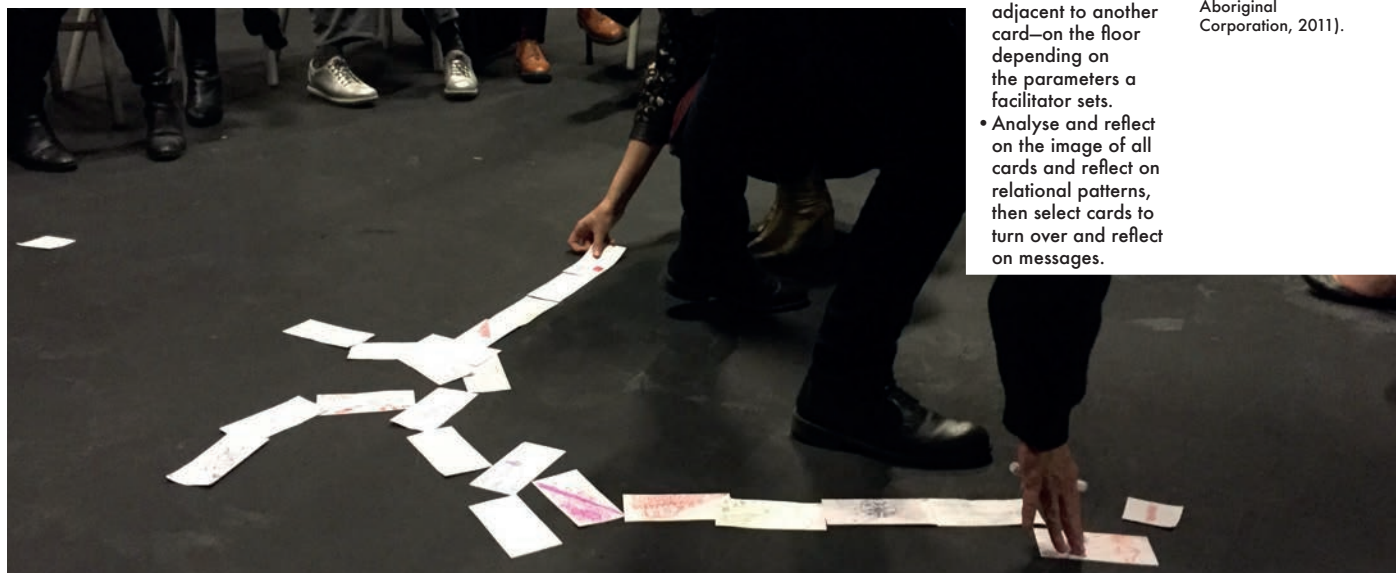
Visual dialogue is an Indigenous Knowledge (IK) extension to the dialogic system, and it works because design is synonymous with humans being in the world. In the same way that birds are related and continue through “nest,” humans are related and continue through “design.” The opportunity presented by this ontology is that visual dialogue can be conceived as an approach that investigates cultural, social, and environmental practices through visual and interactive processes embedded in the being-with of human groups. This approach fits well with the visual philosophy of IK, wherein making and sharing images is a deeply productive interaction—with each other and the world—that conveys significance and engages us relationally within the original shared cognisance of all “things...” In visual dialogue, knowledge often emerges and fits with the actions and intent of groups. This outcome is not magic and special; it is simply inherent to the structure that a visual and relational outcome will emerge from a visual and relational process in a way that reveals a visual and relational world...”<sup>1</sup>

## Practical Steps

- While still in the yarn, take a card and write relevant words on one side.
- On the other side of the card, illustrate what your words mean.
- As we go back around the room, place your card image side up—always connected adjacent to another card—on the floor depending on the parameters a facilitator sets.
- Analyse and reflect on the image of all cards and reflect on relational patterns, then select cards to turn over and reflect on messages.

## More info/tools

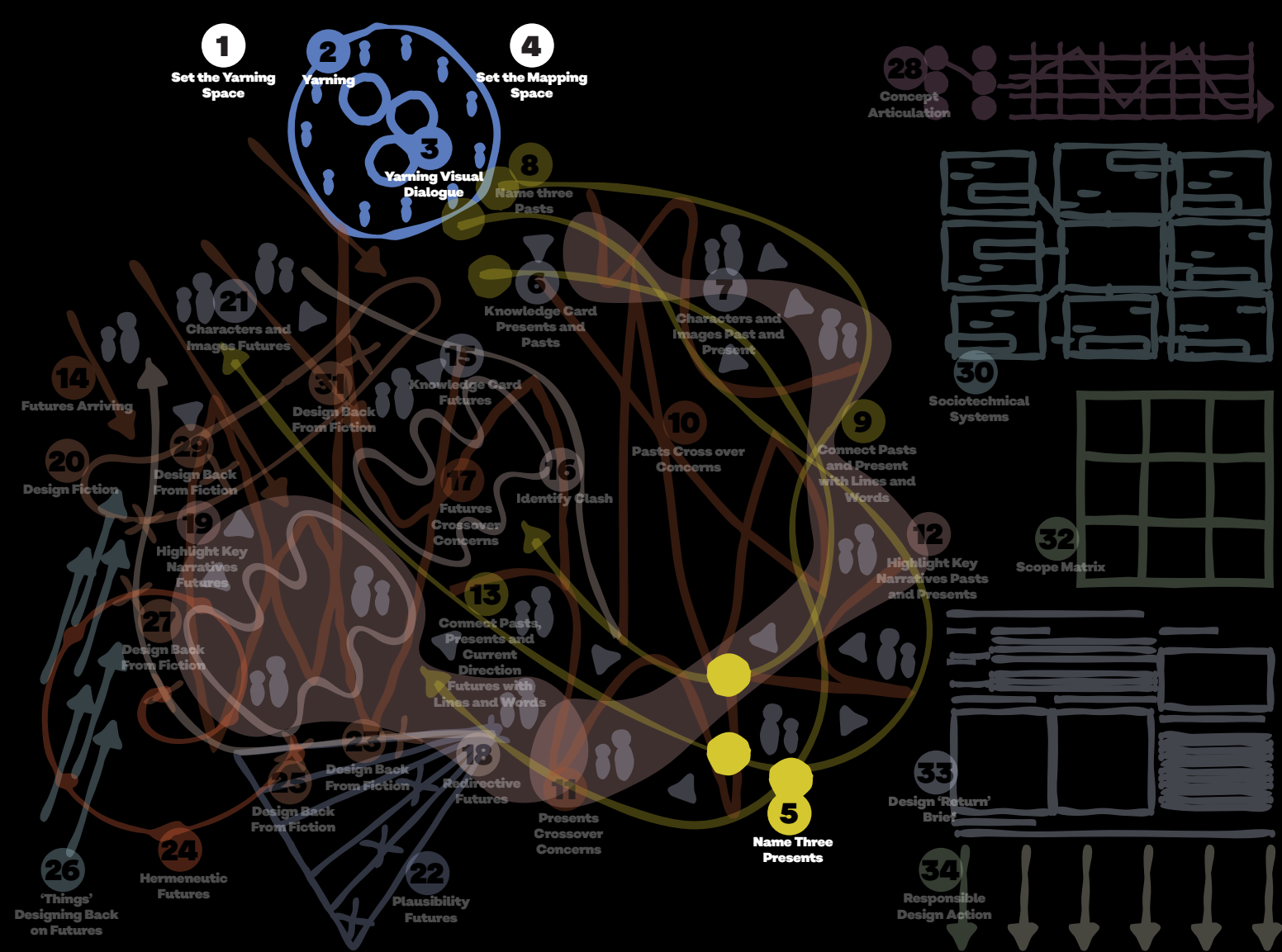
<sup>1</sup> Norman Sheehan, “Indigenous Knowledge and Respectful Design: An Evidence-Based Approach,” *Design Issues* 27, no. 4 (2003): 68-80; Norman Sheehan, *Respectful Design: Connective Art, Indigenous Cultural Development and Wellbeing* (Brisbane: Link Up (Qld Aboriginal Corporation, 2011).



Australia Council for the Arts Design Futures Workshop 2018: Yarning Visual Dialogue







### Theories

Name the present first. At least three narratives might be explored. The narratives named in the present depend on what the map is trying to explore; past examples have included waste, youth migration and drought.<sup>1</sup>

### Practical Steps

- Write the name of the 'things' centred on the page.
- Focus on the idea of how they 'appear', as nouns, rather than getting too focussed on how they act
- Add some more names of things. that connect to it, as they appear in the present, close to the three main things.

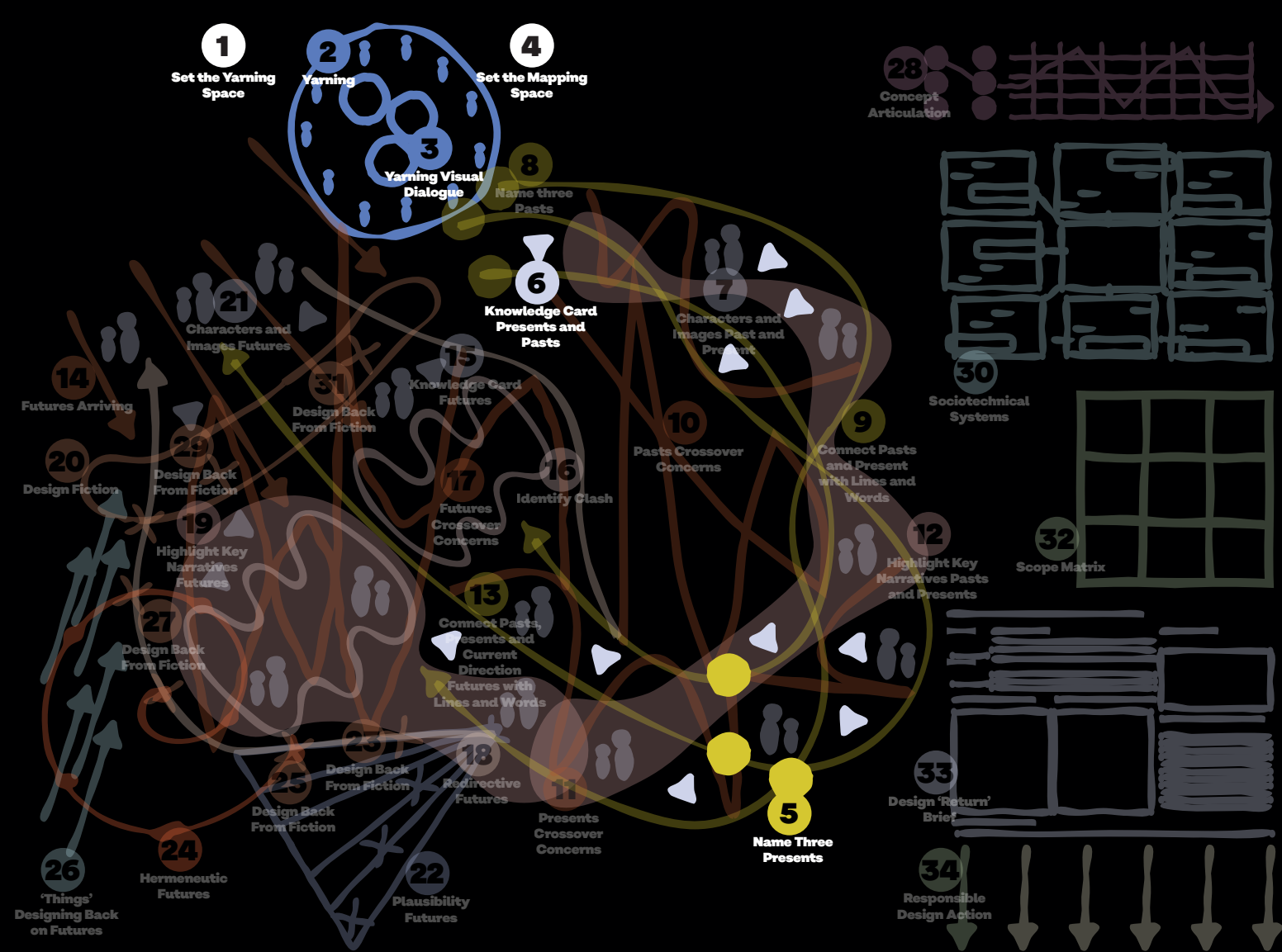
### More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," *Nordic Design Research*, no. 6 (2015), <http://www.nordes.org/opi/index.php.n13.article.view.398>.; Tristan Schultz, "Cognitive Reductive Mapping: Drawing Together Knowledge Production," paper presented at Drawing International Brisbane: Ego.Artefact. Arena, Queensland College of Art, Griffith University, Brisbane, Australia, 1-2 October 2015, <https://static1.squarespace.com/static/55779bbce4b004acf1e1479d/>.



Strategic mapping with a leading arts organisation





## Theories

If participants need to be able to understand contexts more, and quickly engage at an individual and group level, and if they need to be able to see how they might use sourced information to support their cognitive insights, then knowledge cards<sup>1</sup> can help. They can also help prompt designerly or alternative ways of approaching knowledge. They might set a rapid challenge, for example. The cards might also help elevate the criticality and scope of concerns. To take steps towards curbing a logocentric emphasis on the written word, the knowledge cards might instead emphasise a relevant picture or diagram. They might have a symbolic physical form that is also tactile and interactive, and they might have 'layered conversations' and triggers<sup>2</sup> for different kinds of participant engagement. Knowledge cards are introduced with the perspective that design should be a theoretically informed practice (praxis) and so can amplify cognitive thoughts and help lay the ground with richer contexts.

## Practical Steps

- Introduce knowledge cards.
- Do this simply by handing people small cards of info, or be more creative about it and have people search for the cards, connect the cards and interact with the cards.

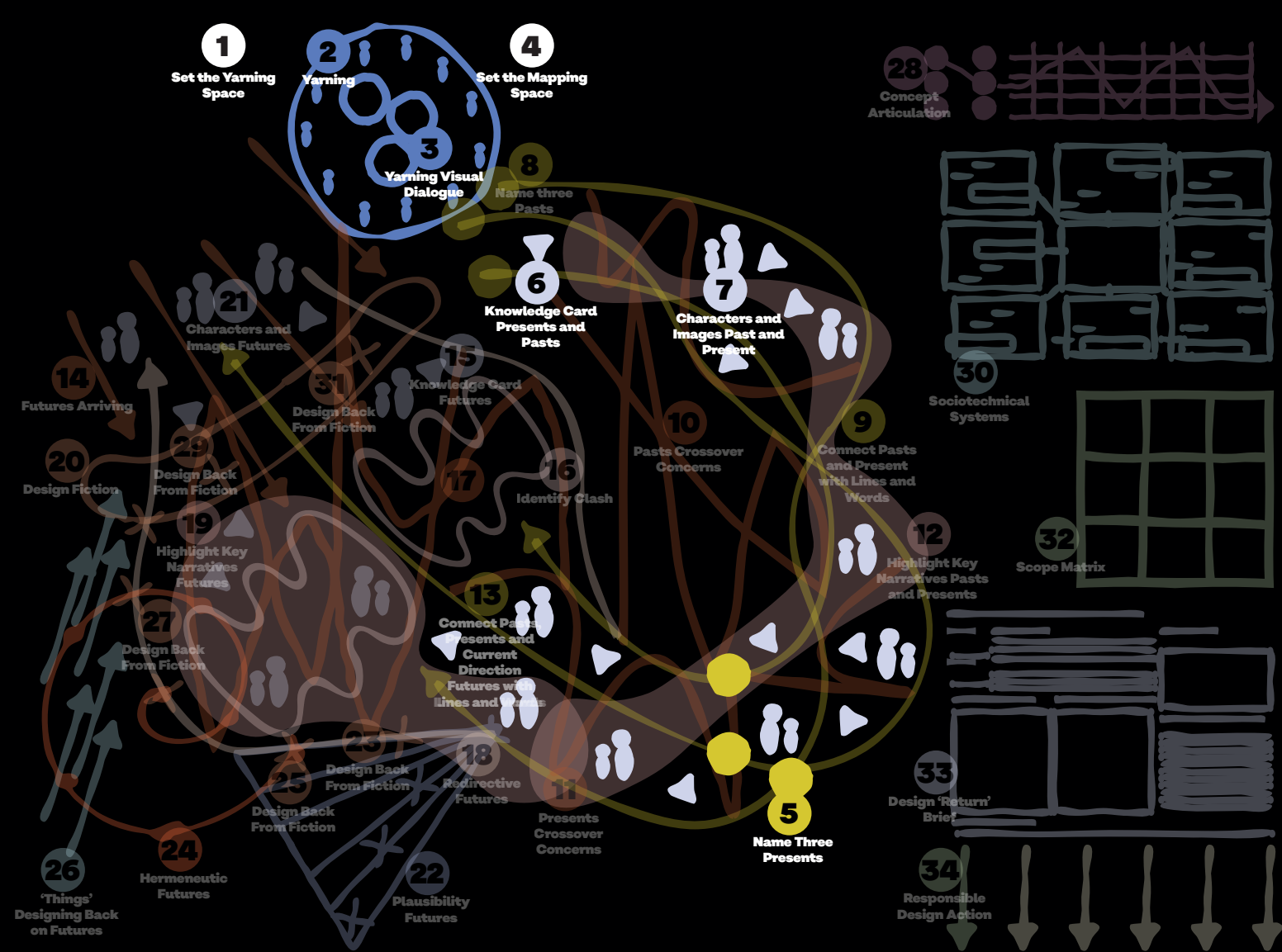
## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Decolonising Approaches to Designing with Children: FutureBNE Water Security Challenge," paper presented at Nordes 2017: Design+Power, Oslo, Norway.

<sup>2</sup> Yoko Akama, *Birds of a Feather: Enabling Communities: Community-Based Innovation,* in *Designing for Bushfire Preparedness* (Melbourne: DESIS Lab & SDM, 2012).



Future BNE 'diatom' sculptural knowledge cards



## Theories

Incorporating characters and images at an early stage to mapping is useful for three reasons. Firstly, it begins the design fiction process, thereby introducing subjectivity and relative contexts. Secondly, it introduces a meshwork of messiness, thereby evading over rationalising the process. Thirdly, it introduces visual pattern thinking as a visual research method, an alternative mode of knowledge production.<sup>1</sup> It is a way for participants to see the world as an ecology of images that design back on us.<sup>2</sup>

## Practical Steps

- Articulate connections between a bunch of provided images that represent a 'picture' of the concerns they're negotiating.
- Create a meshwork using those images and possibly coloured string to make visual connections.
- Politicise the images; locate power dynamics through informal processes of semiotic analysis and discussion.
- Assign meaning to the images and characters, becoming a representation of practices and epistemologies that could contribute to and/or prevent desired changes and can travel through the rest of the mapping process.
- Assign the images, characters to the marks already created on the map.
- Give the map some temporal scale by layering in timescales according across the present.

## More info/tools

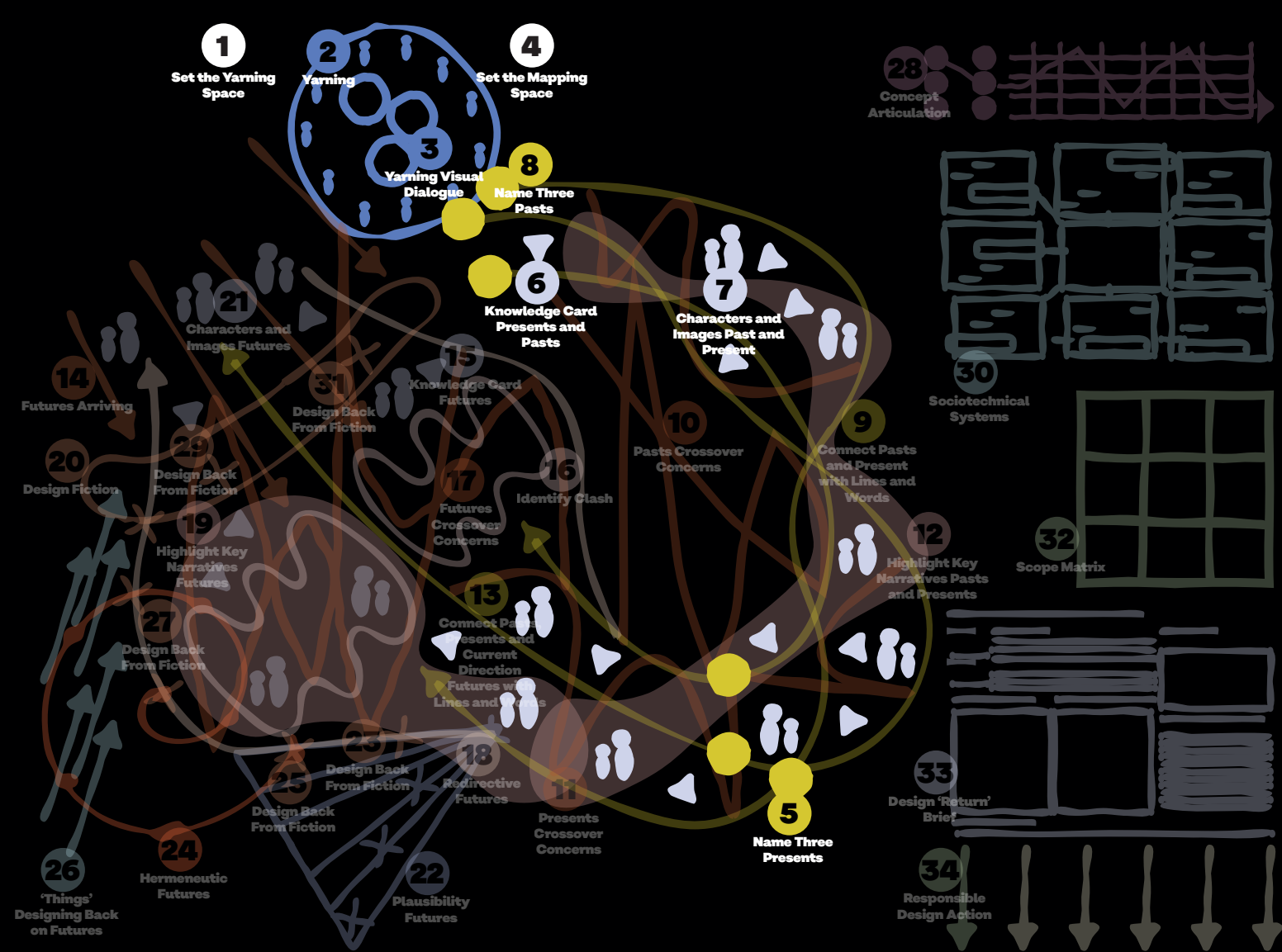
<sup>1</sup> Tristan Schultz, Bec Barnett, Christine Moulder, Lennah Kuskoff, and Chenoa Petrup, "Making an Age of Repair: Queensland—A Case Study in Participatory Process in Practice," in *Territories of Political Participation: Public Art, Urban Design, and Performative Citizenship*, edited by Laura Iannelli and Pierluigi Musarò (UK: Mimesis International), 215-224.

<sup>2</sup> Abby Mellick Lopes, *Ecology of the Image: The Matter of Ideas in Design* (Saarbrücken, Germany: VDM Verlag, 2009).



Redirective Practice event 2 image ecology mapping





## Theories

Presents are always brought forth from pasts. This step is about tracking back in time to name what in the past might have caused their appearance in the present. This part can look as far into the past as is necessary. For example, in Australia beyond the arrival of the boats to naming what came with the boats; as far back as Western Enlightenment; or even further to the formation of homo sapiens as technological beings, for some occurring when women picked up two stones and clashed them together to craft an axe. By this point, a trap is starting to appear.<sup>2</sup> The map might be looking more like points, rather than a meshwork. Cultural anthropologist Tim Ingold<sup>3</sup> identified this trap as the distinction between Western thinking and forms of IK. He argues that the organism (animal or human) should be understood with a relational view as many Aboriginal cultures always have; not as a bounded entity surrounded by an environment but as an unbounded entanglement of lines in fluid space. This was also observed and introduced in the philosophy of Gilles Deleuze. The living organism, for Deleuze, is a bundle of lines, of becoming. The key to this part of the mapping process, is to know that naming the pasts can only be thought as a mid-step towards the sum of your tracks, not a destination, as seen in the next step.

## Practical Steps

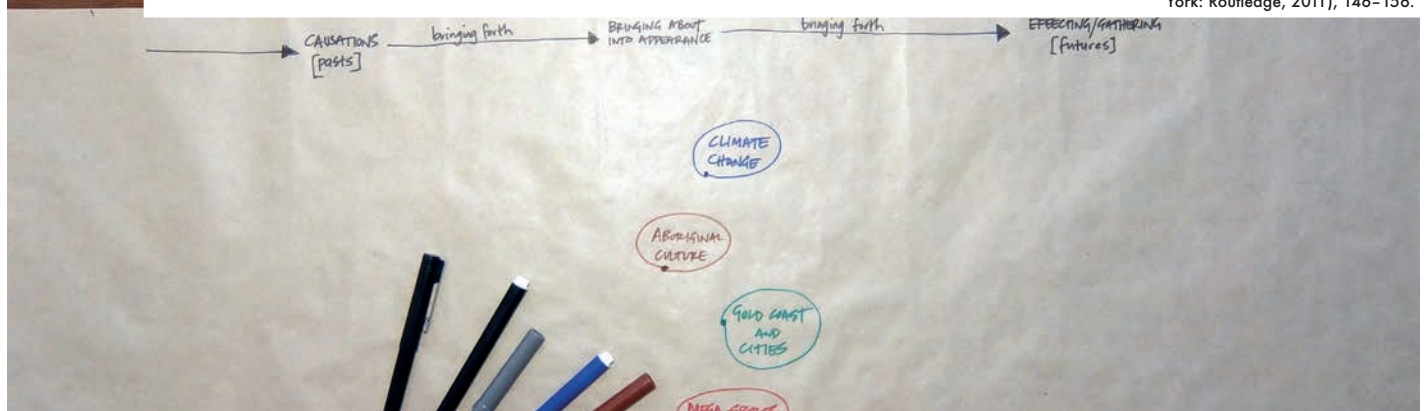
- Write the names of the 'thing/s' in the past.
- Focus on the idea of how they 'appear', as nouns, rather than getting too focussed on how they act
- Add some more names of things that connect to it, as they appear in the past, close to the three main things.
- Reflect on the landscape of your map; for example, you might think of the pasts and presents and 'islands' still needing land bridges to represent how and why the past has brought forth connections with presents.

## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," *Nordic Design Research*, no. 6 (2015), <http://www.nordes.org/opj/index.php.n13.article.view.398>.

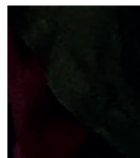
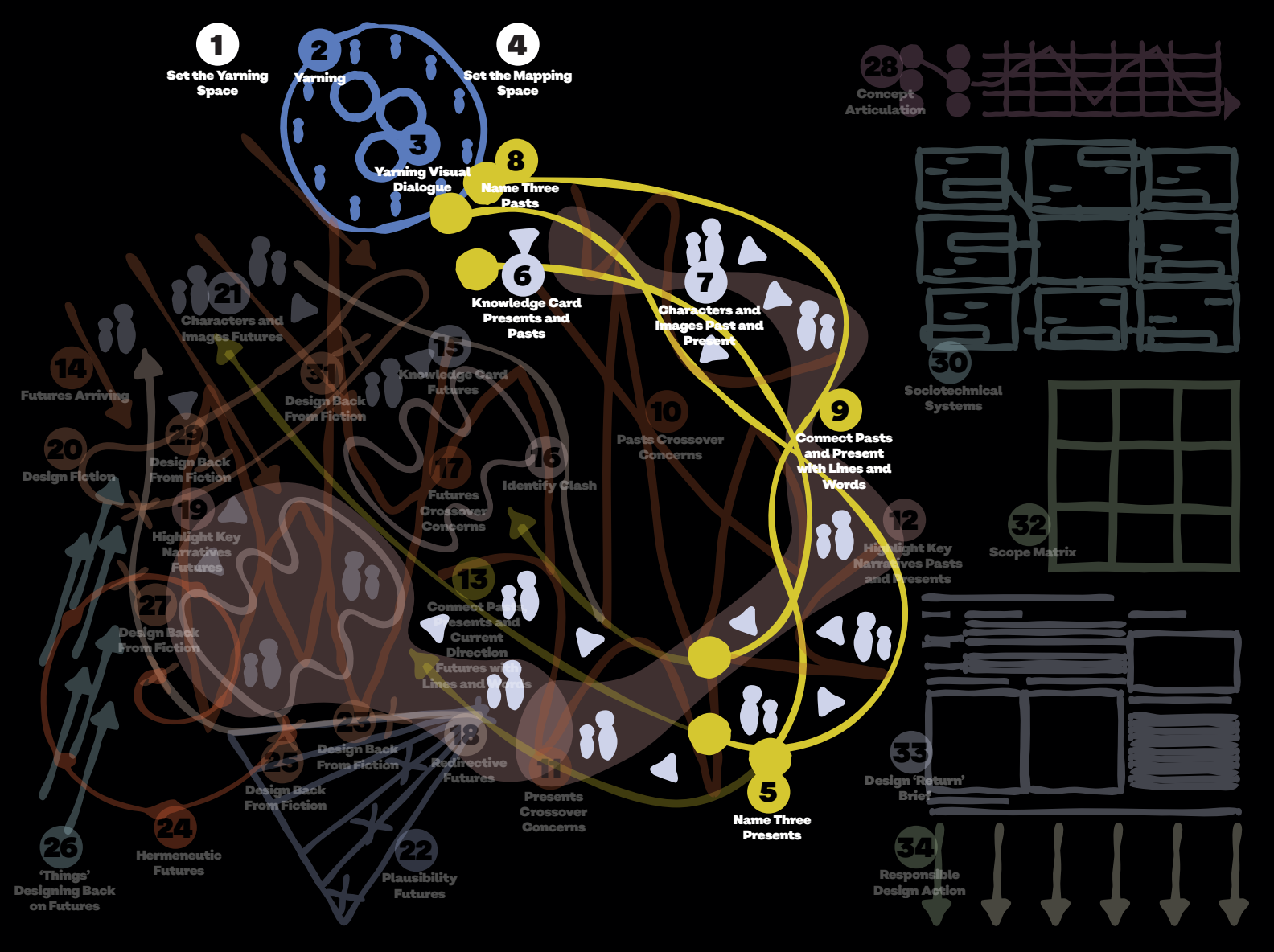
<sup>2</sup> Tristan Schultz, "Cognitive Reductive Mapping: Drawing Together Knowledge Production," paper presented at Drawing International Brisbane: Ego.Artefact.Arena, Queensland College of Art, Griffith University, Brisbane, Australia, 1-2 October 2015, <https://static1.squarespace.com/static/55779bbce4b004acf1e1479d/>.

<sup>3</sup> Tim Ingold, "Against Space: Place, Movement, Knowledge," in *Being Alive: Essays on Movement, Knowledge and Description* (New York: Routledge, 2011), 146-156.



Reductive Practice event 2 image ecology mapping





## Theories

When Tim Ingold had a conversation with Roy Wagner, A Walbiri Elder of the Australian Central Desert, Roy said "the life of a person is the sum of his tracks, the total inscription of his movements, something that can be traced out along the ground".<sup>1</sup> For Ingold, "the logic of inversion (a western construction), however, converts every track or trail into the equivalent of a dotted line, first by dividing it into stages, and then by rolling and packing each stage into the confines of a destination". He makes a key distinction that underpins the entire philosophy behind Cognitive Redirective Mapping<sup>2,3</sup> and is crucial to this step. "I have found it necessary to distinguish between the network of transport and the meshwork of wayfaring. The key to this distinction is the recognition that the lines of the meshwork are not connectors. They are paths along which life is lived. And it is in the binding together of lines, not in the connecting points, that the mesh is constituted."<sup>3</sup> As a parent, I agree with Ingold's recognition of a nursery rhyme capturing the paths along which life is lived:

We're Going on a Bear hunt:  
We can't go over it.  
We can't go under it.  
Oh no!  
We've got to go through it!

## Practical Steps

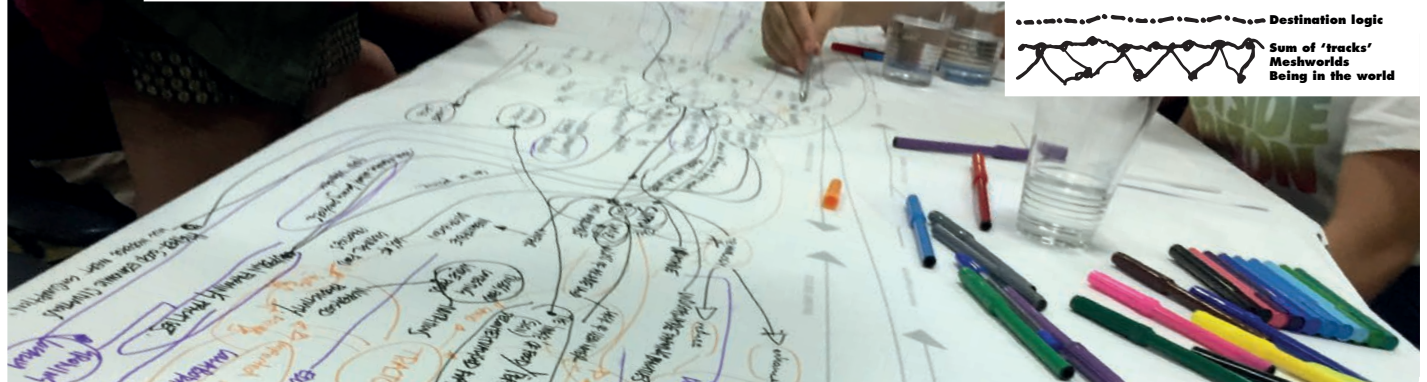
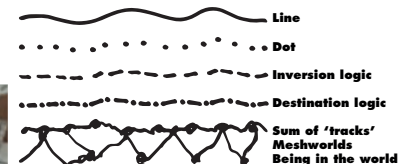
- Connect the past and present with lines.
- Remember to draw, sketch or write your characters and images and fictions already introduced for pasts and presents on your map.

## More info/tools

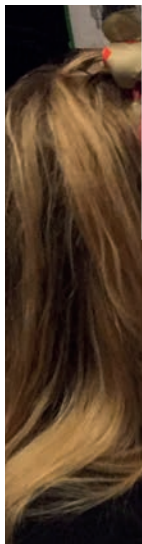
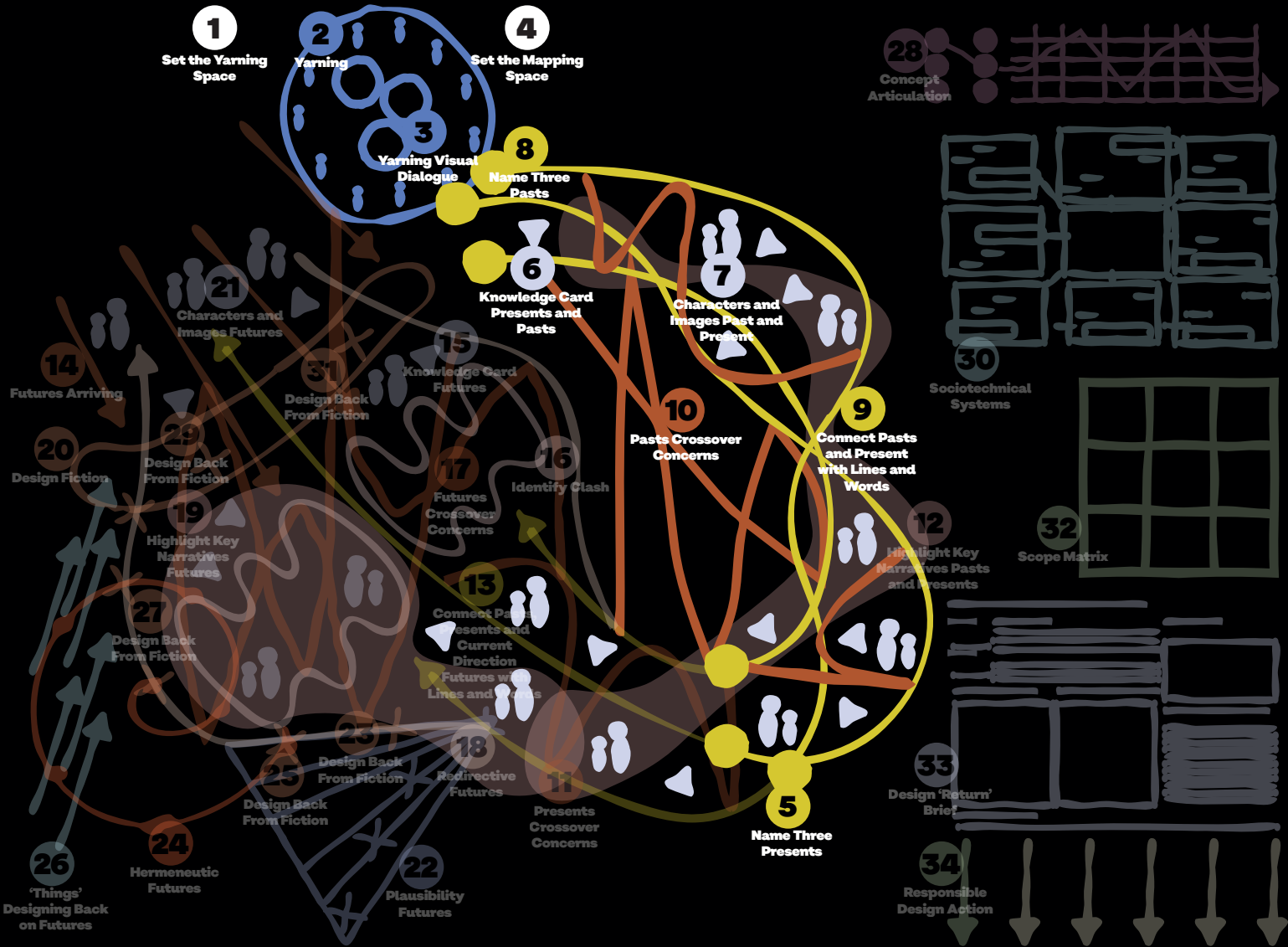
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Redirective Practice event 1 mapping



## Theories

To further track a meshwork, it is useful to turn to a way Bruno Latour discusses locating matters of concern, rather than matters of fact.<sup>1</sup> It is also here where we can begin conceiving our being in the world as ontologically designed, that is, “we design the world, while the world acts back and designs back on us”.<sup>2</sup> Back to Latour. He writes,

“To think of artefacts in terms of design means conceiving of them less and less as modernist objects, and conceiving of them more and more as ‘things’. To use my language, artefacts are becoming conceivable as complex assemblies of contradictory issues (I remind you that this is the etymological meaning of the word “thing” in English as well as in other European languages). When things are taken as having been well or badly designed, then they no longer appear as matters of fact. So as their appearance as matters of fact weakens, their place among the many matters of concern that are at issue is strengthened.”<sup>3</sup>

For Martin Heidegger, thinking of things is being concerned with ‘bringing forth’ of the appearance of ‘things’.<sup>4</sup> Concerns may include perceptions, ideologies, power relations, political and social affiliations, relationships and wounded spaces. Cross-causalities, such as climate, technology and demographics, often relationally slice through all of the narratives being considered.

## Practical Steps

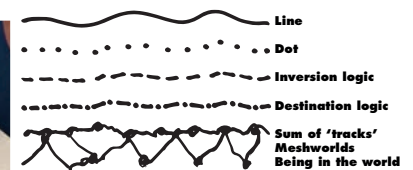
- Describe, on those lines, the cross-over concerns: causalities, ideologies, perceptions, tensions, power relations and affiliations, that brought forth the pasts into presents.
- If you haven’t already, think about climate, technology and demographics and how they also cross between the meshwork tracks.

## More info/tools

<sup>1,3</sup> Bruno Latour, “A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk),” paper presented at Networks of Design Conference, Cornwall, 2008.

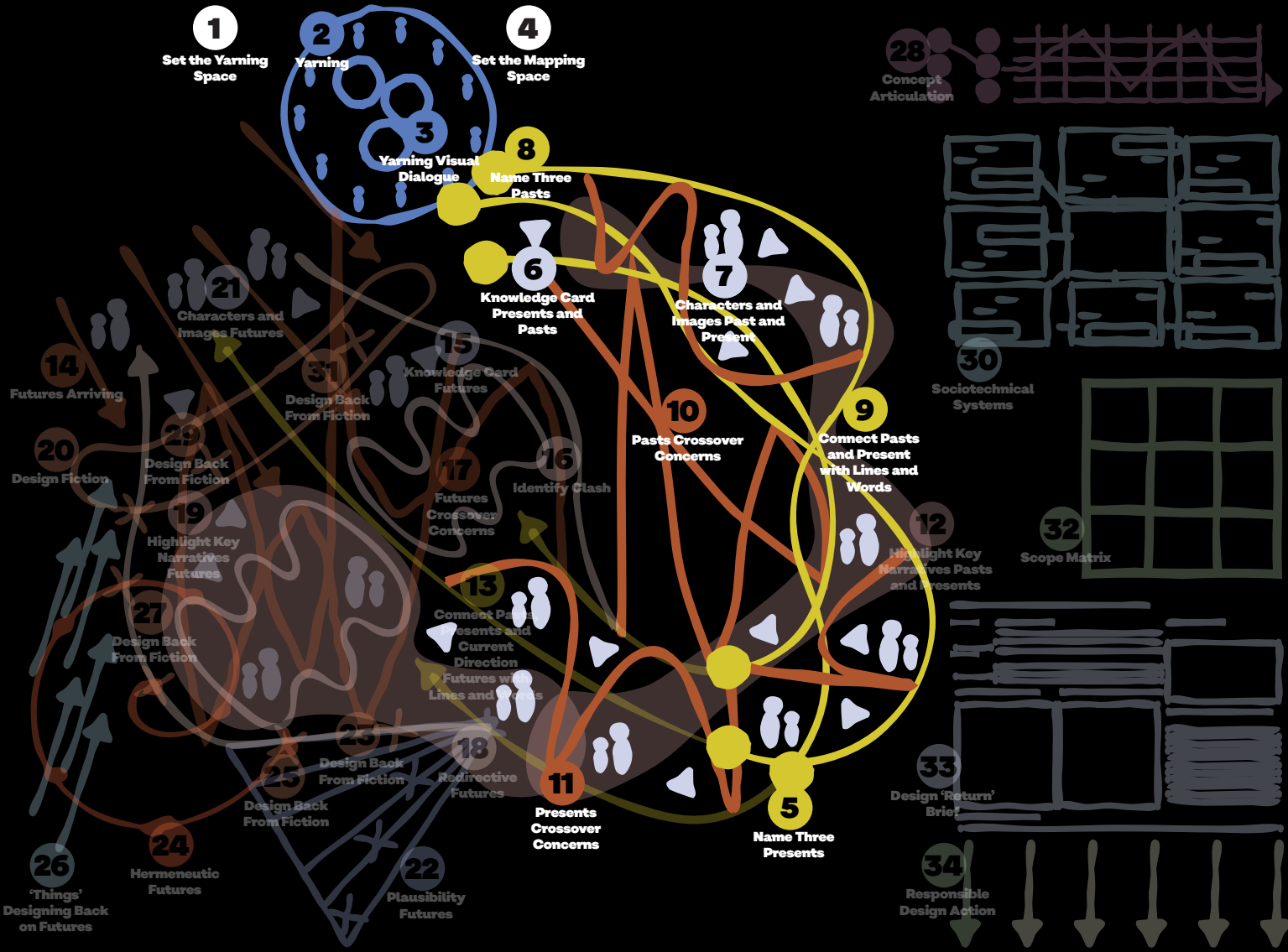
<sup>2</sup> Anne-Marie Willis, “Ontological Designing,” *Design Philosophy Papers* 4, no. 2 (2007): 69–92.

<sup>4</sup> Martin Heidegger, *The Question Concerning Technology, And Other Essays*, trans. and with an introd. by William Lovitt (New York: Garland Publishing, 1977).



Strategic mapping with a leading arts organisation





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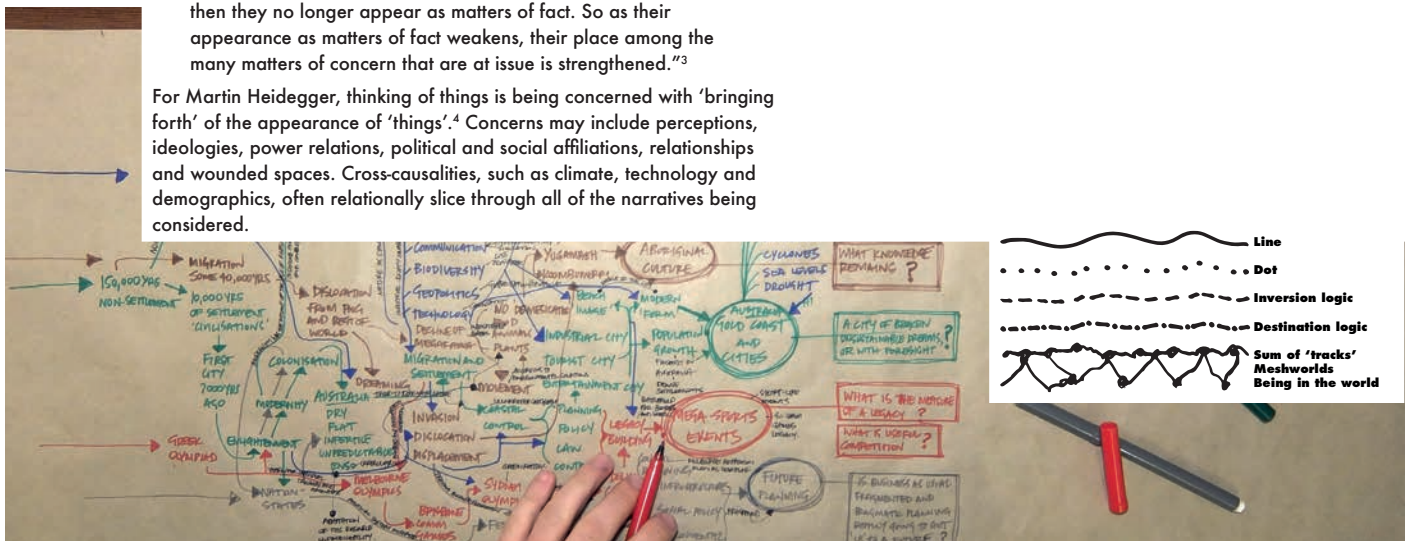
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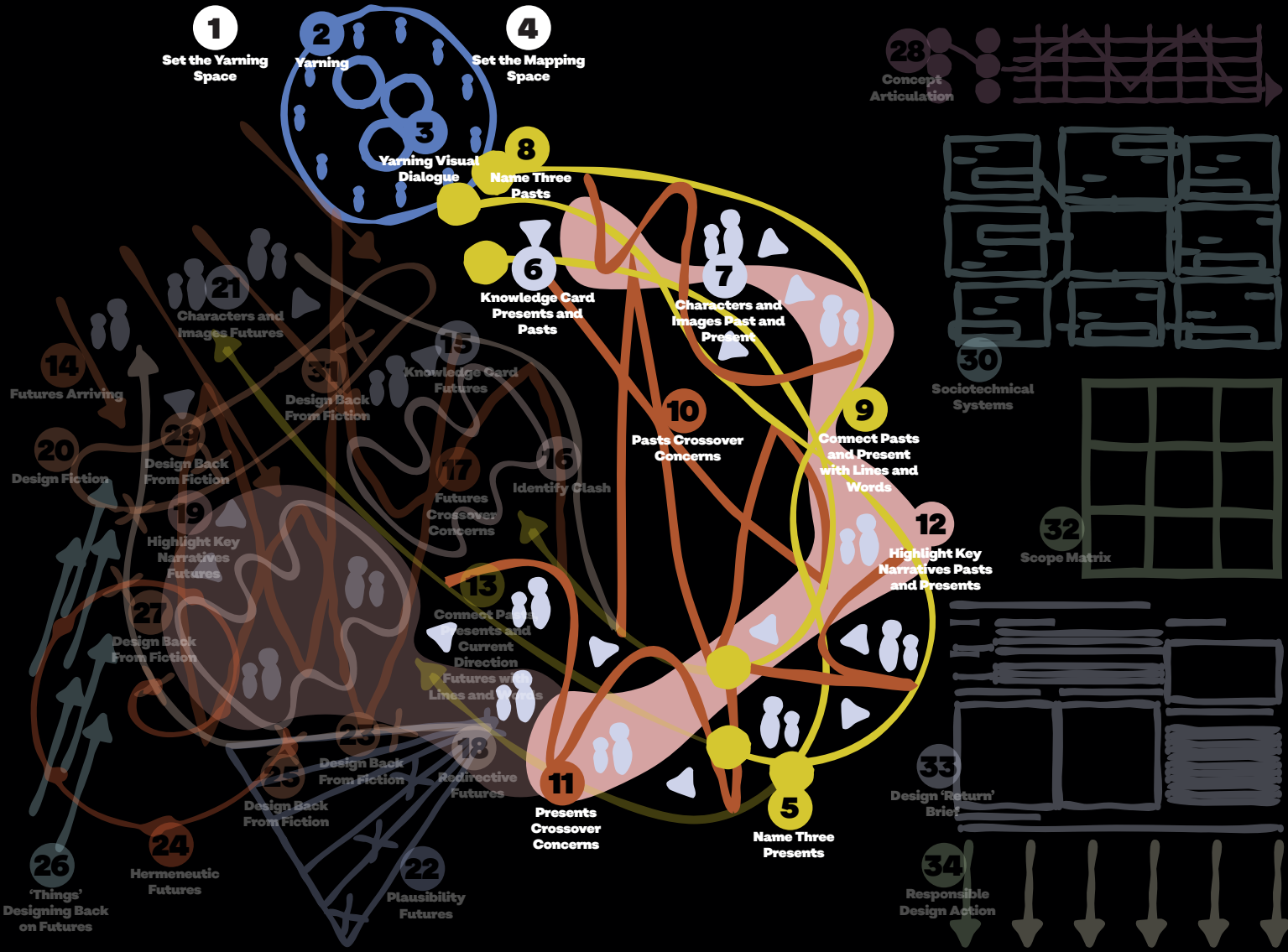
<sup>2</sup> Anne-Marie Willis, "Ontological Designing," *Design Philosophy Papers* 4, no. 2 (2007): 69-92.

<sup>4</sup> Martin Heidegger, *The Question Concerning Technology, And Other Essays*, trans. and with an introd. by William Lovitt (New York: Garland Publishing, 1977).



See Change Sand Tracks concept mapping





## Theories

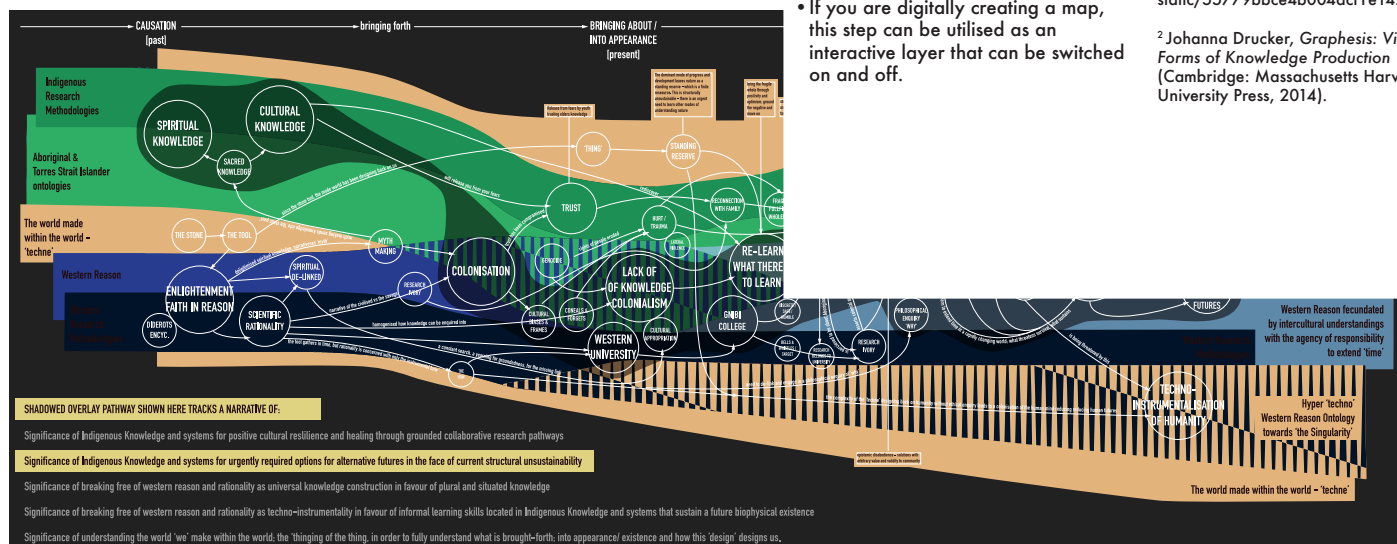
Highlighting key narratives helps with hierarchy, sequencing and flow and is important for legibility; however, there is a fine line between over organisation and rationalisation, and making the map start to 'speak back' to participants.<sup>1</sup> An anarchic visual mess is of course completely non-productive to producing knowledge, the central aim of the mapping process. As argued by Johanna Drucker,<sup>2</sup> it is better to push at the limits of legibility, "where ambiguity and contradiction are more important to be expressed." From a relational systems view, this step is about starting to identify the parts in whole relationships by utilising gestalt techniques to indicate movement, spatial orientation, along with colour hues and values to indicate hierarchy and differences.

## Practical Steps

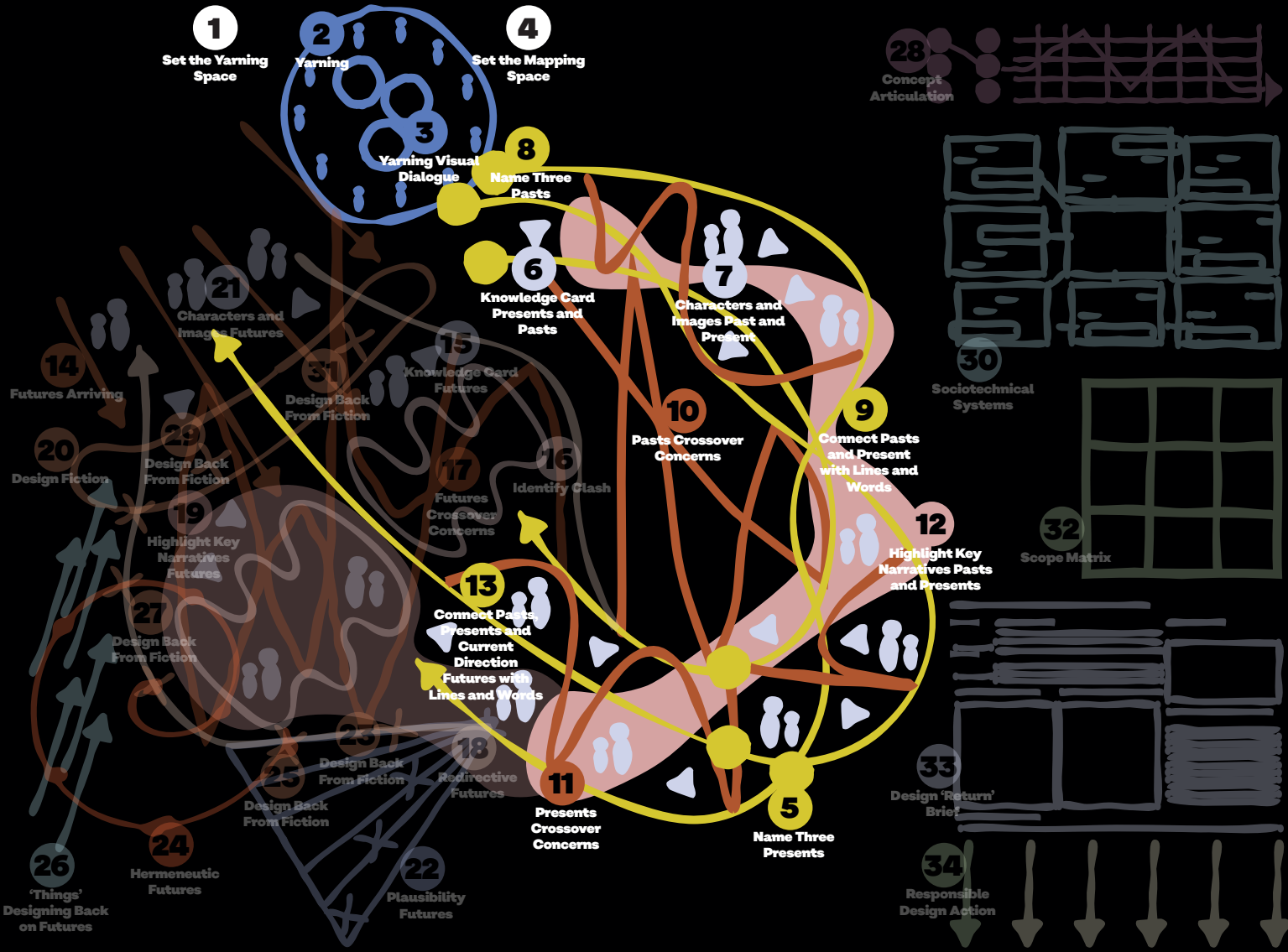
- If you're mapping on paper, pick up a highlighter and highlight key narratives that have brought forth pasts into presents.
- Consider this decision based on what is most important to you to continue mapping, while letting the rest of the mesh of information not highlighted find its home in layers under your dominant narrative.
- Another handy way to think of this is 'housekeeping'; in giving a little to your 'house', what is it that you want to see, amongst the mess, at a glance?
- If you are digitally creating a map, this step can be utilised as an interactive layer that can be switched on and off.

## More info/tools

- <sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," *Nordic Design Research*, no. 6 (2015), <http://www.nordes.org.opi/index.php.n13.article.view.398>;
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- <sup>2</sup> Johanna Drucker, *Graphesis: Visual Forms of Knowledge Production* (Cambridge: Massachusetts Harvard University Press, 2014).



GNIBI Indigenous Futures mapping



## Theories

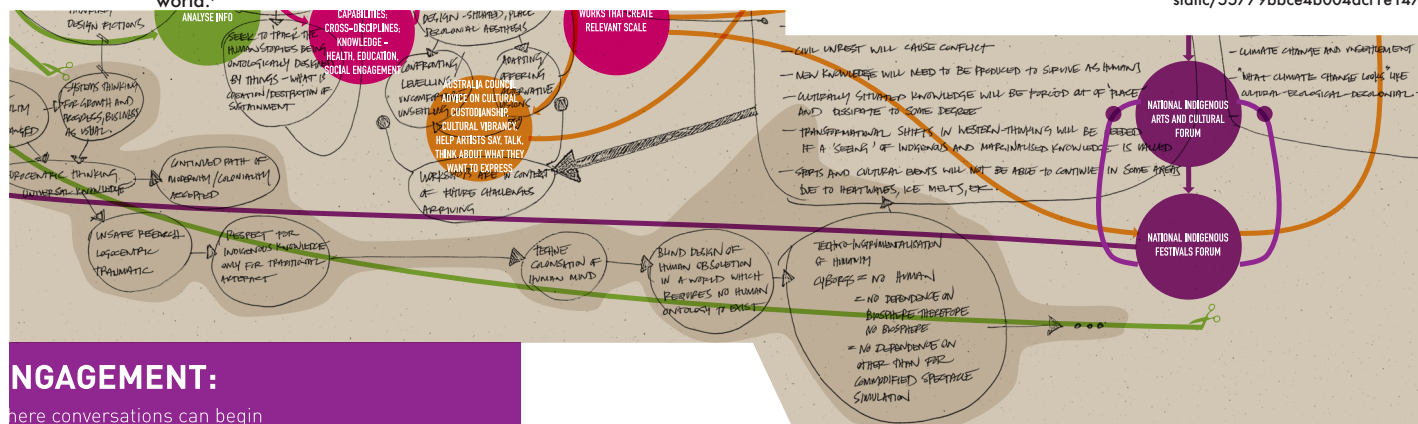
As the map unfolds, it becomes possible to develop an understanding of how causations and concerns are bringing forth appearances, which inevitably become scenario/s gathering in the future at both a local and global level. If nothing were to change, no interjections or redirections, there is a current direction that we are heading towards. This future is drawn from an understanding of the already mapped past and present. It might help to consider topics for current directions, such as human movement, health, climate, human, technology, food and water. These cut through everything that might be of concern (such as if you're mapping employment opportunities) and provide a means to be sure as many relational systems are respected as possible, making your meshwork closer and closer to human experiences of being in the world.<sup>1</sup>

## Practical Steps

- Map forward the current direction gathering in the future, if nothing changes, and repeat connecting with lines describing causalities and concerns such as climate, technology and demographics.

## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," *Nordic Design Research*, no. 6 (2015), <http://www.nordes.org/opj/index.php.n13.article.view.398>; Tristan Schultz, "Cognitive Reductive Mapping: Drawing Together Knowledge Production," paper presented at Drawing International Brisbane: Ego.Artefact. Arena, Queensland College of Art, Griffith University, Brisbane, Australia, 1-2 October 2015, <https://static1.squarespace.com/static/55779bbce4b004acf1e1479d/>.



## ENGAGEMENT:

where conversations can begin

### People Narrative:

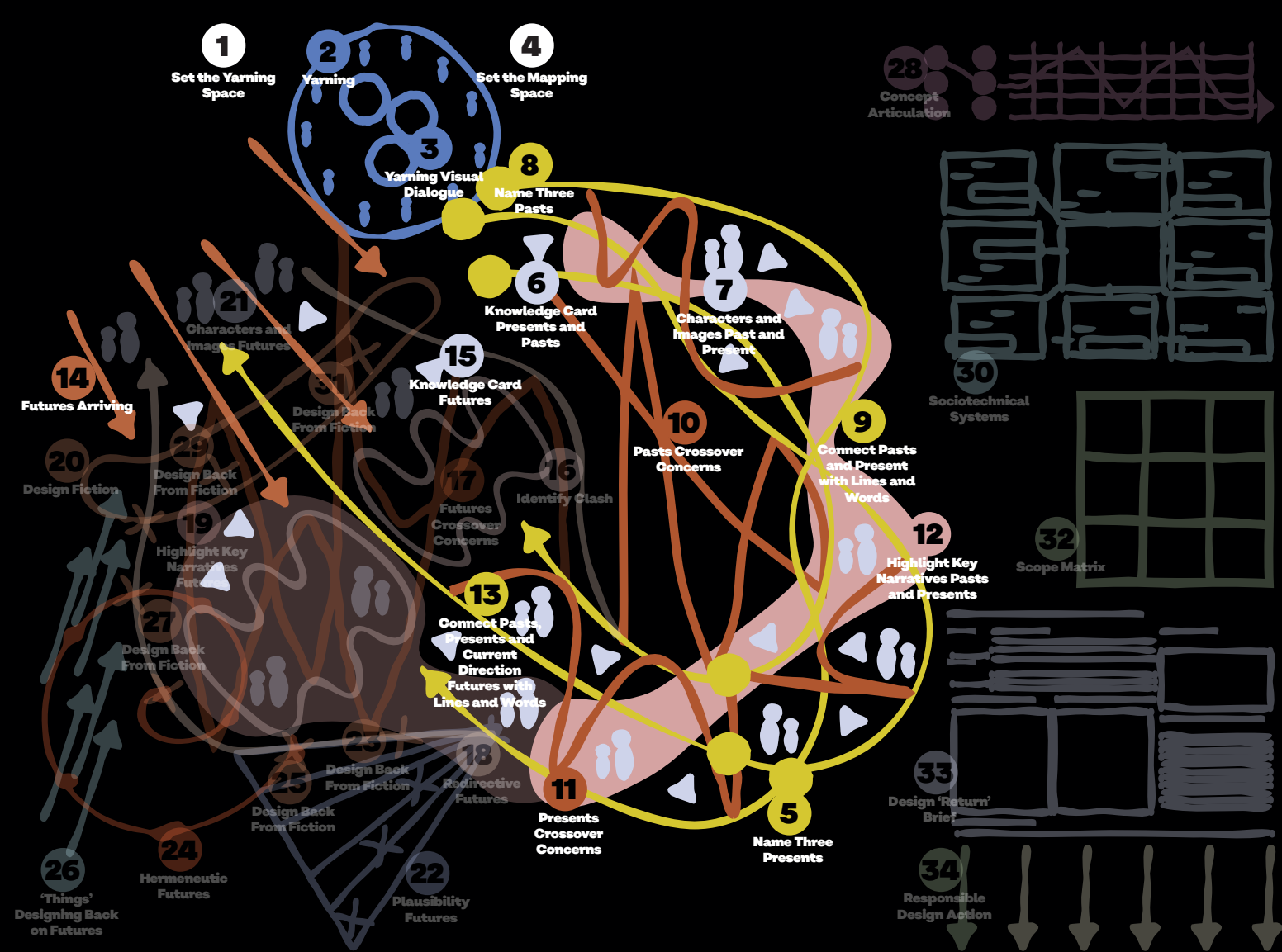
engagement with government departments, not just DFAT and Austrade, but also agriculture, defence, immigration, science, environment, AITIS, sports, biodiversity, reef, stock, tourism etc., along with engagement with different sectors: philanthropy, commercial, cultural should be considered central to success of Reductive Practice. Local

## OR CURRENT DIRECTIONS:

Past brought to present, projects a concerning future







## Theories

If participants need to be able to understand contexts more, and quickly engage at an individual and group level, and if they need to be able to see how they might use sourced information to back their cognitive insights, then knowledge cards<sup>1</sup> can help. They can also help prompt designerly or alternative ways of approaching knowledge. They might set a rapid challenge, for example. The cards might also help elevate the criticality and scope of concerns. To take steps towards curbing a logocentric emphasis on the written word, the knowledge cards might instead emphasise a relevant picture or diagram. They might have a symbolic physical form that is also tactile and interactive, and they might have 'layered conversations' and triggers<sup>2</sup> for different kinds of participant engagement. Knowledge cards are introduced with the perspective that design should be a theoretically informed practice (praxis) and so can amplify cognitive thoughts and help lay the ground with richer contexts. Futures arriving knowledge cards have proven to be very beneficial at this step, since 'futures arriving' is often a messy and complex concept that is not discussed when people consider futures. Adding futures arriving critical knowledge to a mapping process marks a point of departure from many mainstream modes of mapping, where 'futures' are assumed to be solely authorable by individuals, best evidenced in the expression, "The future is in your hands". This step recognises that this is only partially true. There is already a future out there that is either adding to or taking away time from your own (such as the defuturing effects of carbon emissions living in the atmosphere) that homo sapiens must either adapt to or perish. A responsible thinking process is one which respects people's right to know of these futures arriving, so that responsible decisions that embrace these complexities can be made. The closer to understanding futures arriving, the closer a process is to not being the stuff of sci-fi, but rather the stuff of real human contexts taking into account real, inescapable concerns.

## Practical Steps

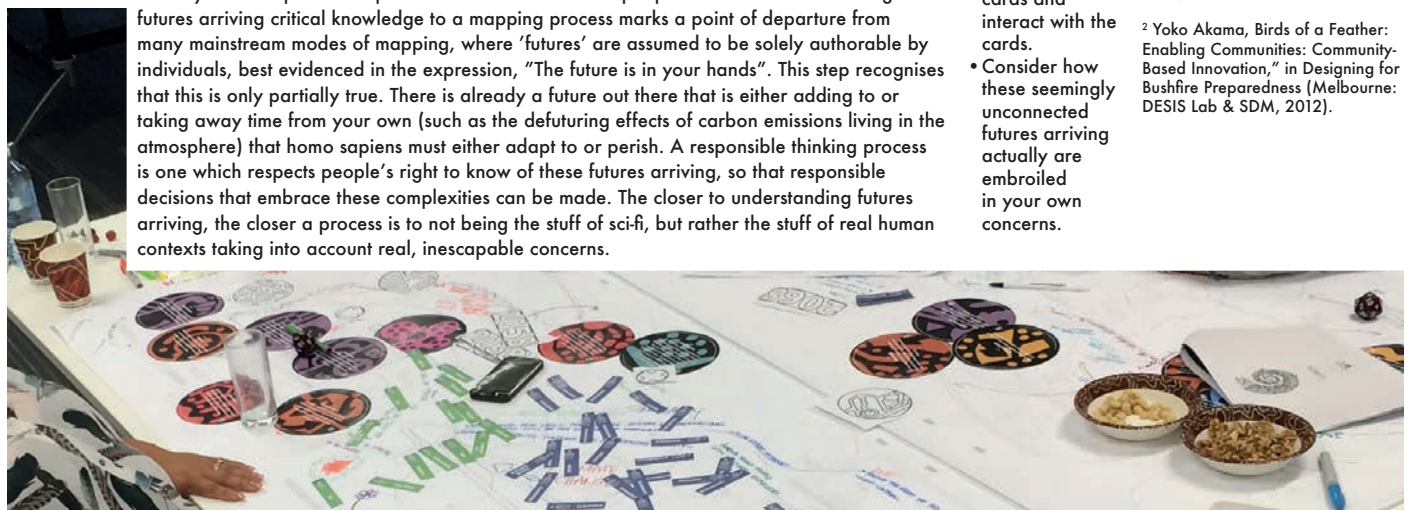
- Introduce the knowledge cards and discuss.
- Do this simply by handing people small cards of info, or be more creative about it and have people search for the cards, connect the cards and interact with the cards.
- Consider how these seemingly unconnected futures arriving actually are embroiled in your own concerns.

## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," *Nordic Design Research*, no. 6 (2015), <http://www.nordes.org.opj/index.php.n13.article.view.398>;

Tristan Schultz, "Cognitive Reductive Mapping: Drawing Together Knowledge Production," paper presented at Drawing International Brisbane: Ego. Artefact.Arena, Queensland College of Art, Griffith University, Brisbane, Australia, 1-2 October 2015, <https://static1.squarespace.com/static/55779bbce4b004acf1e1479d/>.

<sup>2</sup> Yoko Akama, *Birds of a Feather: Enabling Communities: Community-Based Innovation*, in *Designing for Bushfire Preparedness* (Melbourne: DESIS Lab & SDM, 2012).



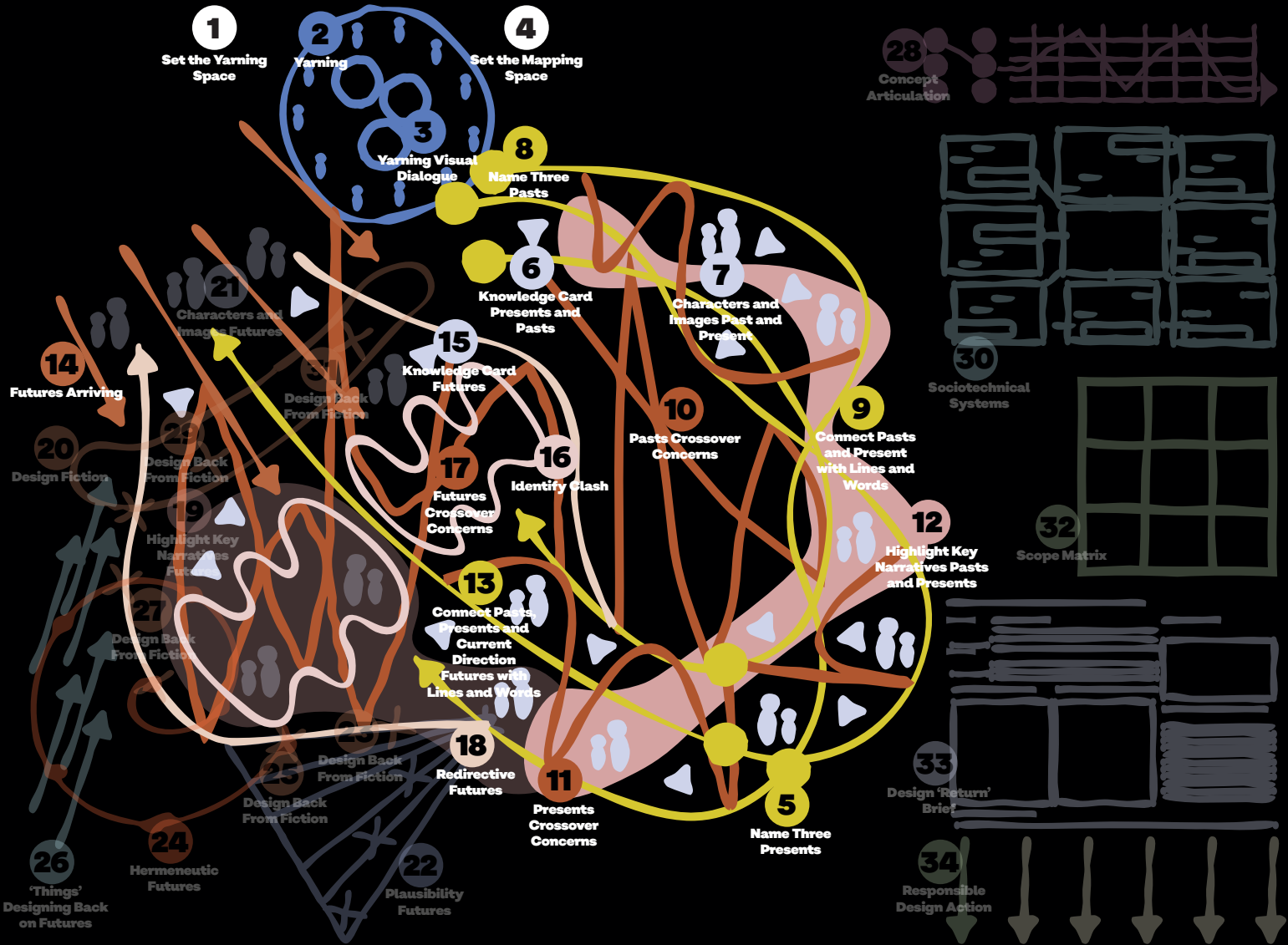
Indigenous Business Australia Futures Forum pilot workshop 2019











## Theories

Reflecting on this step marks a crucial moment in the intention of the CRM process<sup>1</sup>, which is that you reflect on departing from the current direction and its clash with futures arriving (if you deem the clash destructive) and instead put in place alternative future to counter this clash. This is also the most politically laden design decision you will make. You are about to decide a redictive pathway that inherently comes with a political statement of what futures you'd like to leave in, and what futures you'd like to leave out. This is the dialectic of sustainment;<sup>2</sup> in whatever is created, something is always destroyed. This why design is inescapably political.<sup>3</sup> This is where you intervene, where designing alternative futures begins.

## Practical Steps

- Reflect on this moment.
- Make marks on the paper wherever you need; draw lines in through and around clashes to start to visually identify potential redictive pathways.

## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Redictive Mapping: Designing Futures That Challenge Anthropocentrism," Nordic Design Research, no. 6 (2015), <http://www.nordides.org/opi/index.php.n13.article.view.398>;

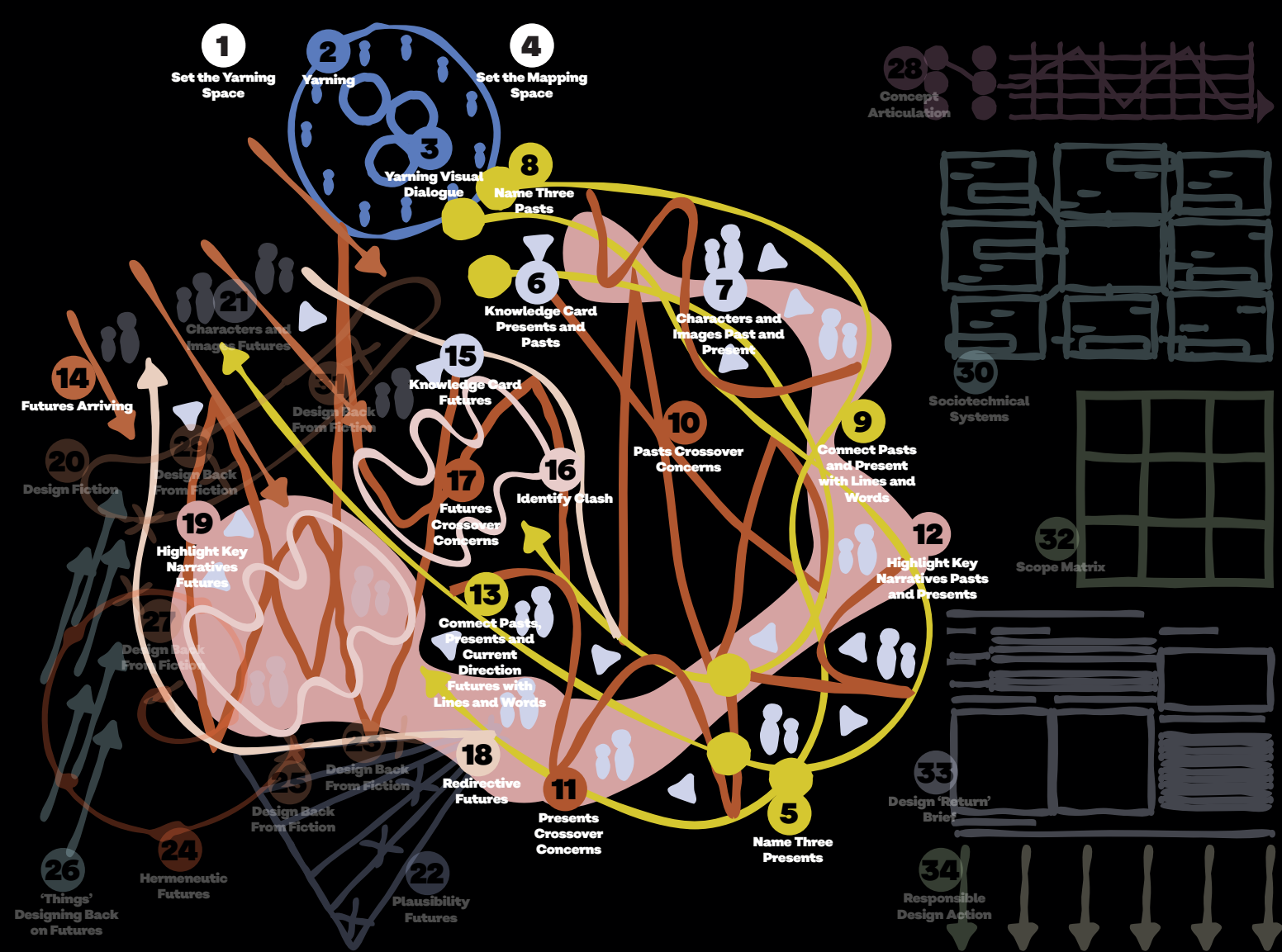
Tristan Schultz, "Cognitive Redictive Mapping: Drawing Together Knowledge Production," paper presented at Drawing International Brisbane: Ego.Artifact.Arena, Queensland College of Art, Griffith University, Brisbane, Australia, 1-2 October 2015, <https://static1.squarespace.com/static/55779bbe4b004ac1e1479d/>.

<sup>2</sup> Tony Fry, "The Voice of Sustainment: Design Ethics as Futuring," Design Philosophy Papers 2, no. 2 (2004): 145-156.

<sup>3</sup> Mahmoud Keshavarz, "Design-Politics: An Inquiry into Passports, Camps and Borders," PhD dissertation, Malmö University, Sweden, 2016.



See Change Sand Tracks concept mapping



## Theories

Highlighting key narratives helps with hierarchy, sequencing and flow and is important for legibility; however, there is a fine line between over organisation and rationalisation, and making the map start to 'speak back' to participants.<sup>1</sup> An anarchic visual mess is of course completely non-productive to producing knowledge, the central aim of the mapping process. As argued by Johanna Drucker,<sup>2</sup> it is better to push at the limits of legibility, "where ambiguity and contradiction are more important to be expressed." From a relational systems view, this step is about starting to identify the parts in whole relationships by utilising gestalt techniques to indicate movement, spatial orientation, along with colour hues and values to indicate hierarchy and differences.

## Practical Steps

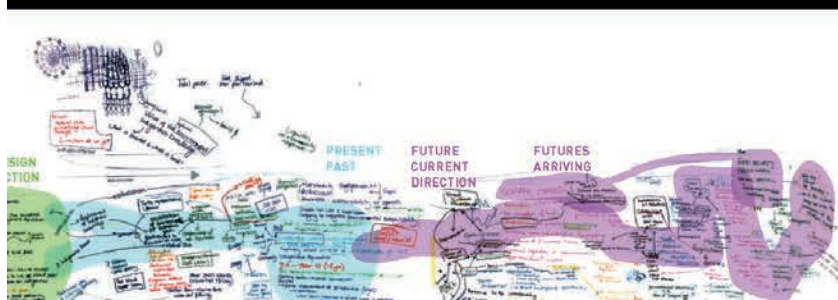
- If you're mapping on paper, pick up a highlighter and highlight key narratives that have brought forth pasts and presents into futures.
- Consider this decision based on what is most important to you to continue mapping, while letting the rest of the mesh of information not highlighted find its home in layers under your dominant narrative.
- Another handy way to think of this is 'housekeeping'; in giving a little attention to your 'house', what is it that you want to see, amongst the mess, at a glance?
- If you are digitally creating a map, this step can be utilised as an interactive layer that can be switched on and off.

## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," *Nordic Design Research*, no. 6 (2015), <http://www.nordes.org.opi/index.php.n13.article.view.398>.

<sup>2</sup> Tristan Schultz, "Cognitive Reductive Mapping: Drawing Together Knowledge Production," paper presented at Drawing International Brisbane: Ego.Artefact.Arena, Queensland College of Art, Griffith University, Brisbane, Australia, 1-2 October 2015, <https://static1.squarespace.com/static/55779bbce4b004acf1e1479d/>.

<sup>3</sup> Johanna Drucker, *Graphesis: Visual Forms of Knowledge Production* (Cambridge, MA: Harvard University Press, 2014).



Reductive Practice event 1 key narrative highlighting

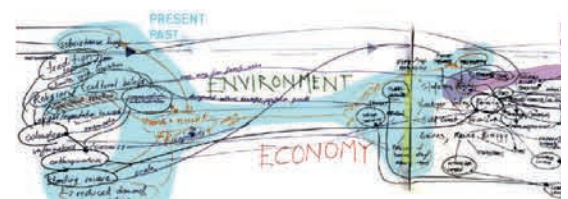


Table 2 Reflection

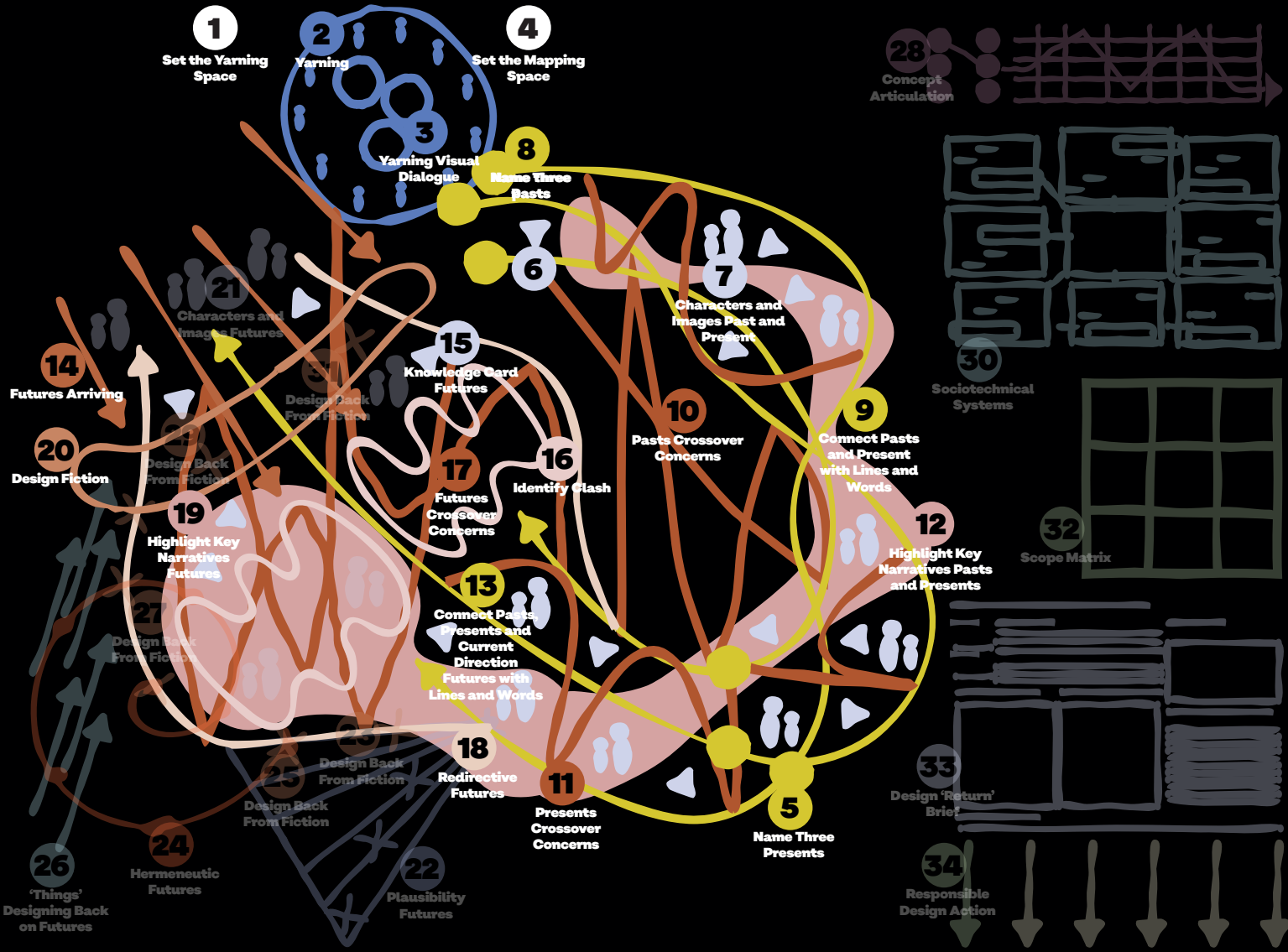
### Narrative

The overarching narrative revolves around machine-factors and community concerns of taking economic risks in developing an elevated symbolic value of a long term, emission free, ecological agricultural industry.

Valley, South I crops is on the investment at to fossil fuel e changing clin

How is it gath  
Peetroot farm  
Sales on a note





## Theories

Design fictions are beneficial for conceptually testing ideas as if they are already in existence, without wasting the time, money and resources they might consume in reality.<sup>1</sup> They can also test the fusion between people and things without the consequence of bringing that hard-to-separate fusion into actual material existence. They can put options on the table that can no longer be ignored and provide realities to work towards, offering relatable, human scale, emotional, character-loaded narratives. Design fictions are a powerful transformative design method frequently employed today by companies and organisations in a spectrum ranging everywhere from neoliberal colonising means to decolonising contexts. Contrary to utopian or dystopian sci-fi futures writing, design fictions in this step should aim to responsibly contest utopian futures and take into account the pasts, presents, current future direction and futures arriving and to what extent the fiction articulates what is unable to change, what can be mitigated, adapted and redirected around.<sup>2</sup>

## Practical Steps

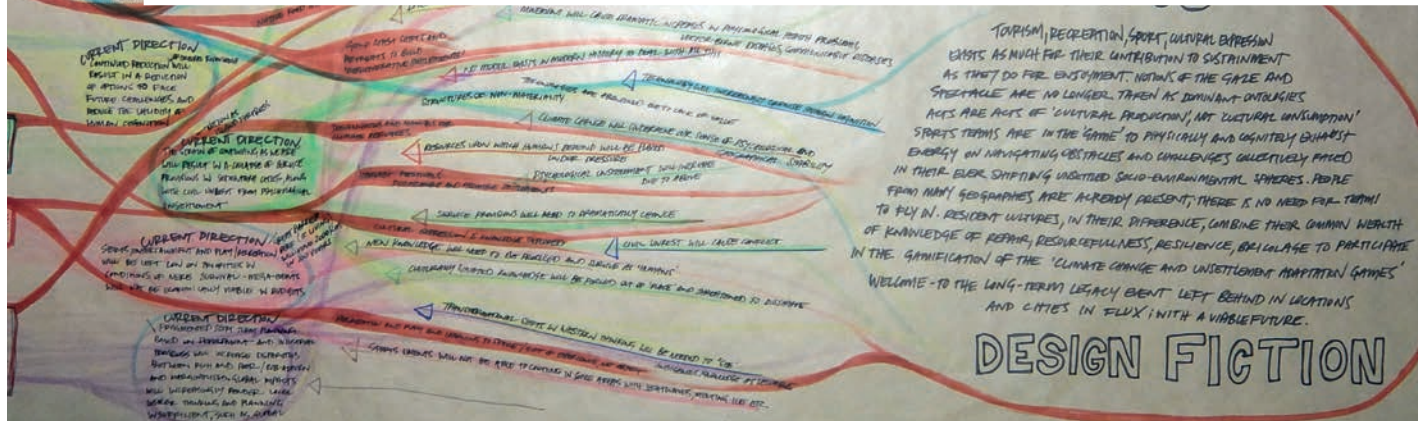
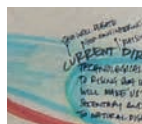
- Write a future scenario (design fiction) that navigates around the clash identified in the earlier mapping futures activity. Sketch it out at the end of your map, or somewhere else.
- Decide on a timescale, remembering the further in the future you speculate, the less you are able to predict plausible propositions, but if you only speculate in near futures, there is only so much transformative change capable in that timescale.
- This is the step to be divergent and ambitious, in the next steps you will work in a convergent way to design back from the viability of your design futures.<sup>3</sup>
- Write your design fiction in long time-scales, and then focus on the short time-scale that covers what you can do in your own life.

## More info/tools

<sup>1</sup> Tristan Schultz and Bec Barnett, "Cognitive Reductive Mapping: Designing Futures That Challenge Anthropocentrism," Nordic Design Research, no. 6 (2015), <http://www.nordes.org/opi/index.php.n13.article.view.398>.

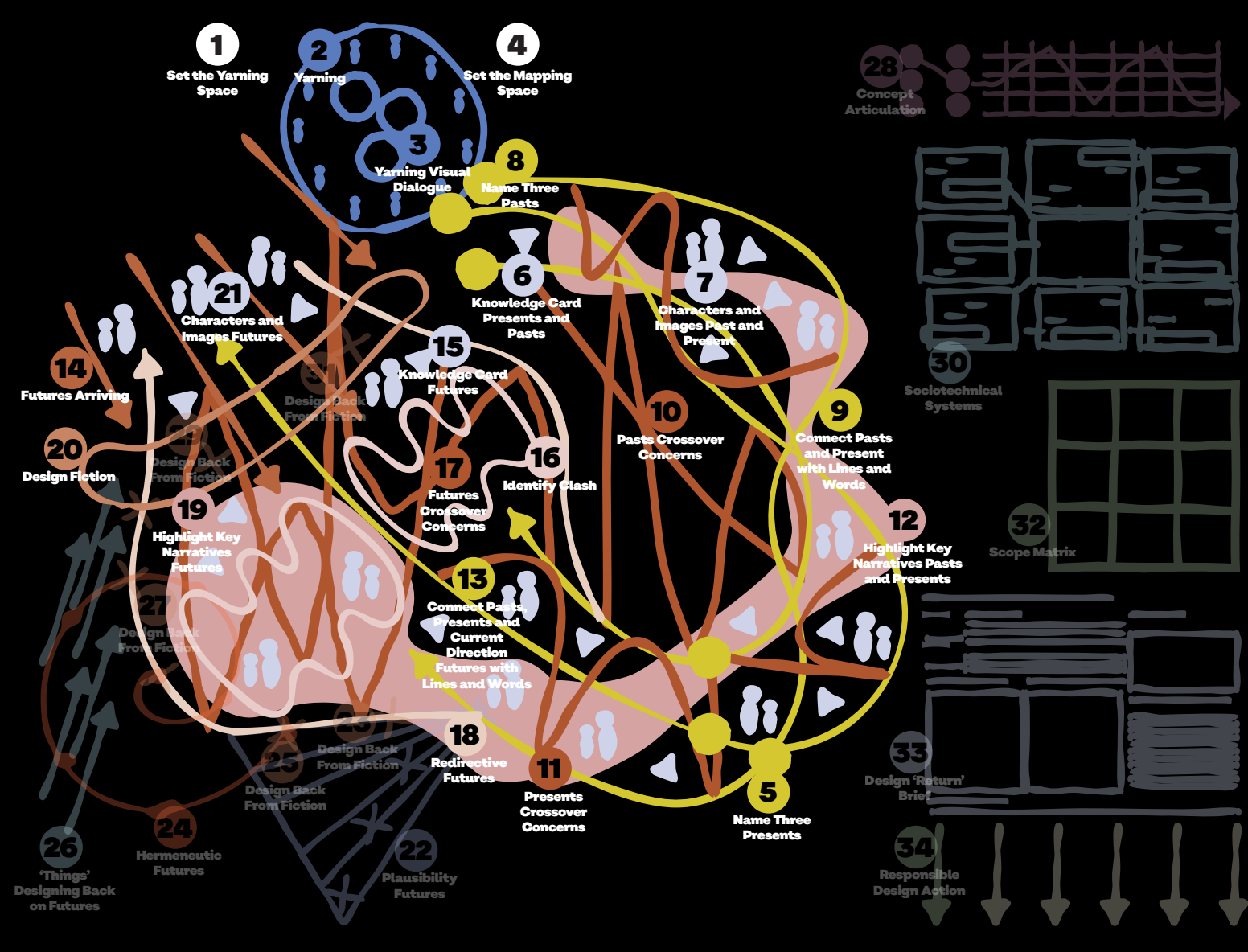
<sup>2</sup> Tristan Schultz, "Mapping Indigenous Futures: Decolonising Techno-Colonising Designs," Strategic Design Research Journal 11, no. 2 (Special Issue: Autonomia: Design Strategies for Enabling Design Process) (2018): 79–91.

<sup>3</sup> Anne-Marie Willis, "Ontological Designing," Design Philosophy Papers 4, no. 2 (2007): 69–92.



See Change Sand Tracks concept mapping





## Theories

Continue the design fiction process with more subjectivity and relative contexts based on sketching, character cards, images and other mess. Continue the meshwork of messiness, thereby evading over-rationalising the process. Continue visual pattern thinking as a visual research method, an alternative mode of knowledge production,<sup>1</sup> and see the world as an ecology of images that design back on us.<sup>2</sup> Continue introducing knowledge cards as 'layered conversations' and triggers<sup>3</sup> for different kinds of participant engagement. This step should help add human experiences to the design fiction but also add a theoretically informed practice (praxis) to your design fiction.

## Practical Steps

- Articulate connections between images you've already introduced that represent a 'picture' of the concerns you're negotiating.
- Create a meshwork using those images and possibly coloured string to make visual connections.
- Politicise the images; locate power dynamics through informal processes of semiotic analysis and discussion.
- Assign meaning to the images and characters, so that they become a representation of practices and epistemologies that could contribute to and/or prevent desired changes and can travel through the rest of the mapping process.
- Assign the images, characters to the marks already created on the map and the design fiction.
- Give the map some temporal scale by layering in timescales accordingly across the design fiction.

## More info/tools

<sup>1</sup> Tristan Schultz, Bec Barnett, Christine Moulder, Lennah Kuskoff, and Chenoa Pettrup, "Making an Age of Repair: Queensland—A Case Study in Participatory Process in Practice," in *Territories of Political Participation: Public Art, Urban Design, and Performative Citizenship*, edited by Laura Iannelli and Pierluigi Musarò (UK: Mimesis International), 215-224.

<sup>2</sup> Abby Mellick Lopes, *Ecology of the Image: The Matter of Ideas in Design* (Saarbrücken, Germany: VDM Verlag, 2009).

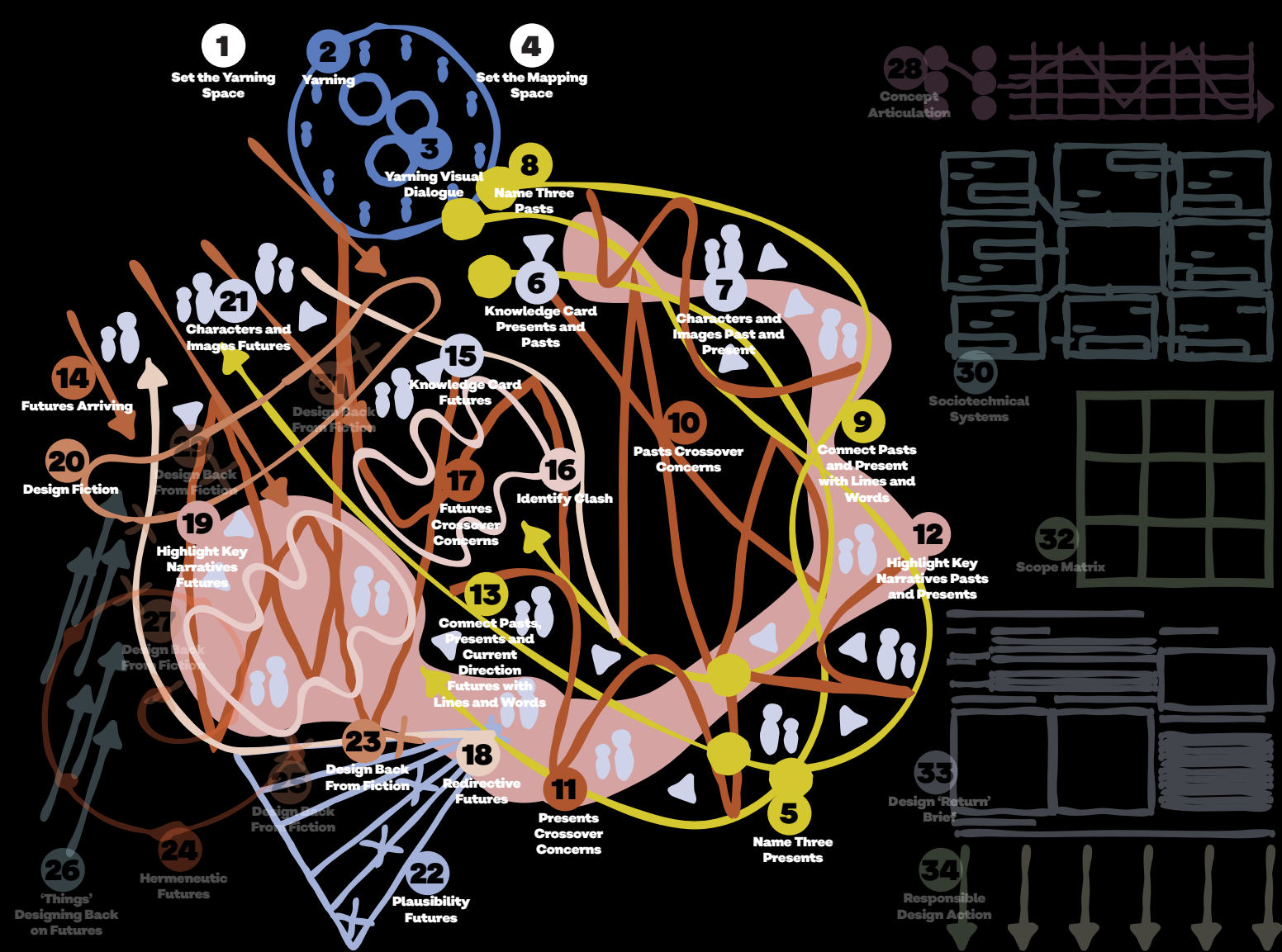
<sup>3</sup> Yoko Akama, *Birds of a Feather: Enabling Communities: Community-Based Innovation*, in *Designing for Bushfire Preparedness* (Melbourne: DESIS Lab & SDM, 2012).



Future BNE student design fiction creation







## Theories

You are now in a position to consider what scenarios might be viable to bring into existence that serve getting you towards your design fiction. Anne-Marie Willis writes,

"the scenario is built up by imagining how the large-scale forces could play out at small-scale level – the life of communities, families, individuals. Plausible characters (personas), settings, and events are created – as written narratives, role-plays, animations. If it is a negative scenario, in other words an undesirable future (remembering that the scenario is not pure fantasy, but has been developed through research, by extrapolating current trends and envisaging random but nevertheless plausible events), what needs to be put in place (designed) between now and the scenario's date, to avert or at least minimize the worst consequences? And if it is preferred scenario, again, what needs to be designed now that will unfold over time and contribute to its realization? This is where the "designing back" starts – which is about designing a process rather than just things or physical structures (though they could be part of the process). The design outcomes can include new narratives, imagery, information, policies, campaigns, organizations, as well as new services or products. Infrastructure, buildings, and built environments could also eventuate from the implementation of the process; the difference is that these traditional design forms are not the starting point."<sup>1</sup>

## Practical Steps

- As you iteratively reflect on your design fiction and your entire mapping process so far, make marks in and around your design fiction that illustrate potential action points between now and the design fiction set date.
- You might use time-scale cards and simply write dates along a timeline to help fill action in place.
- A useful powerful question to ask at this crucial point is, what needs to be happen now to redirect the path towards the futures I want?

## More Information

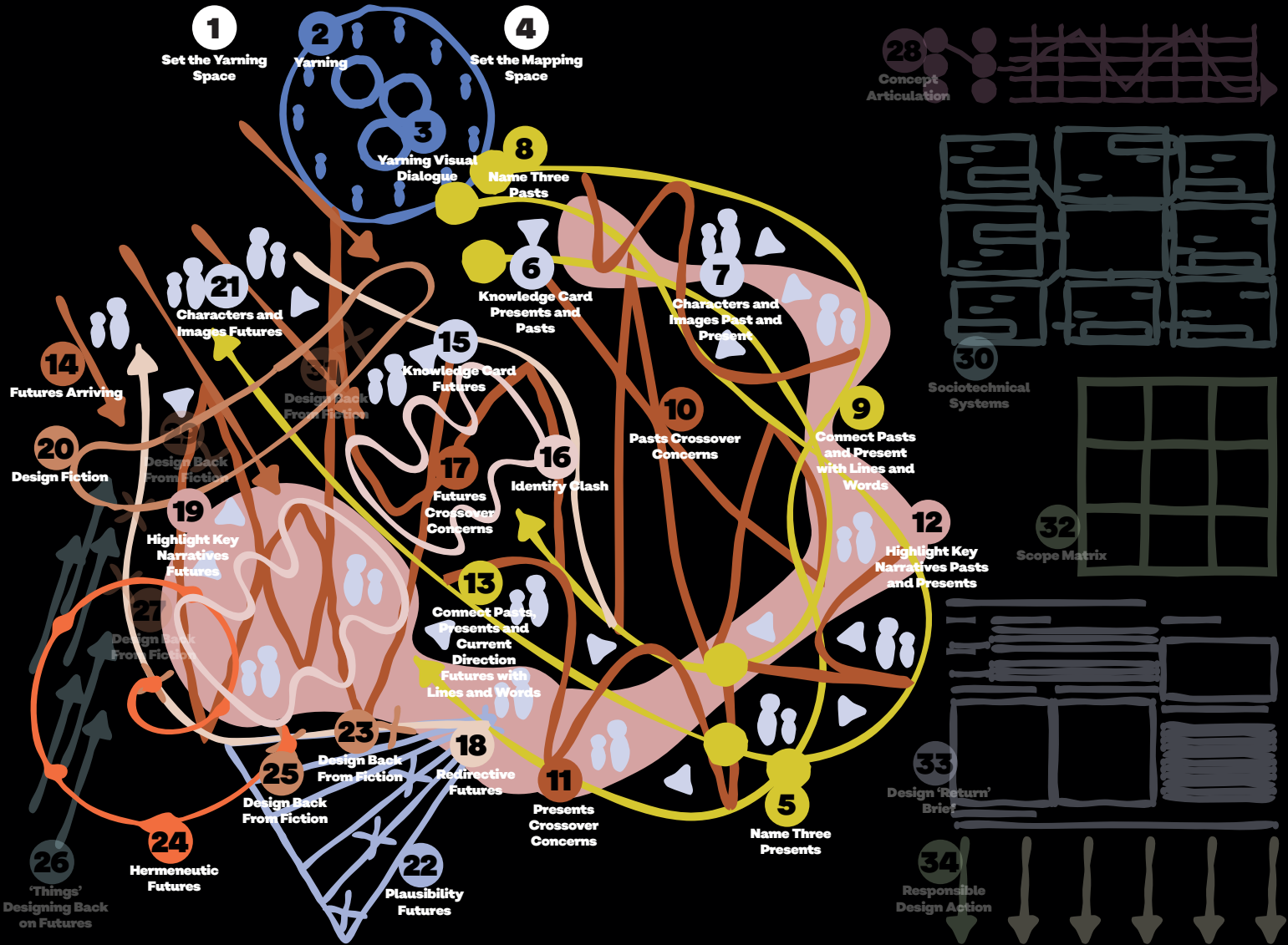
<sup>1</sup> Anne-Marie Willis, "Ontological Designing," *Design Philosophy Papers* 4, no. 2 (2007): 69–92.



See Change Sand Tracks workshops







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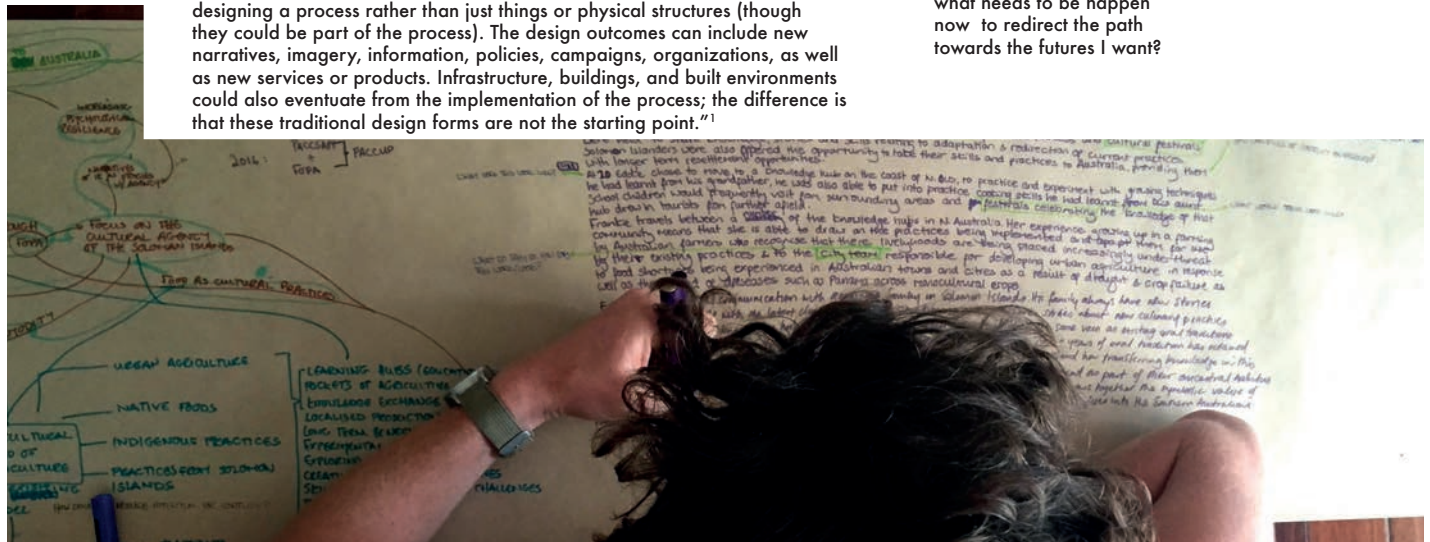
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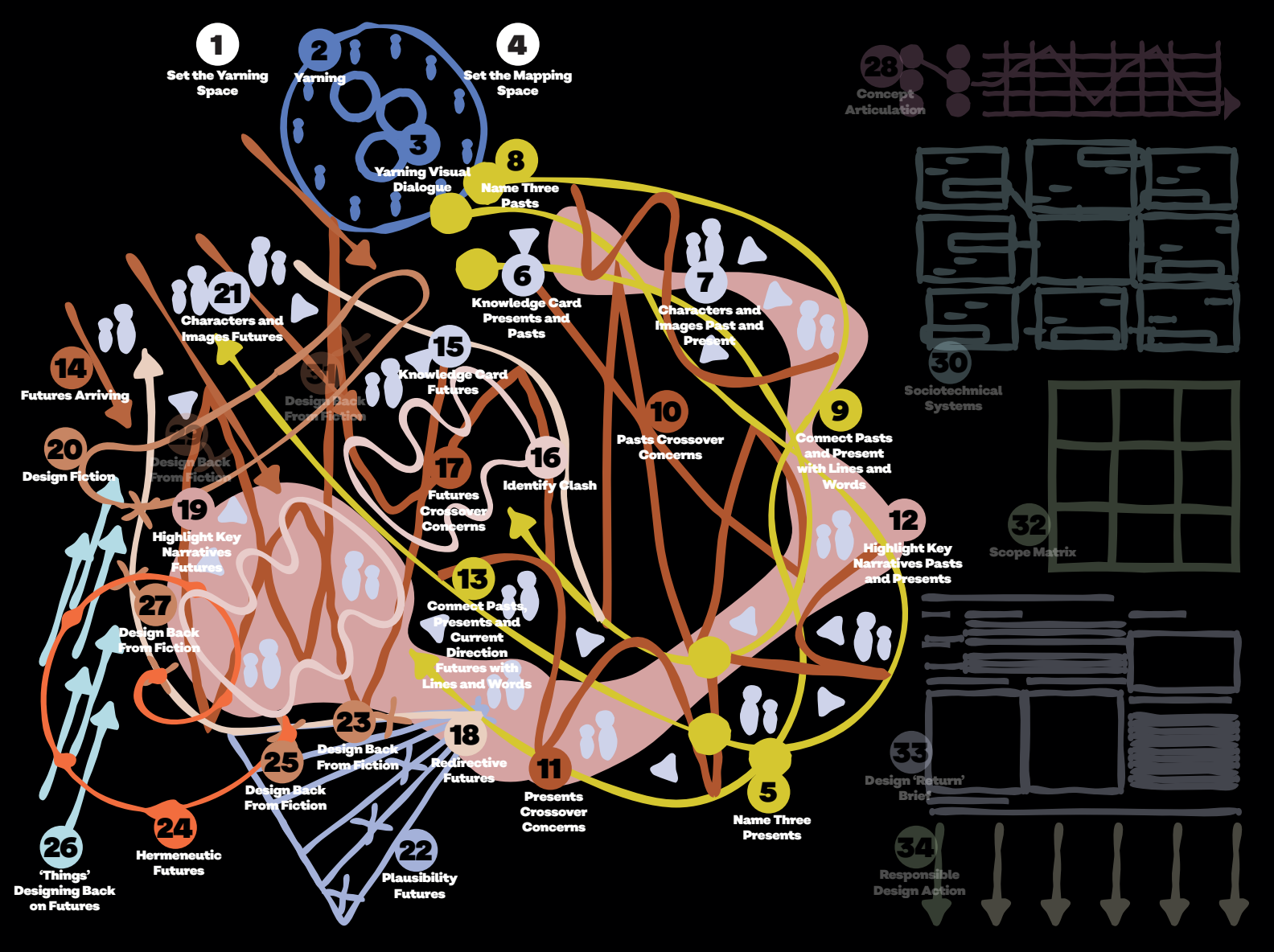
## More Information

<sup>1</sup> Anne-Marie Willis, "Ontological Designing," *Design Philosophy Papers* 4, no. 2 (2007): 69–92.









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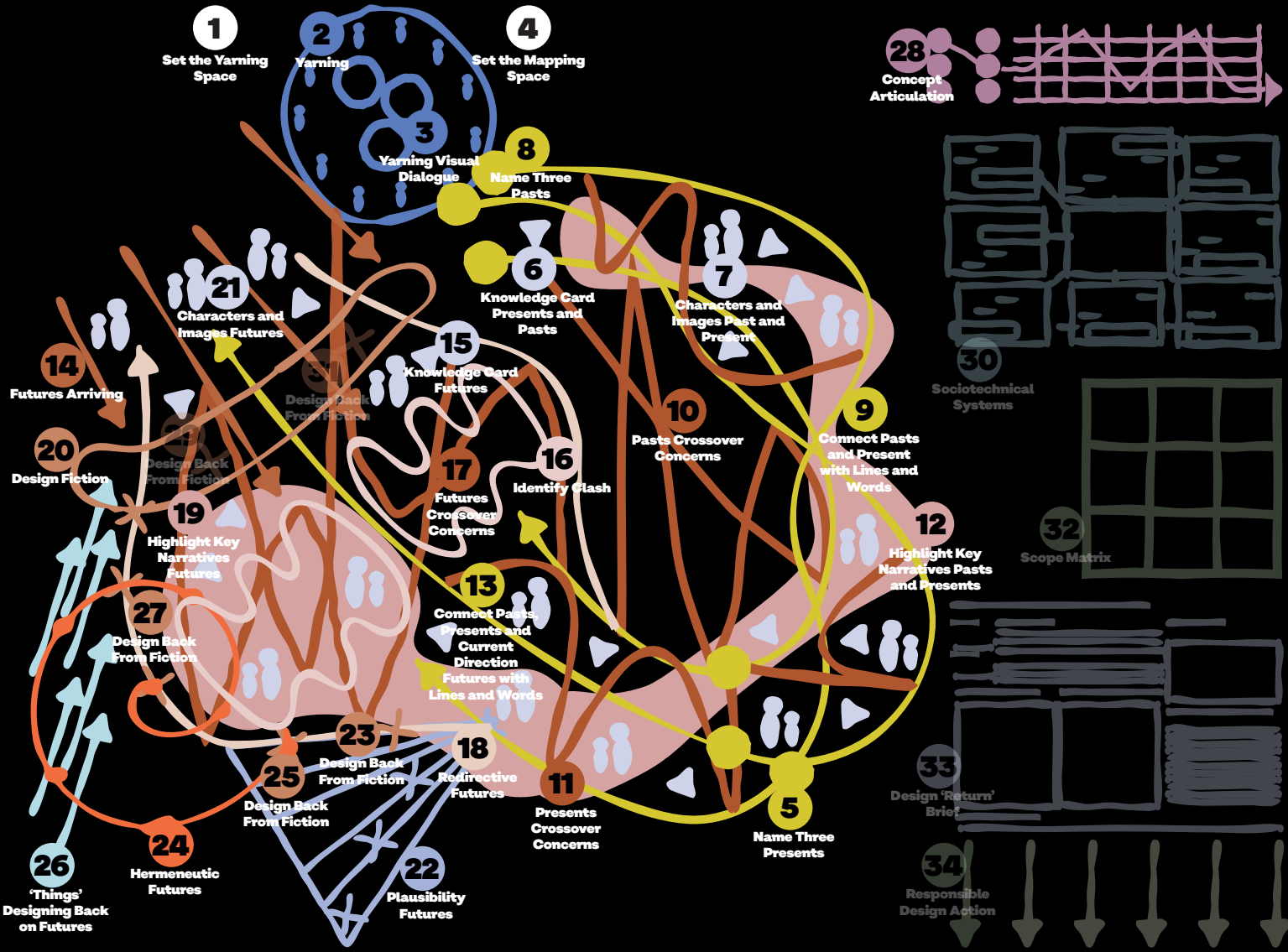
## More Information

<sup>1</sup> Anne-Marie Willis, "Ontological Designing," Design Philosophy Papers 4, no. 2 (2007): 69–92.



Tristan Schultz presenting at Tedx on mapping futures





## Theories

After completing all the previous steps in this methodology, one is ready to synthesise communicating concepts. The concept articulation tool, which should be contextual to your needs with a template open to change, assists participants track the development of their concepts and briefs as though it is a long sentence. It provides a lexicon, a curation of language that can help participants describe the following: rearticulations connected to future challenges; connected to action required; connected to perceptions as barriers; connected to design futures methods to employ to navigate around those barriers and challenges; connected to the sector to talk to about all this; connected to the actual kind of design activity, event or program that can achieve this. Step 3 on the concept articulation tool asks participants to assess their description of their content using a prefigurative assessment of relationality, elimination, directionality, reclassification and efficacy. Some of the terms in this tool can be further understood in various written work from Tony Fry. Here they are applied in a form and typology along with a numerous other ways of thinking that can be interacted with and assessed.

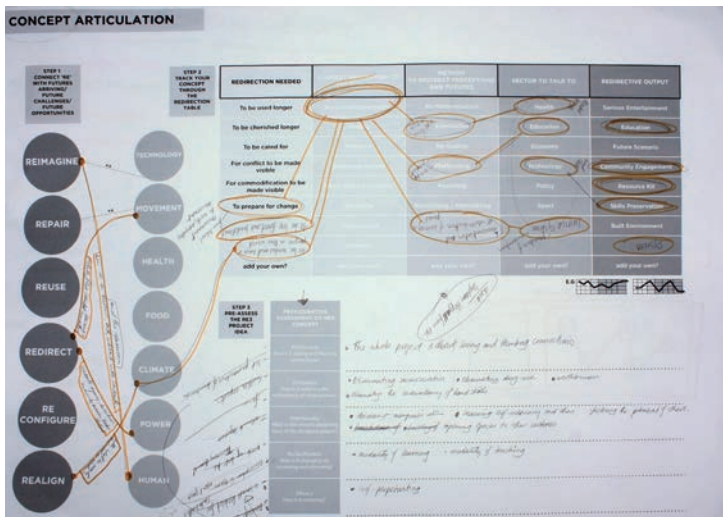
## Practical Steps

- Starting at step 1 on the Concept Articulation sheet, with a pen, track your way across the page and through the table.
- Then draft short sentences that self-assess your description articulated in the form of the tracked line and any associated annotations that go with it.
- Use this information for a more rigorous foundation to write a return brief.

## More Information

<sup>1</sup> Tony Fry, *Becoming Human by Design* (London: Berg, 2012).

See this 'Concept Articulation' template in full size in the Template Appendix at back.



## SUMMARY OF ARTICULATION

Table 1 project aims to REIMAGINE future challenges related to HUMAN, in how we, as teachers, interact with students and the 'classroom'; to REDIRECT MOVEMENT, by being mobile and reflexive, with situated innovation; REDIRECT POWER by looking at students agency, direction and authority between teacher and student; to REALIGN relationships to CLIMATE to what one needs to survive, rather than what one wants.

The project intends to redirect community and human relationships by ensuring that students are 'prepared for change'; to be less fixed and traditional; to have students be inspired and have purpose in this ever changing world. The group feel their desires are perceived as **socially transformative** and that no resistance is anticipated.

The 'Territories of Difference' project aims to **eliminate** destructive nihilism in Troy their character. The project democratizes and re-distributes learning and power in schools, to give more authorship and agency to students.

This project aims to take a holistic approach to redesigning the notion of community and so speaks to a number of sectors including health, education, technology and the justice system. Overall, it is a project that aims to connect the kids with many nodes and networks in community. It proposes a large 5m wide board where students mix 'n' match their journey with these different mentors. Troy, the fictional student character, would then return in the future to be a mentor himself.

Potential outcomes for the project include **community engagement activities, resource kits and skills preservation**.

In a pre-figurative assessment of the project the following was determined:

Relationality (how is it seeing and thinking connections?): The whole project is about seeing and thinking connections

Elimination (how is it reducing the redundancy of what sustains?): Eliminating incarceration, drug-use, the redundancy of hand skills, and worthlessness.

Directionality (what is the onward designing force of the designed project?): Decreasing marginalisation; increasing empathy while having self-advocacy; fostering potentiality; opening spaces of intercultural understanding

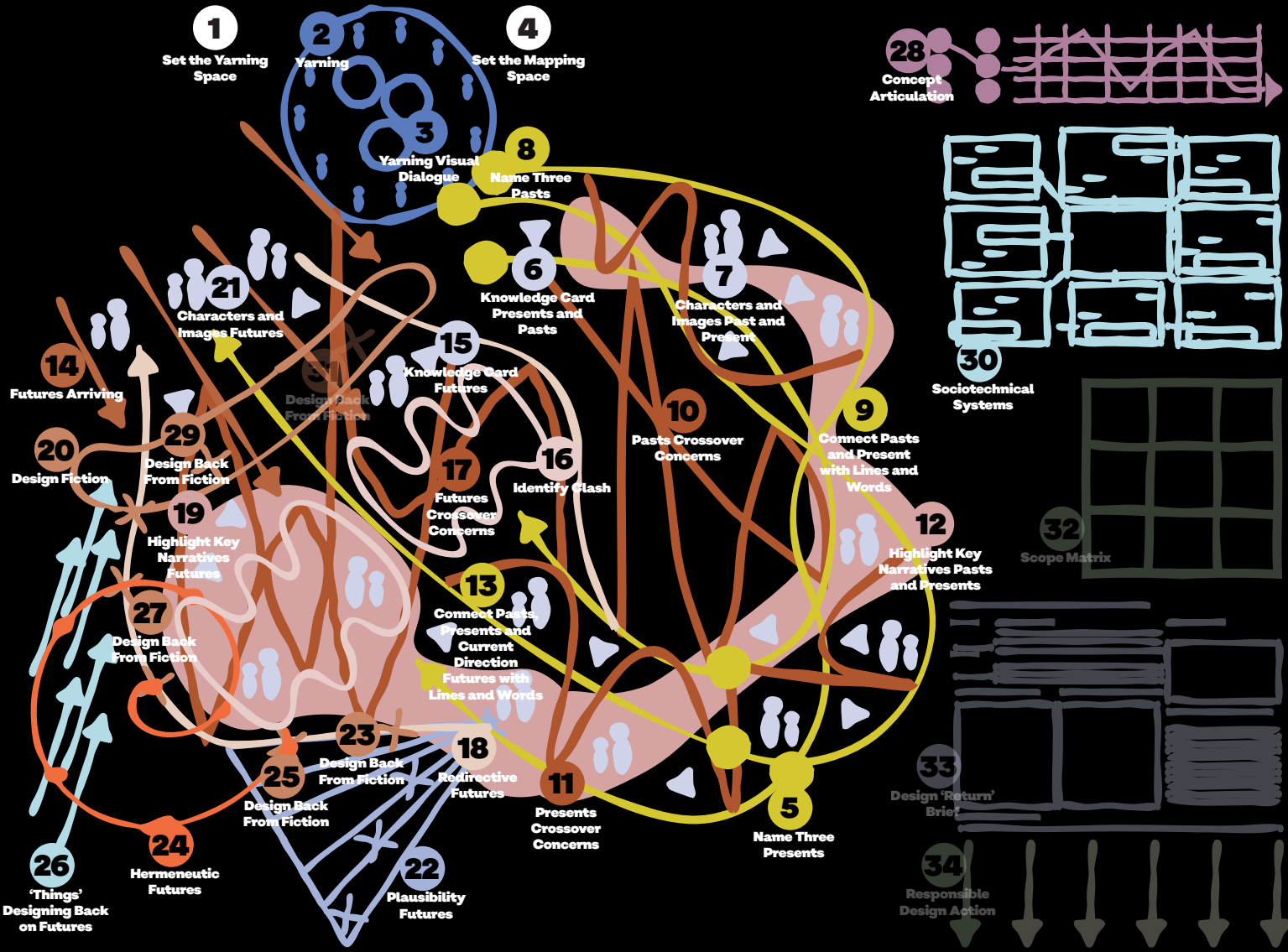
Reclassification (how is it changing via renaming and reframing?): Modality of learning; modality of teaching.

Efficacy (how is it enduring?): Self-perpetuating.

Filled in concept articulation tool







## Theories

In developing methods for their Transition Design ways of approaching design, Terry Irwin and Gideon Kossoff from Carnegie Mellon University developed a way to understand 'The Role of Design and Designers in Socio-Technical Transitions'. Participants track through understanding large socio-technical systems, and how they can be understood as being made up of designed artefacts and processes embedded in the system, which in turn each have design disciplines involved. This is a useful tool for this step of the mapping process since via the concept articulation tool, participants have a grounding in concept, and can now bring to focus this concept's situatedness in a system. It then helps one identify component design activities required to undertake, and the kinds of design disciplines and particular skills required to achieve the artefacts.

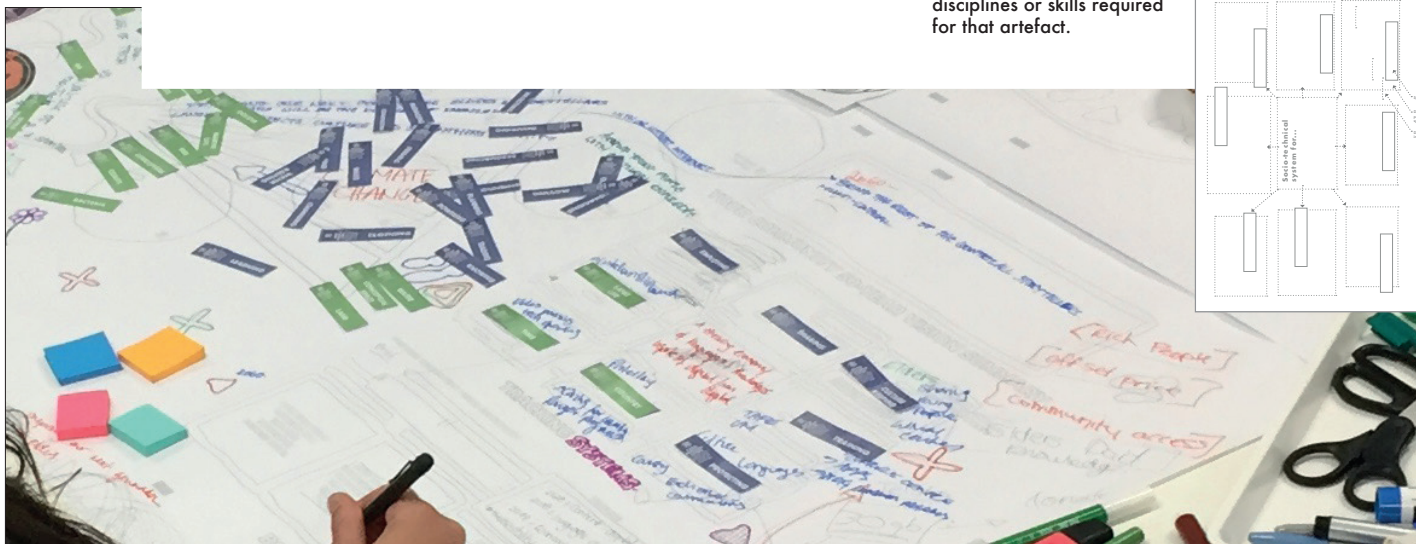
## Practical Steps

- Write the overall socio-technical system the concept is related to in the centre box (for example, road transportation or food security). Explore the multitude of system categories that exist in the system.
- Understand the designed artefacts that make up the system category. Add images to help.
- Interrogate actual design disciplines or skills required for that artefact.

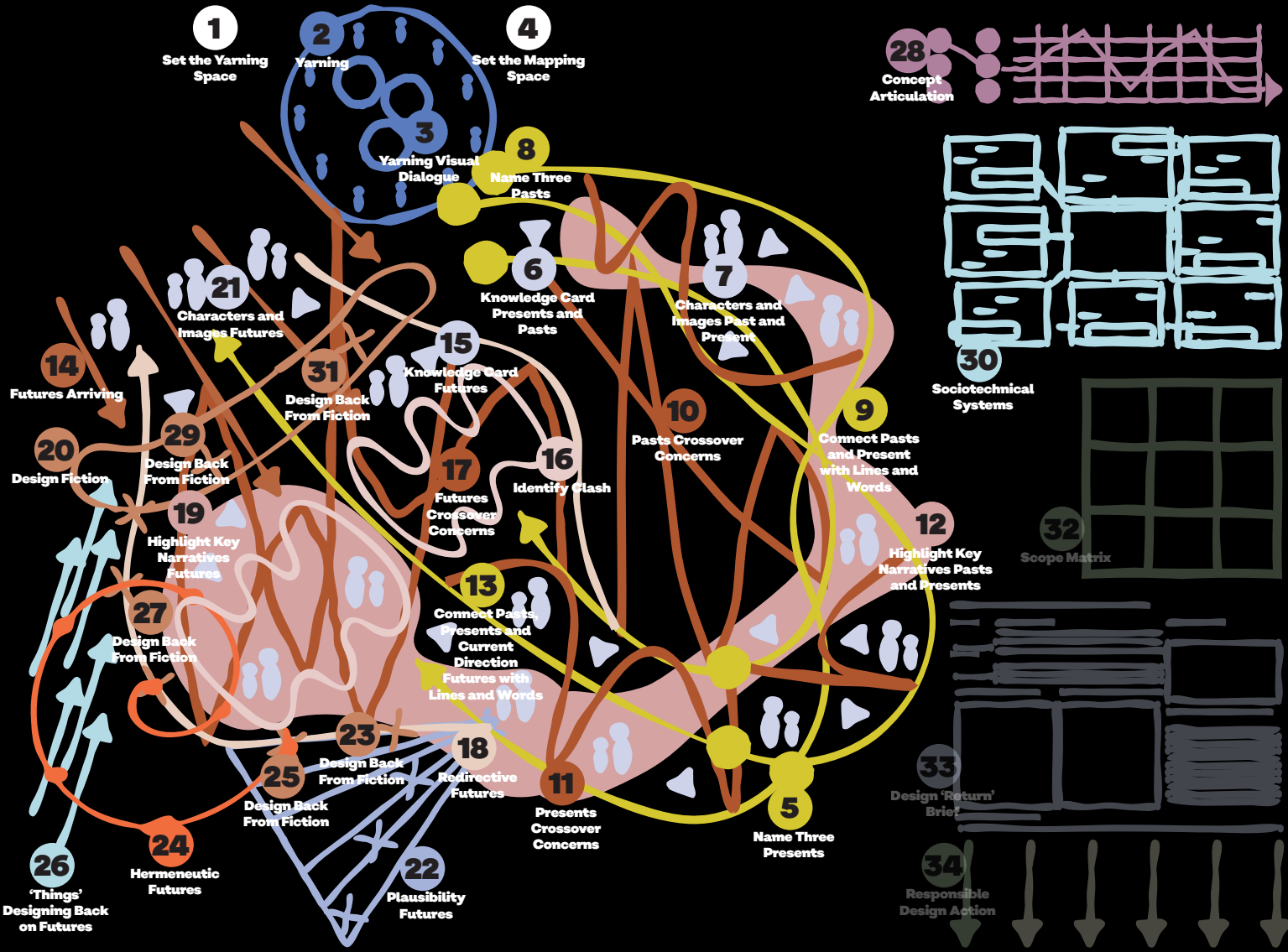
## More Information

<sup>1</sup> Terry Irwin and Gideon Kossoff, *The Role of Design and Designers in Socio-Technical Transitions* (Pittsburgh: Carnegie Mellon University, 2015).

See this 'Socio-technical Systems' template in full size in the Template Appendix at back.



Australia Council for the Arts Design Futures workshop 2018: yarning visual dialogue



## Theories

You are now in a position to consider what scenarios might be viable to bring into existence now that serve getting you towards your design fiction. Anne-Marie Willis writes,

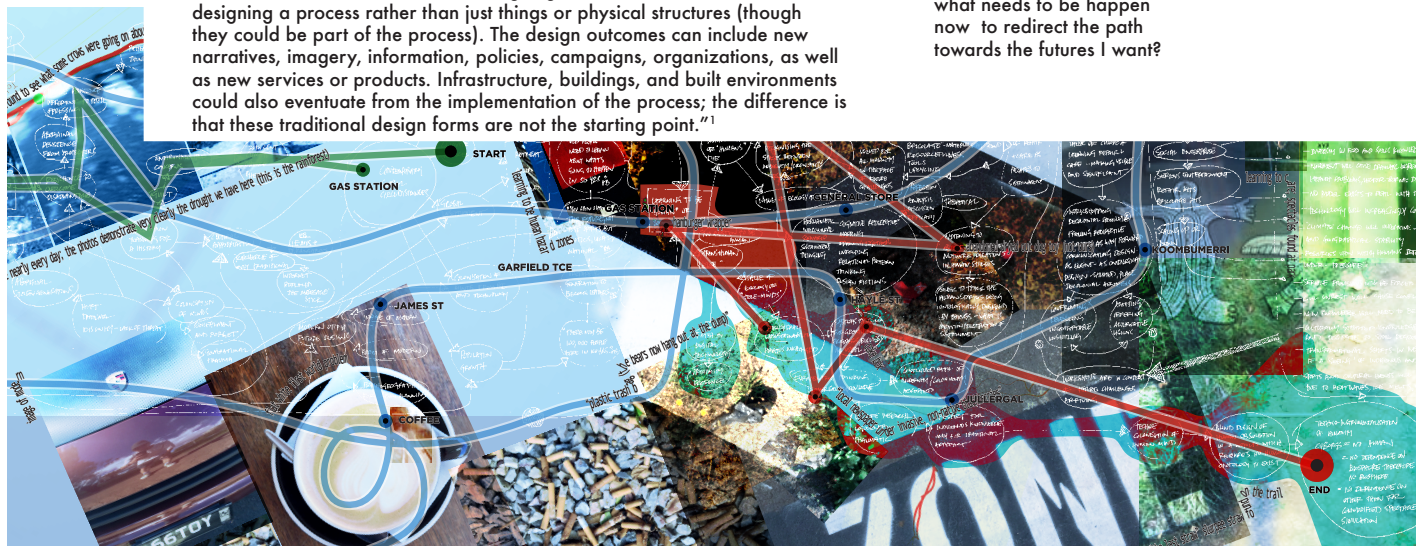
"the scenario is built up by imagining how the large-scale forces could play out at small-scale level – the life of communities, families, individuals. Plausible characters (personas), settings, and events are created – as written narratives, role-plays, animations. If it is a negative scenario, in other words an undesirable future (remembering that the scenario is not pure fantasy, but has been developed through research, by extrapolating current trends and envisaging random but nevertheless plausible events), what needs to be put in place (designed) between now and the scenario's date, to avert or at least minimize the worst consequences? And if it is preferred scenario, again, what needs to be designed now that will unfold over time and contribute to its realization? This is where the "designing back" starts – which is about designing a process rather than just things or physical structures (though they could be part of the process). The design outcomes can include new narratives, imagery, information, policies, campaigns, organizations, as well as new services or products. Infrastructure, buildings, and built environments could also eventuate from the implementation of the process; the difference is that these traditional design forms are not the starting point."<sup>1</sup>

## Practical Steps

- As you iteratively reflect on your design fiction and your entire mapping process so far, make marks in and around your design fiction that illustrate potential action points between now and the design fiction set date.
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## More Information

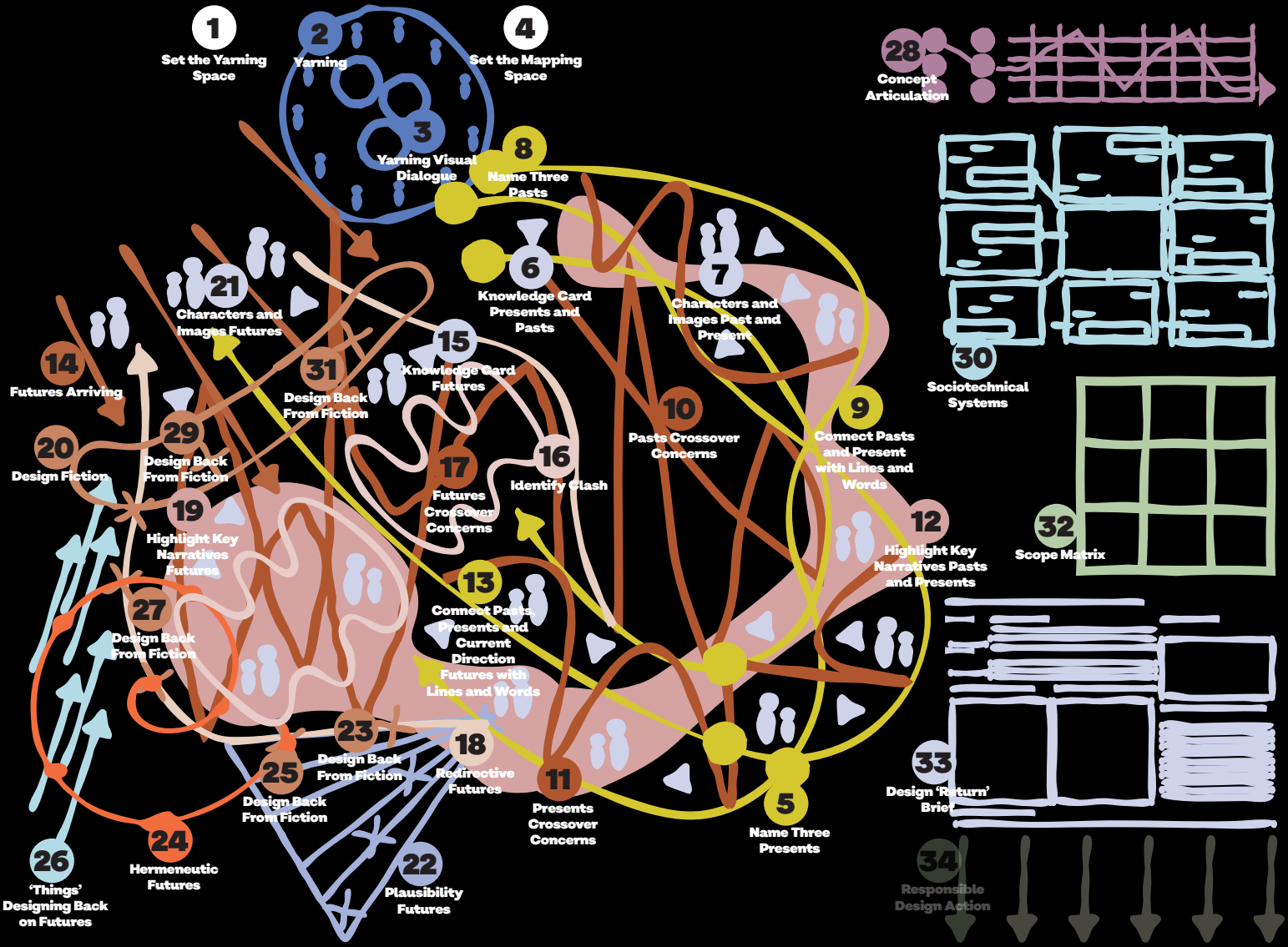
<sup>1</sup> Anne-Marie Willis, "Ontological Designing," *Design Philosophy Papers* 4, no. 2 (2007): 69–92.



Decolonial Derive psychogeographic mapping







## Theories

A design brief serves as a point of reference throughout a project for everyone involved. Through the critical mapping work undertaken thus far, one is now in a position to have produced enough rigour and analysis of the concerns related with any concept to responsibly write a design brief as a point of reference to bring a design into existence. A design return brief either comes in the form of one returning to an original brief giver (such as a client) an updated iteration of the brief, which is rigorous enough to take the project a more responsible direction, or it is an open brief written from scratch by the designer in a self-directed context. Fitting with the political position outlined in this process, Tony Fry's 'Return Brief' provides a suitable way to understand "a means to take a conventionally conceived design commission and turn it into a sustainable project by structuring a particular kind of engagement with a client judged in two ways: 1. Its efficiency in prompting the client to think seriously about sustainability, 2. Its efficiency in prompting the client to modify their brief by taking up options presented in the return brief". Brief writing in the design process shown here is a participatory process, as with the mapping, enabled with large paper template and redrafted post-participation.

## Practical Steps

- Negotiate with the team to set the parameters of a design brief.
- Use all the previous mapping and thinking to concisely capture, in a small amount of words, the political position, concerns, parameters, timing, stakeholders and actions that brings to focus a common and consensual document for all to use a foundation going forward.

## More Information

<sup>1</sup> Tony Fry, *Becoming Human by Design* (London: Berg, 2012).

See this 'Return Brief' template in full size in the Template Appendix at back.

## RECOMMENDATIONS

The project appears as though it could be implemented within a one-year time frame.

Next steps:

- X Identification of interested teaching staff looking to develop and further run the project.
- Griffith University Honours students to design what this program will look like in its first year and as it grows. They would work alongside Emma Clarke to do this and staff identified in the previous step.
- Research, design and development needs to occur to further develop how relate to ACARA.
- Establish how this project fits within the wider framework of the RE3 design lab.

It is recommended that attention is paid to how this project could potentially be the binding 'systems design' that gives a structure for all other projects to fall within. The Territories of Difference could be the vessel, which is filled with particular projects, such as the following projects.

Fig 1. Territories of Difference



RECOMMENDATIONS

**RE3 DESIGN LAB: REPAIR BRIEF**

**Describe your idea**

**What does the repair hope to address, change or create?**

**What actions might it entail?**

**How transformative is your idea?**

**Who could help?**

**What is your timeline?**

**REPAIR BRIEF SCRIBE**

Describe your idea: Territories of Difference hopes to reimagine student and teacher relationships, agency and authority. To further align students' perceptions with their usefulness, purpose and value in a complex and shifting world. The project opens opportunities for students to make connections among different modes of learning in school, community and city.

What does the repair hope to address, change or create? The project hopes to prepare students for change to reimagine education to less fixed and traditional; to further repair self-advocacy and dignity.

What actions might it entail?

1. Refer to Territories of Difference Diagram (Fig 1)
2. Develop list of territories and potential stakeholders
3. Set parameters: What do we expect from the 'Territories'? Develop a position statement that includes: relational diagram, space for speculation (for where stakeholders situate themselves in the position; Territories of Difference diagram; contacts; timelines; mode of commitment; expectations
4. Develop a booklet to provide to stakeholders for feedback
5. Conversation with Emma & Rob regarding space
6. Mock-up of Territory Map
7. Admin/Logistics

\*\*Griffith will help production of above, and with literature review

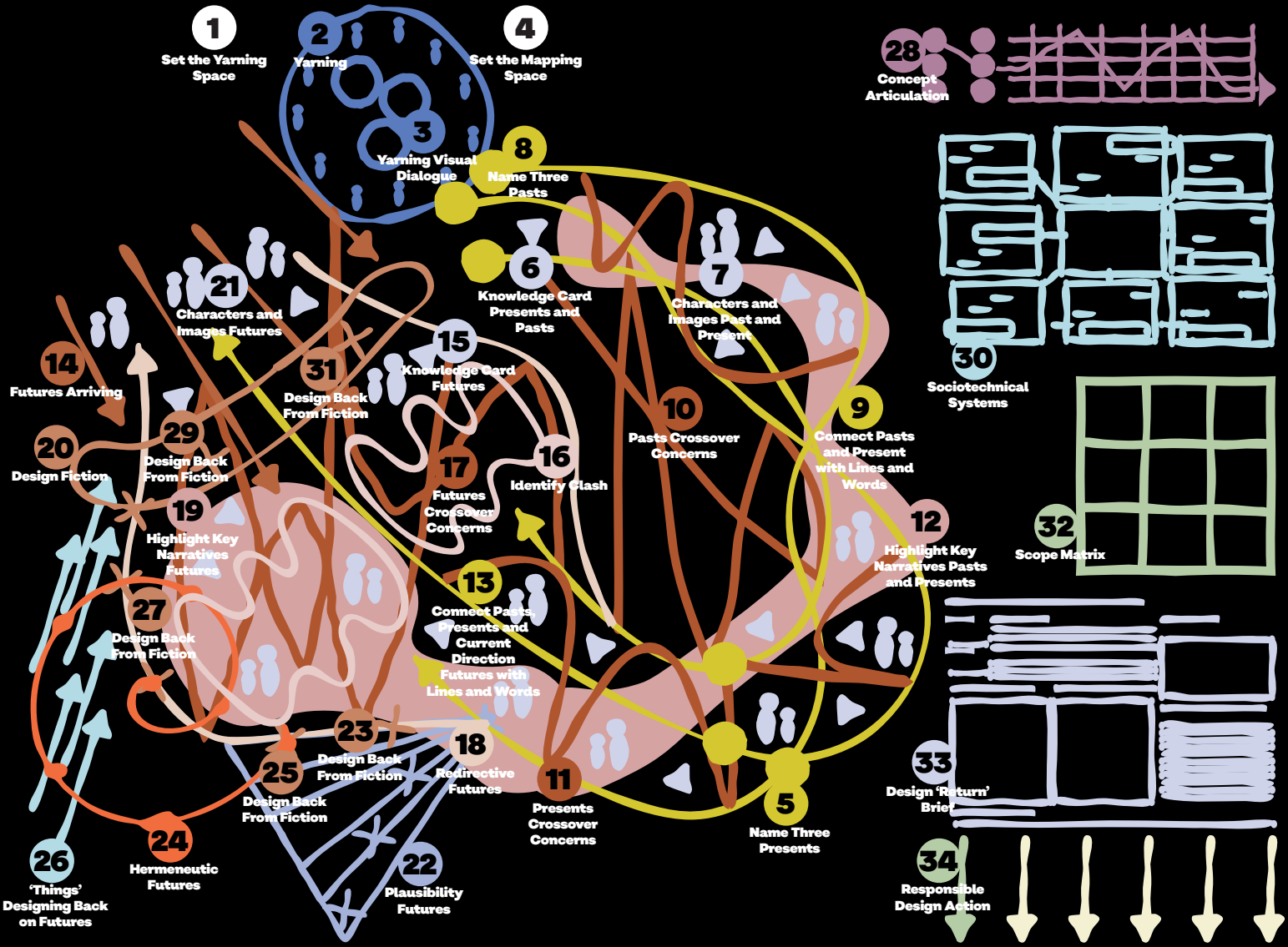
How transformative is your idea? The project is socially transformative in that it eliminates nihilism, it democratises and re-distributes learning and power. As a by-product it platforms transformative change in the education system. Transformation in relation to health will occur by way of less disillusionment, which may manifest in substance abuse/ mental health issues. The justice system will experience less burden through avoiding incarceration of young people. This project will also transform our ethical relationship with technology with practical skills of using the hand etc.

Who could help? Who could help? SCHOOL: Managers, School Chaplain, Psychologists, Social Workers, Lab Manager. MENTORS: Community members, school staff. TERRITORIES: School (School Garden, Drumbeat Community (Headspace, Compass), City (Council).

What is your timeline?

FEB 2016 - Conversation with Ben & Emma  
MAR 2016 - Mock-up Territory Map, booklet development, admin  
APR 2016 - Distribute booklet  
SEP 2016 - Collate feedback and make adjustments  
OCT 2016 - Forum for feedback & Networking among Territories





### Theories

You are prepared to take responsible design action!



See Change Sand Tracks Tractor Roller on the beach during Festival 2018 Gold Coast Commonwealth Games

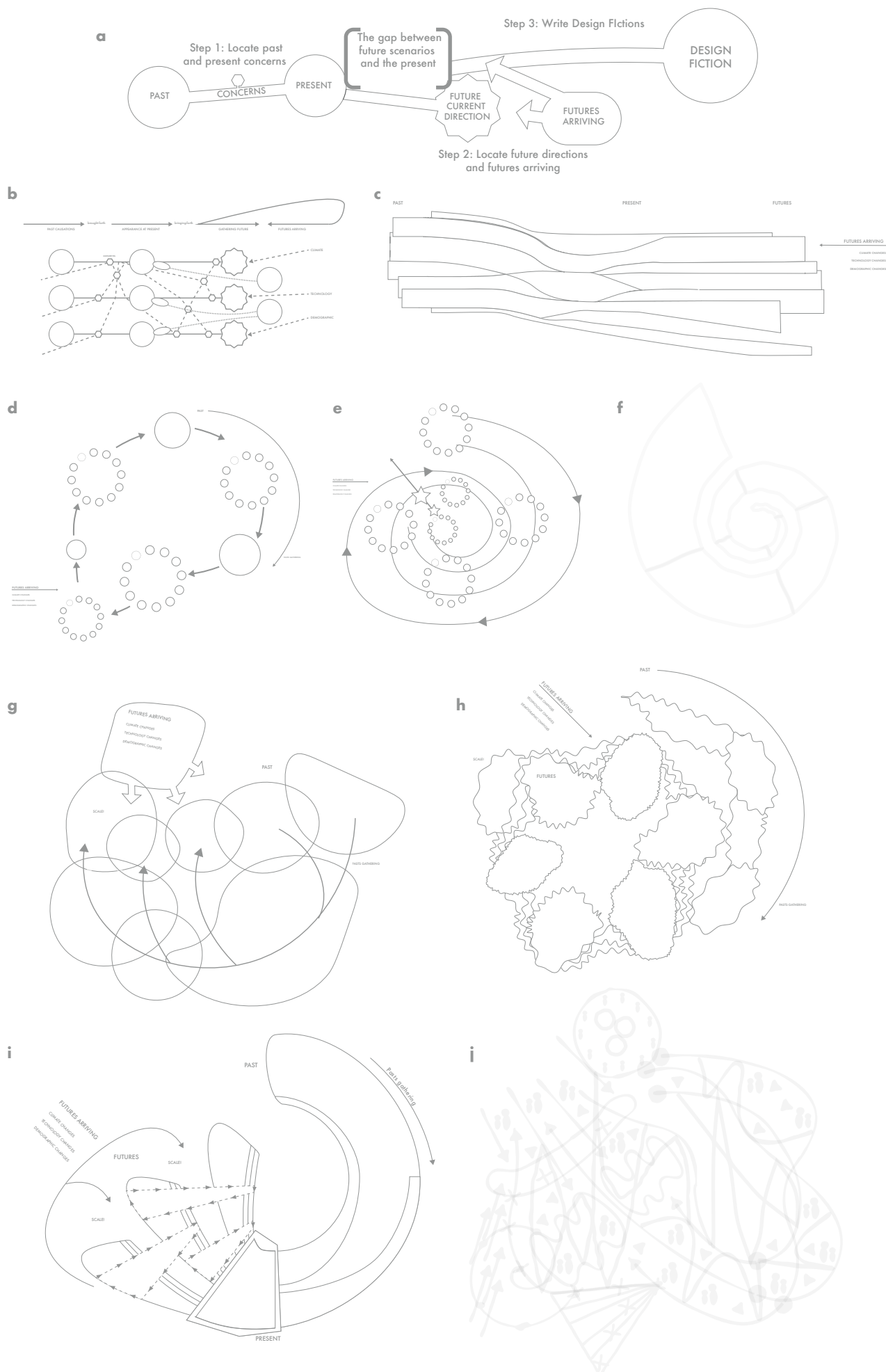
# Critical Mapping as an Articulatory Design Practice



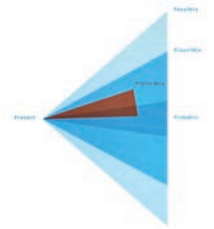
**Templates Appendix:** *Explore, follow and hack loosely and liberally.*



# Relational Mapping line guides

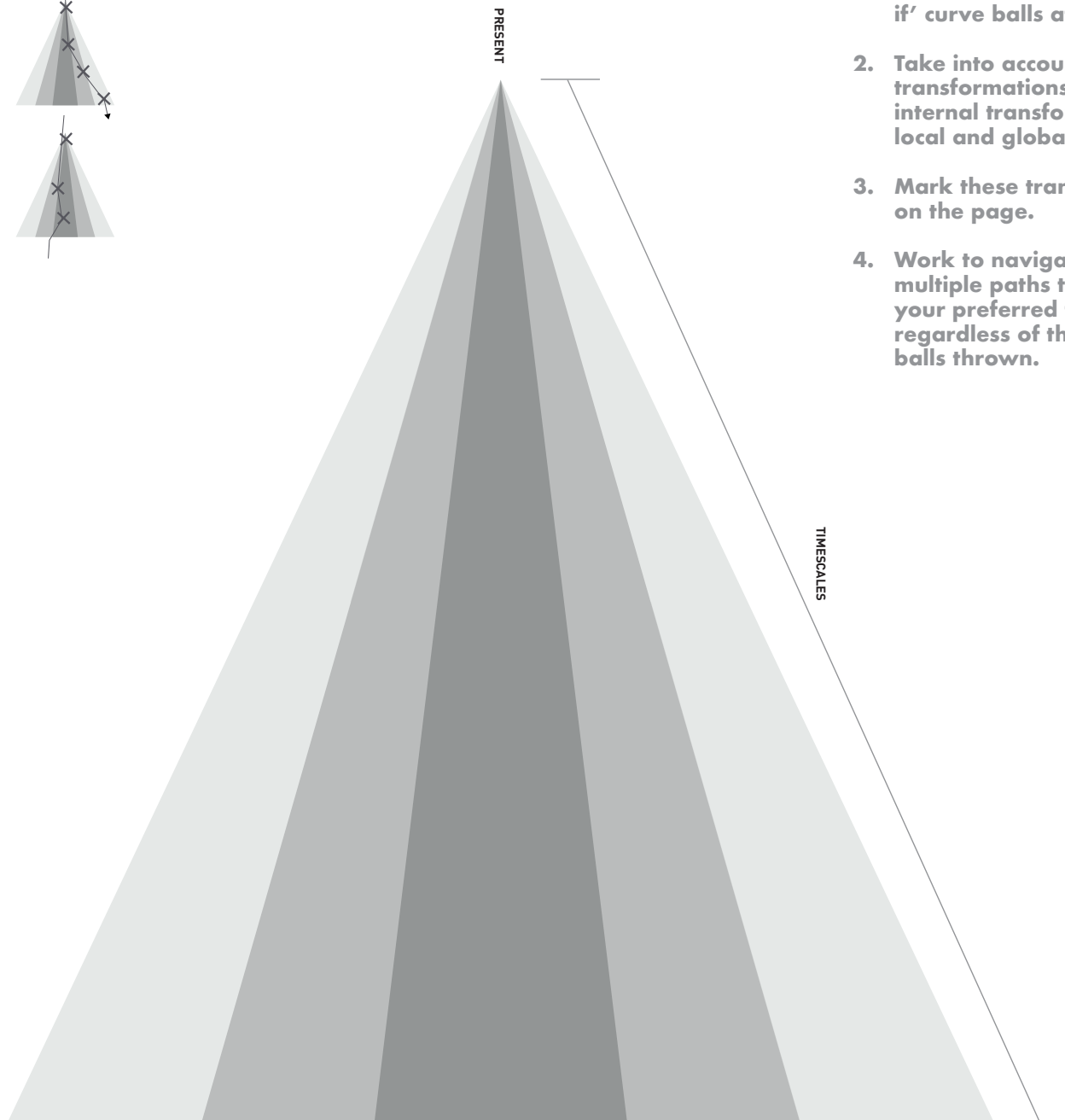
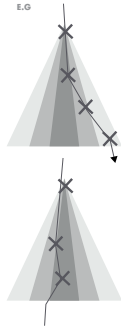


**Based upon:**  
Anthony Dunne and Fiona Raby, "Cone of Possibilities," in *Speculative Everything* (Cambridge, MA: MIT Press, 2013), 5



# Plausibility Futures

1. Use this tool to throw 'what if' curve balls at your ideas.
2. Take into account external transformations and internal transformations, local and global.
3. Mark these transformations on the page.
4. Work to navigate multiple paths towards your preferred futures regardless of the curve balls thrown.



**POSSIBLE**  
IF EXTERNAL AND INTERNAL TRANSFORMATIONS  
occur at both local and global levels

**PLAUSIBLE**  
IF EXTERNAL AND INTERNAL MODERATE SHIFTS  
occur at both local and global levels

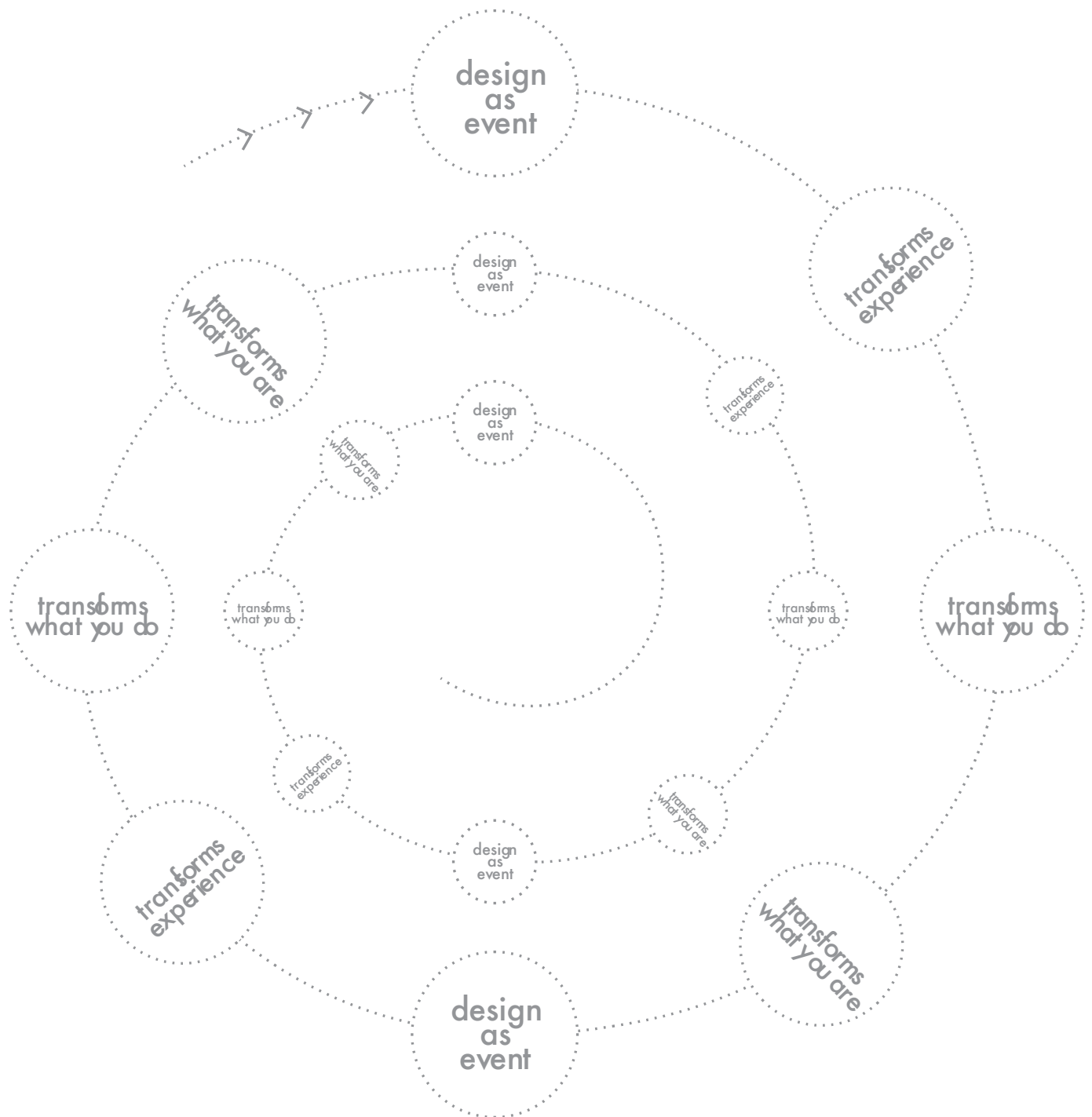
**PROBABLE**  
IF NONE OR VERY LITTLE EXTERNAL AND INTERNAL CHANGES  
occur at both local and global levels



# Hermeneutic Futures

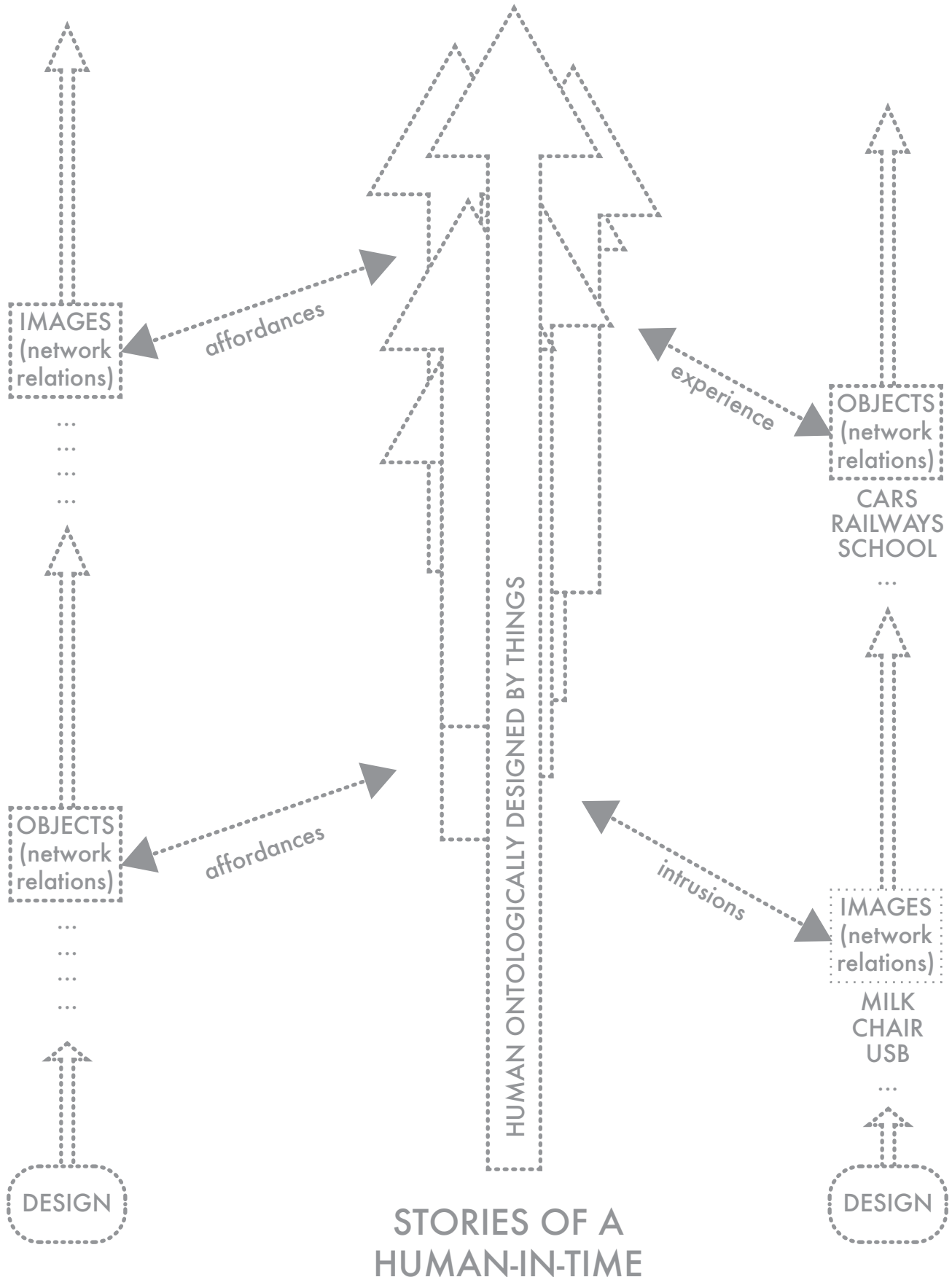
## Based upon:

Tristan Schultz, "Re-Eventing the Supermarket Diagrams," in *City Futures in the Age of a Changing Climate*, edited by Tony Fry (Oxon: Routledge, 2015), page. 147



IMAGES and OBJECTS 'perform' a 'gathering' ontologically in time.  
DESIGN 'directs' these IMAGES and OBJECTS ontologically in time.  
IMAGES and OBJECTS ontologically design HUMAN STORIES.  
IMAGES and OBJECTS produce ONTOLOGIES.  
Explore your concerns inside this loose guide below.

## Thinging Futures

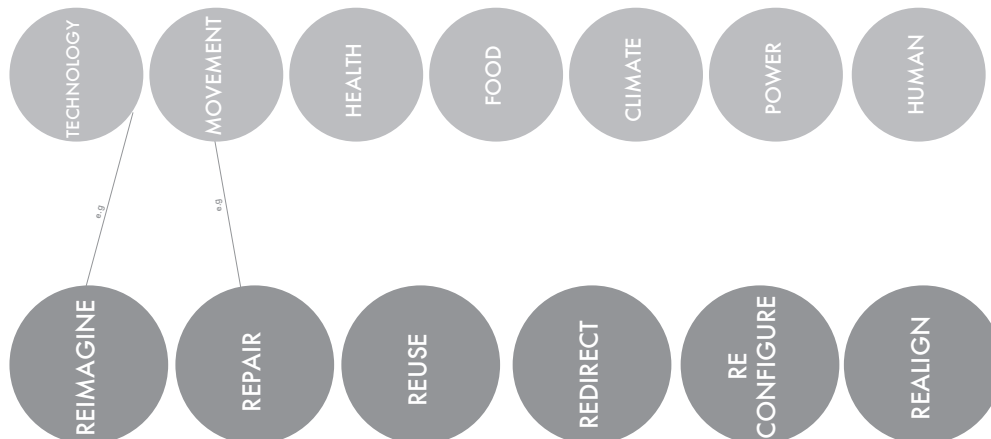


# Concept Articulation

**Based upon theories in:**  
 Tony Fry, Design Futuring  
 (Oxford; Sydney: Berg; UNSW Press).

STEP 2  
 TRACK YOUR  
 CONCEPT  
 THROUGH  
 THE  
 REDIRECTION  
 TABLE

STEP 1  
 CONNECT 'RE'  
 WITH FUTURES  
 ARRIVING/  
 FUTURE  
 CHALLENGES/  
 FUTURE  
 OPPORTUNITIES



REDIRECTION NEEDED	CURRENT PERCEPTION OF THE CONCERN	METHOD TO REDIRECT PERCEPTIONS AND FUTURES	SECTOR TO TALK TO	REDIRECTIVE OUTPUT
To be used longer	Socially transformative	Re-Materialisation	Health	Serious Entertainment
To be cherished longer	Healing	Elimination	Education	Education
To be cared for	'Primitive'	Re-Scaling	Economy	Future Scenario
For conflict to be made visible	Economic growth	Platforming	Technology	Community Engagement
For commodification to be made visible	Waste (dirty or broken)	Recoding	Policy	Resource Kit
To prepare for change	Spectacle	Retrofitting / Metrofitting	Sport	Skills Preservation
	Traditionalist			Built Environment
	Futuristic			
add your own?	add your own?	add your own?	add your own?	add your own?



STEP 3  
 PRE-ASSESS  
 PROJECT  
 IDEA

PREFIGURATIVE ASSESSMENT OF CONCEPT
Relationality How is it seeing and thinking connections?
Elimination What is it eliminating?
Directionality What is the onward designing force of the designed project?
Redirection How is it changing via renaming and defining?
Efficacy How is it ending?



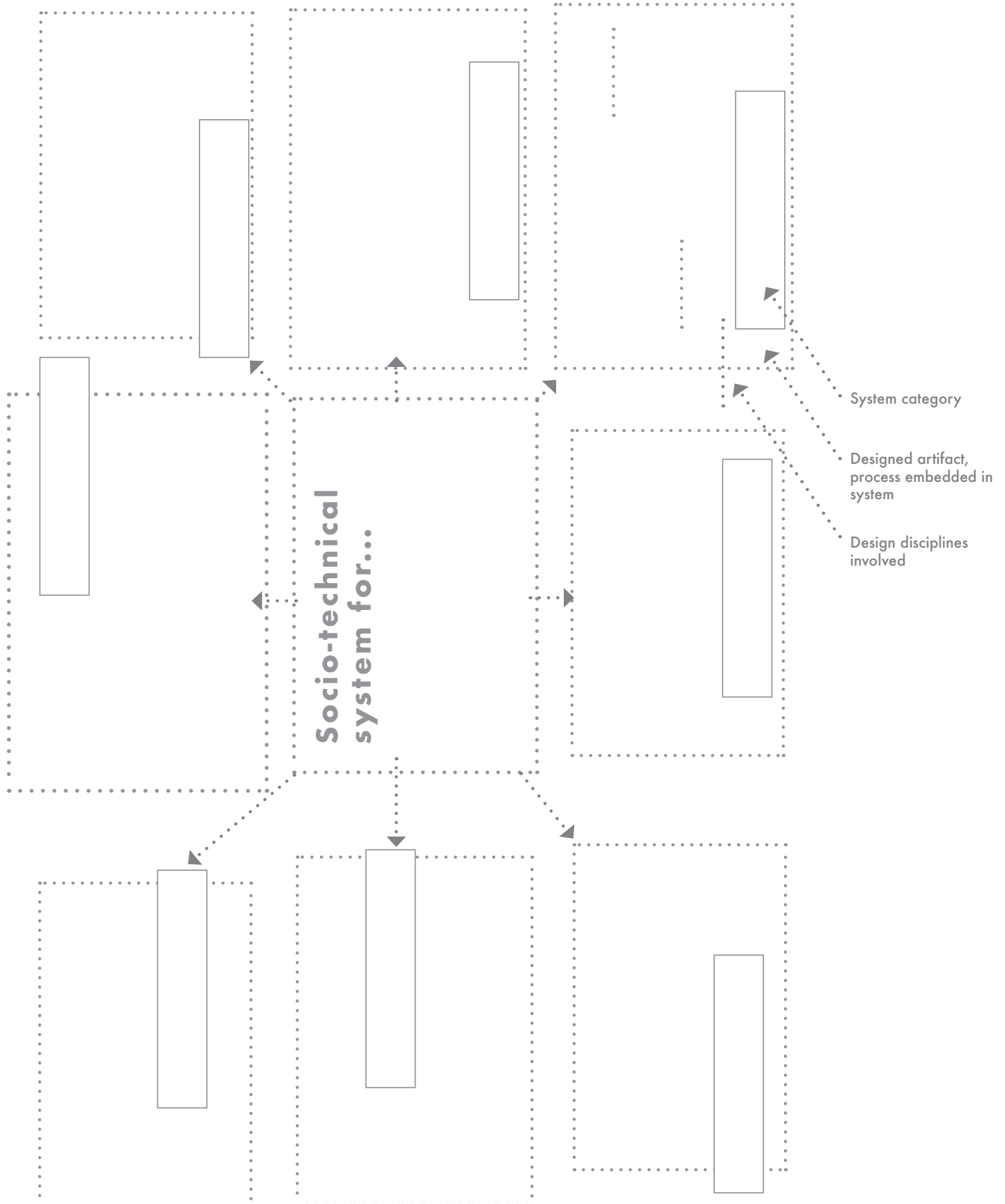
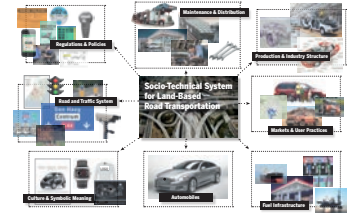
# Socio-Technical Systems

## Based upon:

Terry Irwin and Gideon Kossoff, *The Role of Design and Designers in Socio-Technical Transitions* (Pittsburgh: Carnegie Mellon University, 2015).

Irwin and Kossoff cite primary source: F. W. Geels, "The Dynamics of Transitions in Socio-Technical Systems: A Multi-Level Analysis of the Transition Pathway from Horse-Drawn Carriages to Automobiles (1860-1930)," *Technology Analysis & Strategic Management* 17, no. 4 (2005), 445-476.

Example of Designed Artifacts and Processes Used in Socio-Technical Systems & Transitions



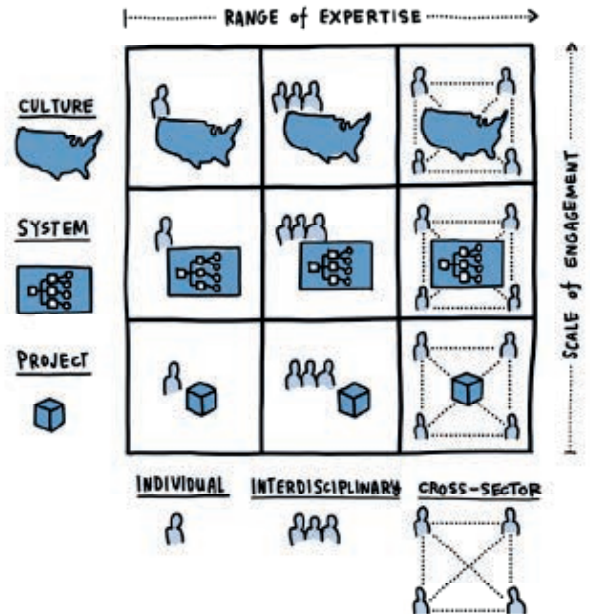
# Scope Matrix

**Based upon:**  
Winterhouse Symposium for  
Education and Social Change. 2013.  
"Social Design Pathways." <http://www.socialdesignpathways.com/>.

The Social Design Pathways matrix was developed at the 2013 Winterhouse Symposium for Design Education and Social Change.

This work is licensed under Creative Commons Attribution 3.0 Unported license (a [http://creativecommons.org/licenses/by/3.0/deed.en\\_US](http://creativecommons.org/licenses/by/3.0/deed.en_US)). Meaning you can use it any way you wish as long as you attribute it and share any share any alterations or use of the matrix with us (and other users) by emailing to: [socialdesignpathways@gmail.com](mailto:socialdesignpathways@gmail.com)

## PATHWAYS in SOCIAL DESIGN



### RANGE OF EXPERTISE brought to bear on the project

**Cultural  
(Transformation)**  
Changing the attitudes  
and behaviors of a  
community or  
organization.

**System  
(Innovation)**  
Altering an existing  
system, or creating a new  
one, to deliver a better  
solution.

**Stand-Alone  
(Intervention)**  
The introduction of a  
discrete product or  
service

SCALE OF (designer's or project's ) ENGAGEMENT

**Individual  
(Designer)**  
A lone person or  
discipline.

**Interdisciplinary  
(Team)**  
A team made up of  
the necessary  
expertise.

**Cross-Sector  
(Group)**  
Requires cross  
sector  
participation for  
ideation and  
execution.

# Return Brief (version 1)



## Project Title

.....

## Project Team & Contacts

.....

## The Opportunity

Use the concept articulation tool to write a powerful and provocative sentence here that frames your concept in a positive way that is globally relevant with specific opportunities in your location. Think about this question: What do we have to lose as the result of inaction and what do we have to gain through bringing this concept into existence?

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## Background

What is the background context that illuminates the urgency of inaction?  
What is the historical evolution of the system in question? Are there examples of other transformation attempts?

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.....

## Dimensions

What are three key dimensions (words) that are potentially re-enforcing the status quo or preventing positive transformation?

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## Futures

What are three key futures (forecasts, macro trends) that may impact the design?

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## Return Brief Parameters

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.....  
.....  
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## Return Brief (version 2)



### Project Title

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### Project Team & Contacts

.....

### Describe your idea

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.....

### What are you addressing, changing or creating?

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### What actions might it entail?

List or sketch actions here.

### How transformative is your idea?

Use the transformative triangle tool to help think about this.

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### Who could help?

List all potential collaborations here and link them to actions.

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