Translocated making in experimental collaborative design projects

Ashley Hall PhD Appendix 2013

A thesis submitted in fulfilment of the requirements for the degree of doctor of philosophy.

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Cover: Ashram paper stool, designed through research by Ashley Hall, made by Arvind Chowda of the Ghandi Ashram, Ahmedabad, Gujarat, India.

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Contents

Appendix A – Mapping

A1 – Research mapping

During the development of the research a parallel form of exploration and recording was conducted where ideas and relationships between the different theories and strands of thinking were recorded and tested as a series of diagrams and maps. These were combined into a single 'meta map' that related the early formative stages of the literature review and shaping of the research focus and arguments. The combined meta map (A2) is illustrated here at an overview scale in order to show the main phases of the early research. A selection of maps and diagrams that were excluded from the main thesis but contributed to elements of formative thinking has been reproduced here in A3-A8. Significant developments in thinking and decision-making are listed in the descriptions below for map A2 section 1-8. Although these are listed in a linear historical fashion, the progression was non-linear and multiple parallel lines of enquiry overlapped.

Map.1 – Motivations

The level of motivation is recorded into the main areas of academic (RCA), practice and research. These areas continually feed off each other during the research and help to form the case studies and main research questions.

Map.2 – Questions

The original research questions.

Map.3 – Domains and Context

The domains are identified from the research questions and the contexts based on previous experiences focused through the research questions.

Map.4 – Literature Review

The literature review broadly studied texts and sources indicated by the research questions and domains. Three main threads of enquiry emerged as: (1) culture, geography and difference, (2) digitally advanced making and (3) enterprise in developing economies. The key literature emerged as: Appadurai (1990, 2013), Appiah (2006), Barber (2003), Clark (2009), Cowen (2002), Derrida (1973), Fiss (2009), Latour (2005) and Rogoff (2002).

Map.5 – Reflection

Two main branches of the literature review were reflected upon and their relationship to each other was considered before a direction formed.

Map.6 – Synthesis

Following the main literature review and case studies a hypothesis of Translocated Making began to emerge knitted together by the globalising frames of Appadurai's suffixscapes, Fiss & Clarke's geographically liberated difference and Rogoff's field of view with contributions from Latour and Derrida's concept of differénce.

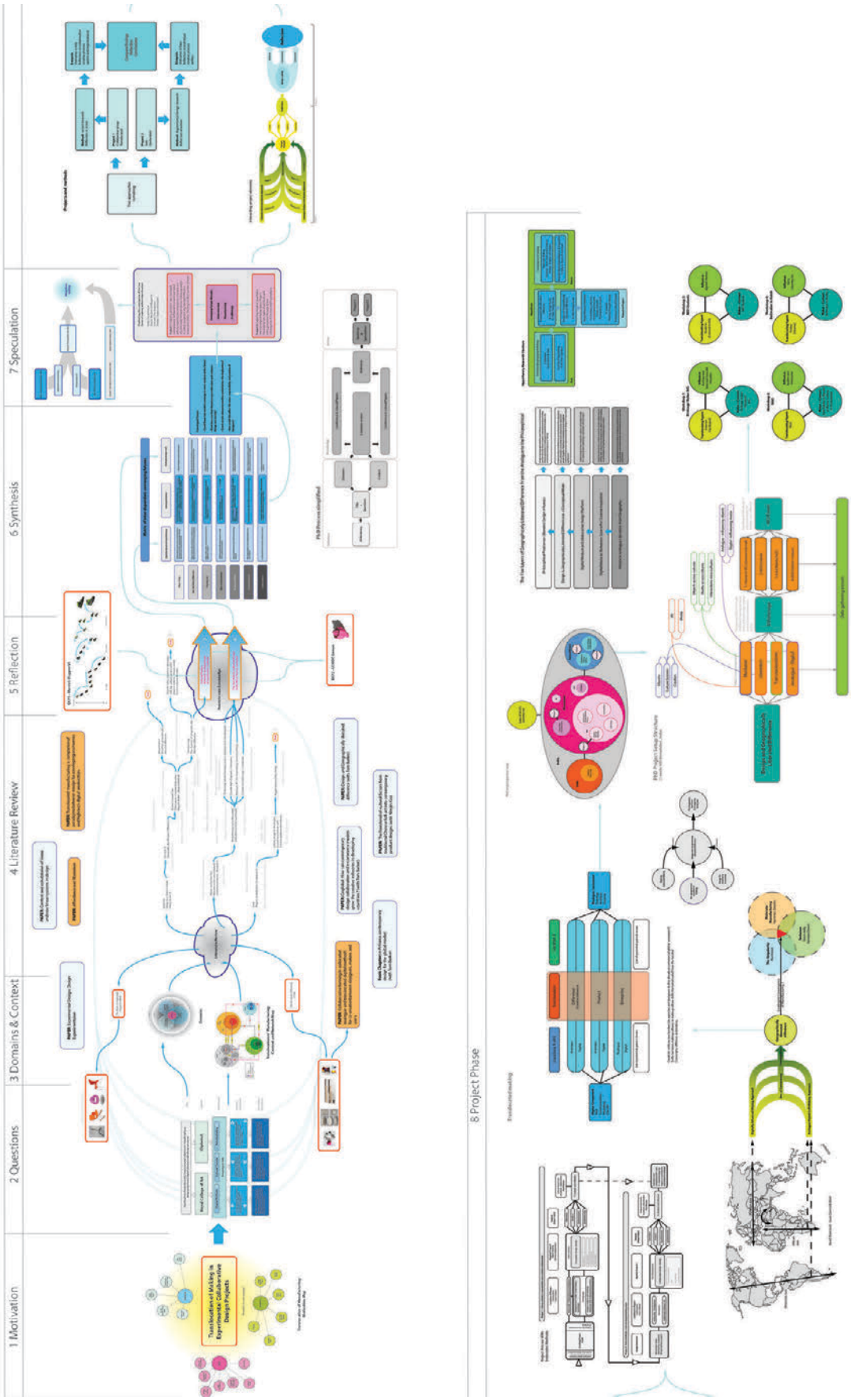
Map.7 – Speculation

The speculation emerged to explore the theories of cultural interaction as testable element of translocated making pursued as a practice based design research project.

Map.8 – Project Phase

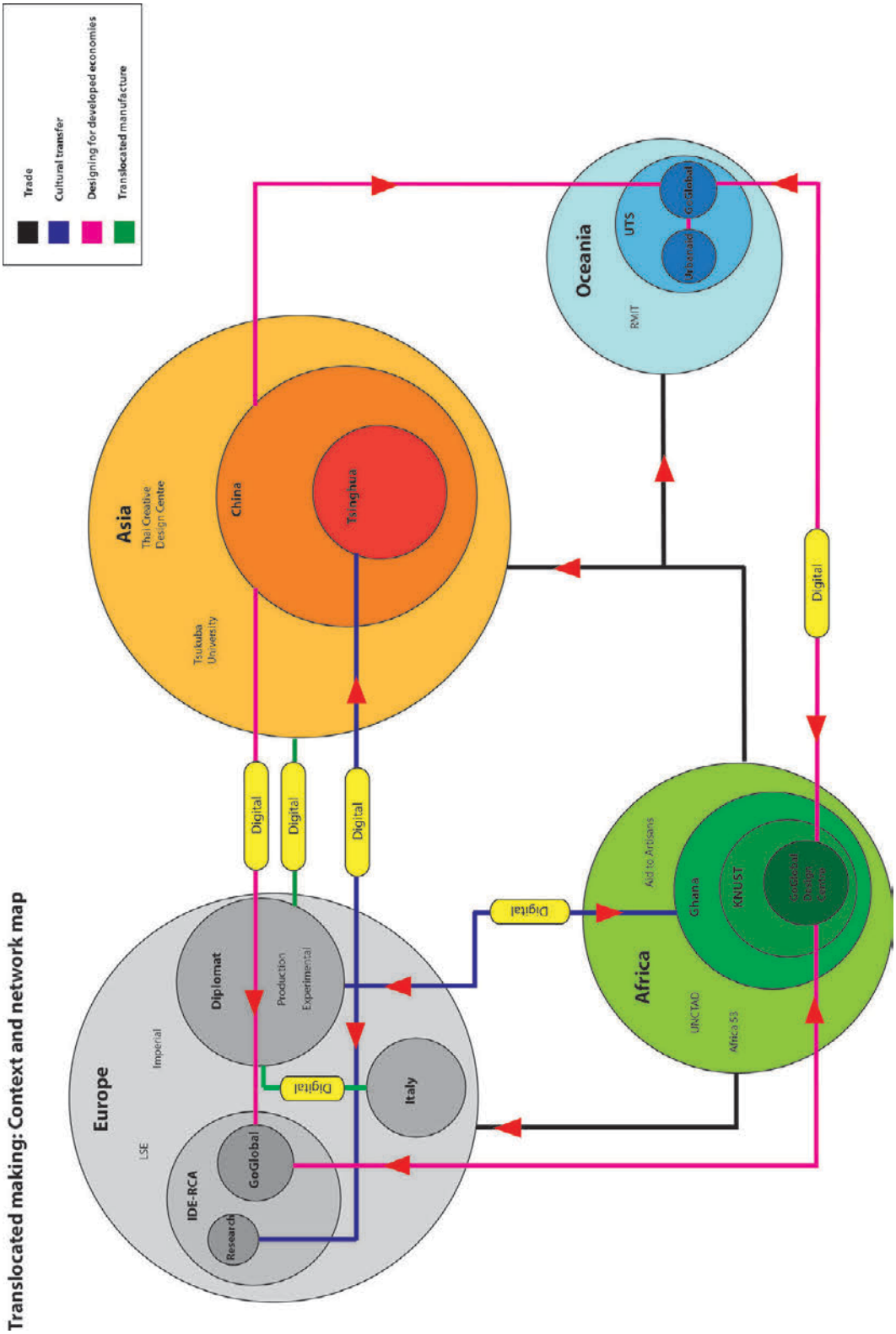
The project phase mapping developed the rationale of the Indian project structures and the partner relationships.

A2 – Research mapping overview showing general structure



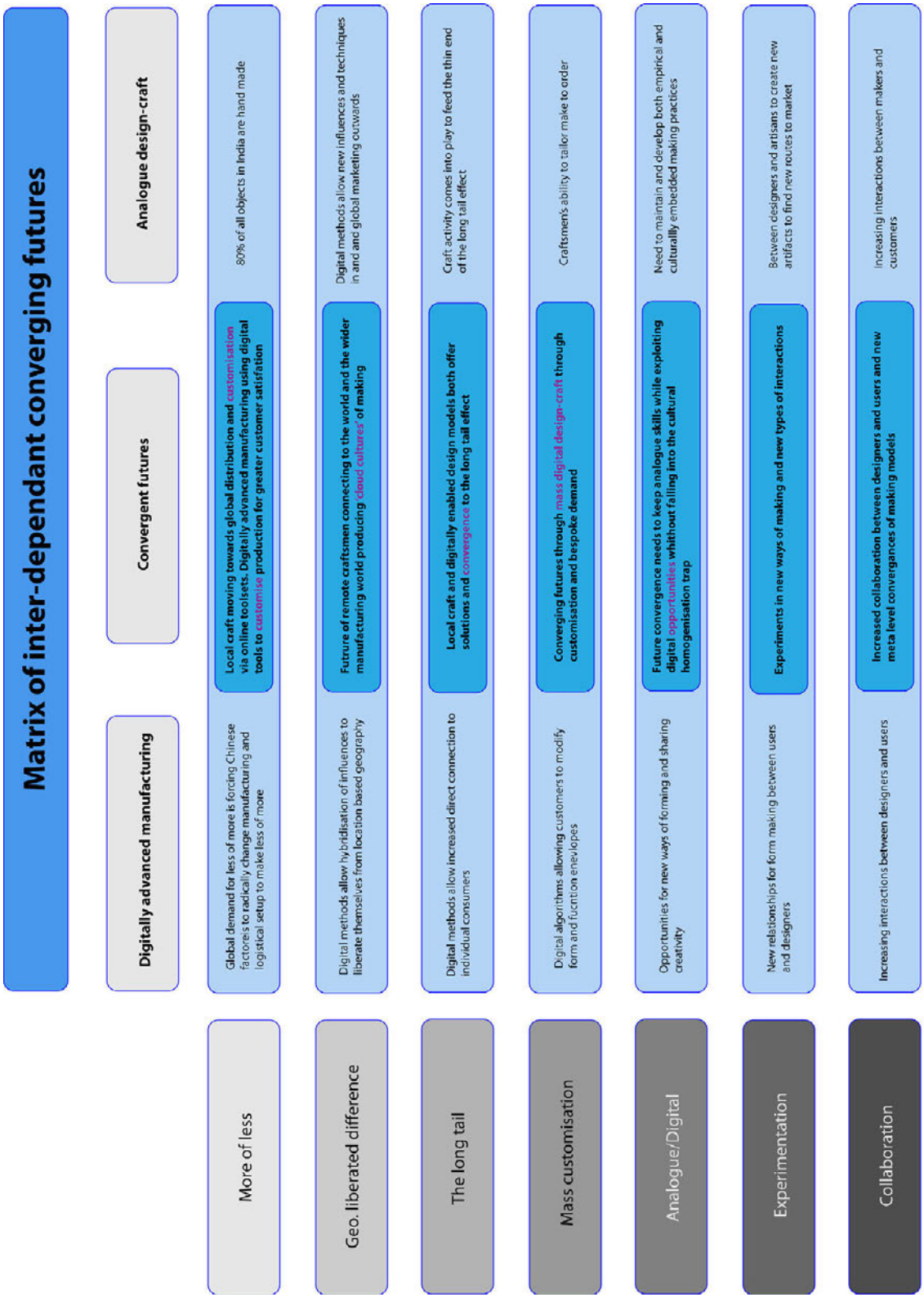
A3 – Context and network diagram

This diagram captured early thinking on the researcher's connections with a number of locations through design business and academic projects.



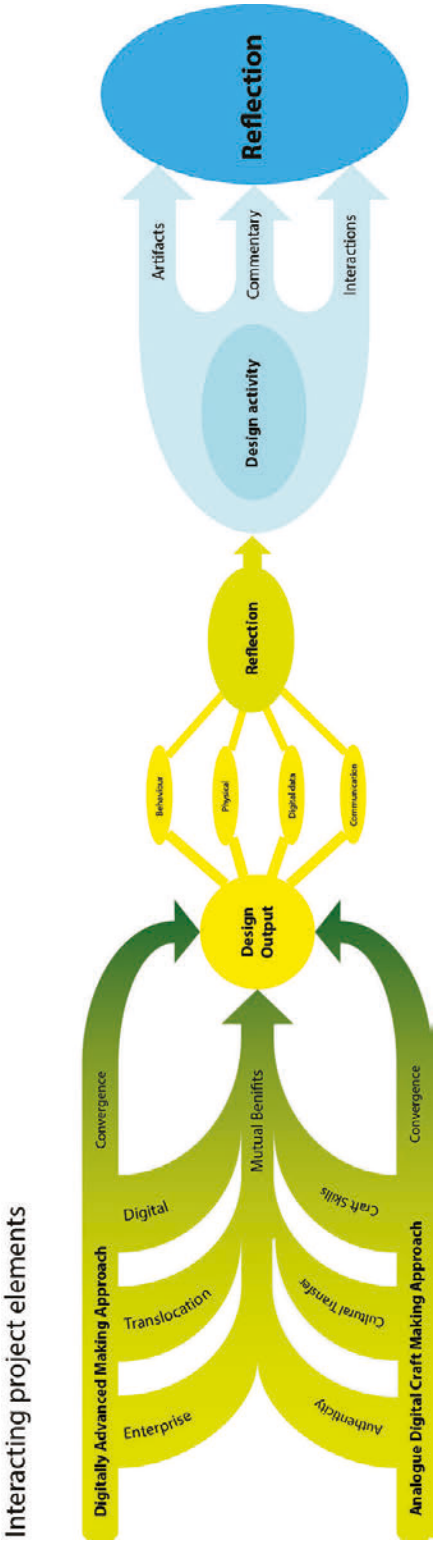
A4 – Matrix of interdependent converging futures

A diagram that considers connections between digitally advanced manufacturing (western design model) and analogue digital craft (developing economies) and a potential future convergence.



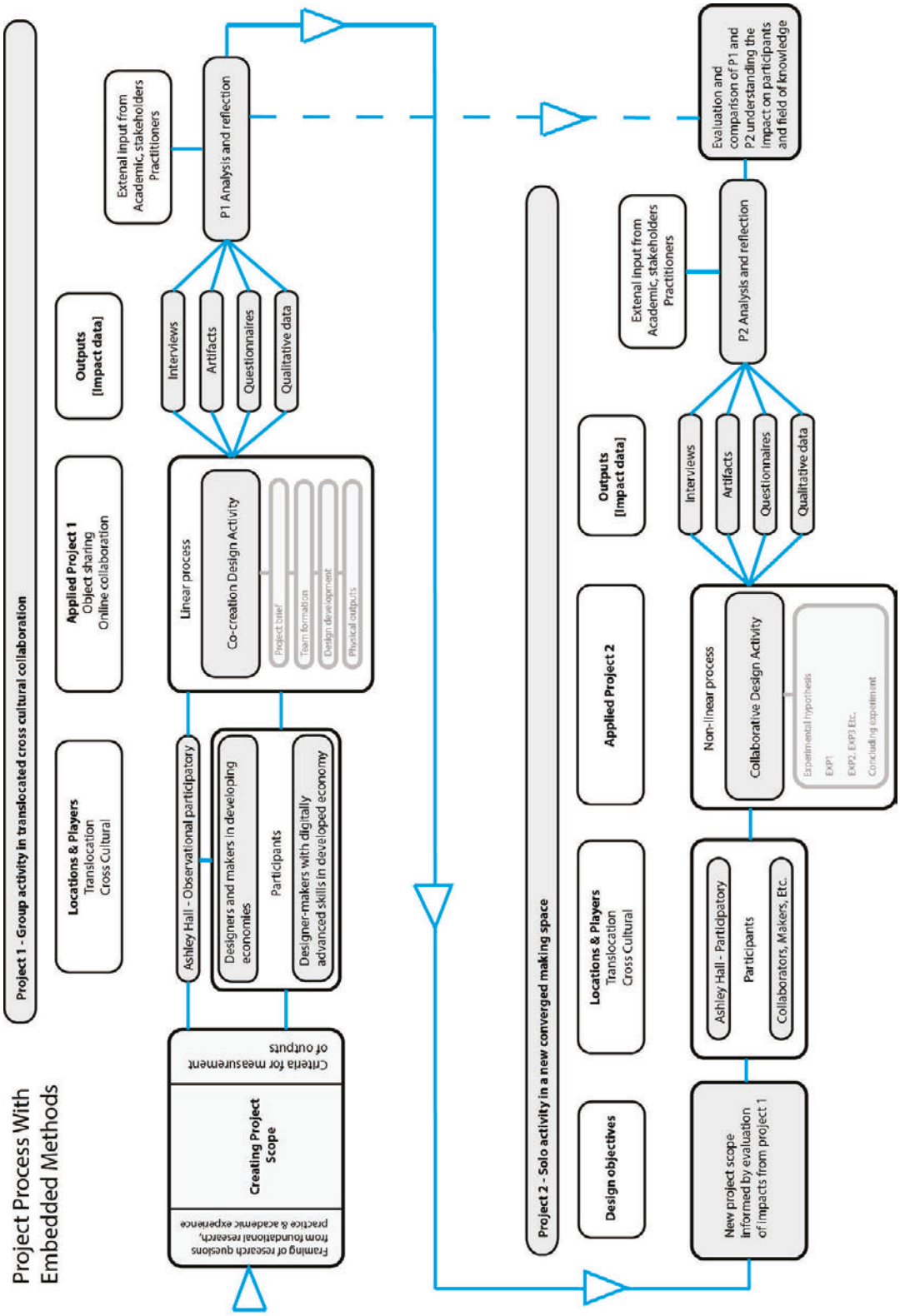
A5 – Interacting project elements

The extension of connections between diverse making approaches and design projects testing activity.



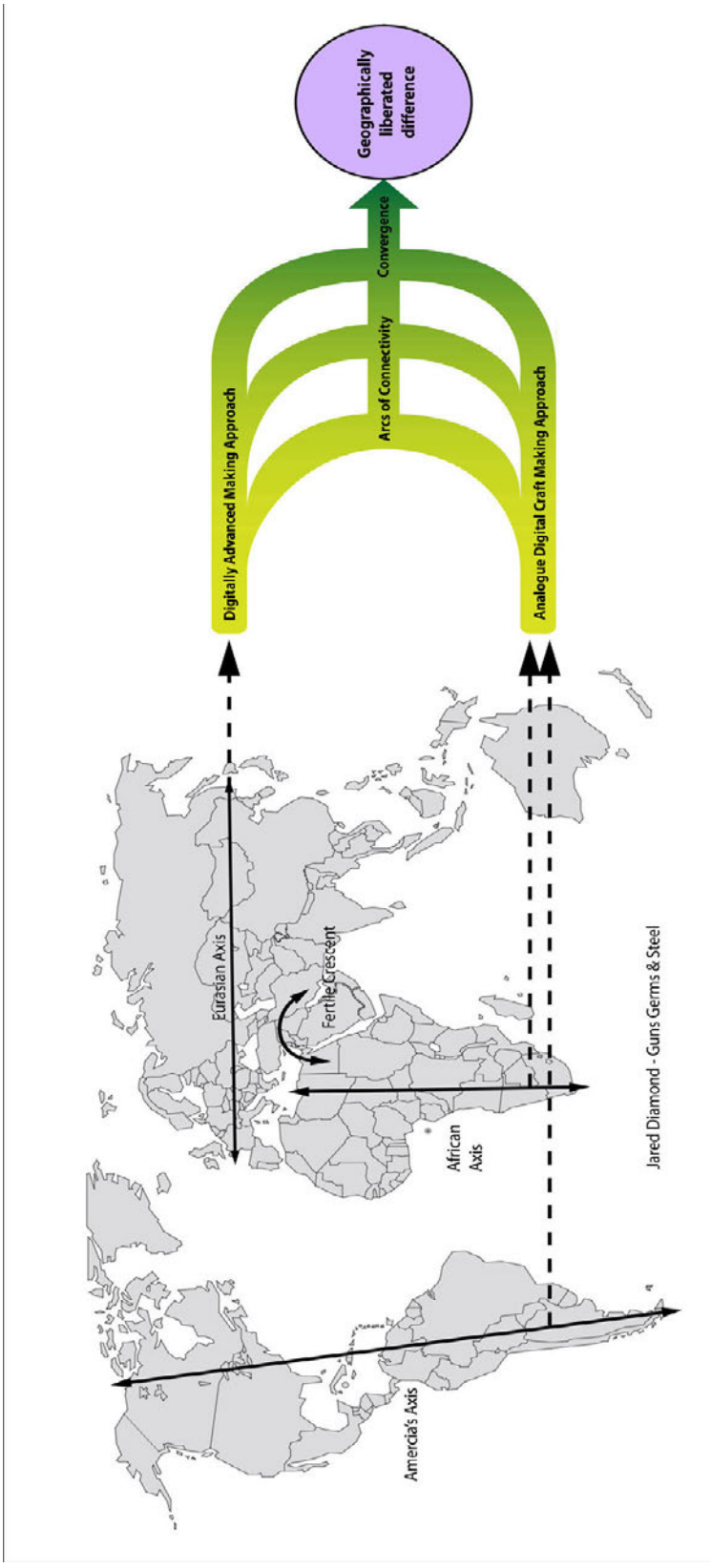
A6 – Process and methods

Diagram testing a structure for conducting projects via designing research and researching through design.



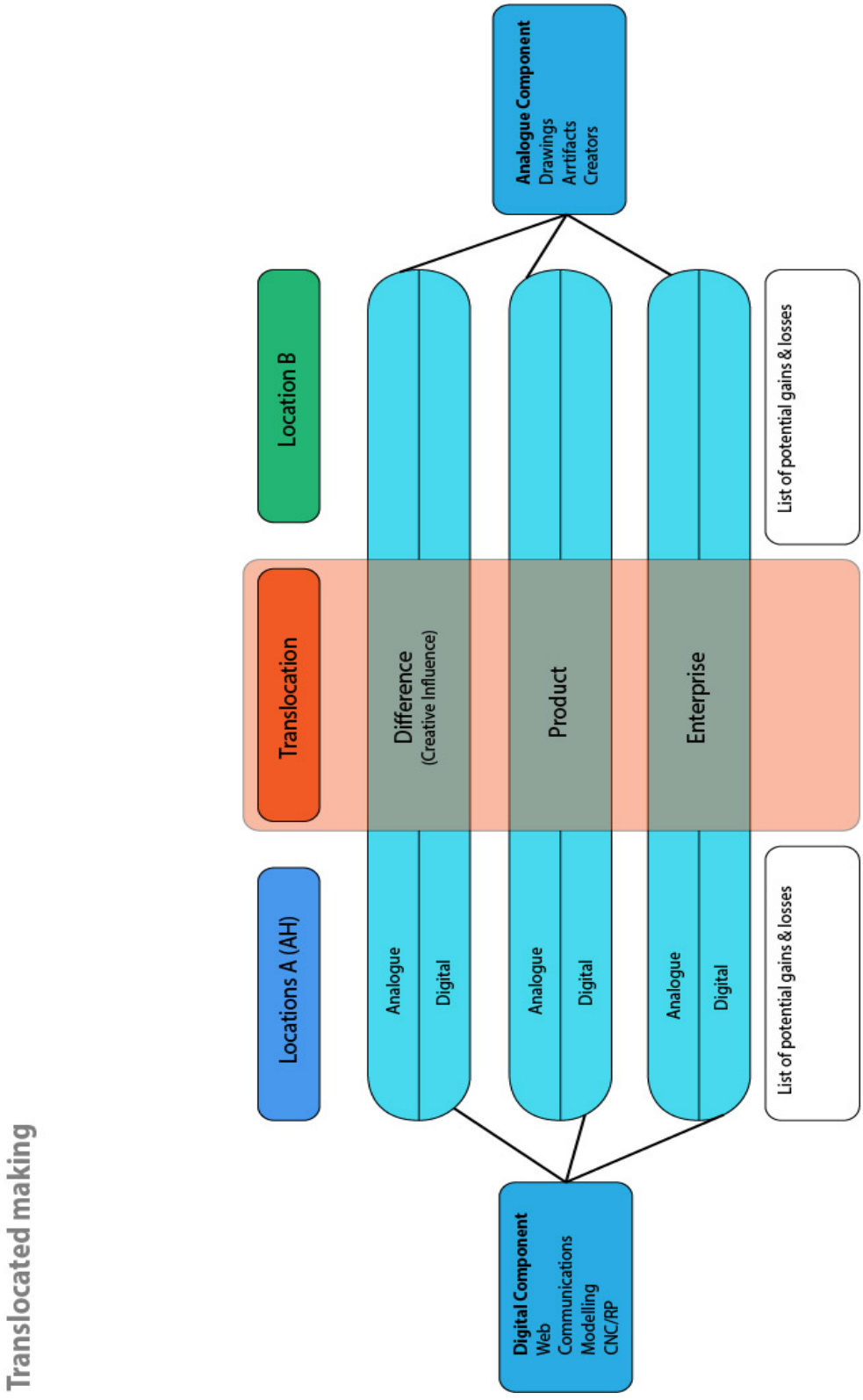
A7 – Biogeography

Diagram exploring a potential connection between diverse making approaches and theories of biogeography.



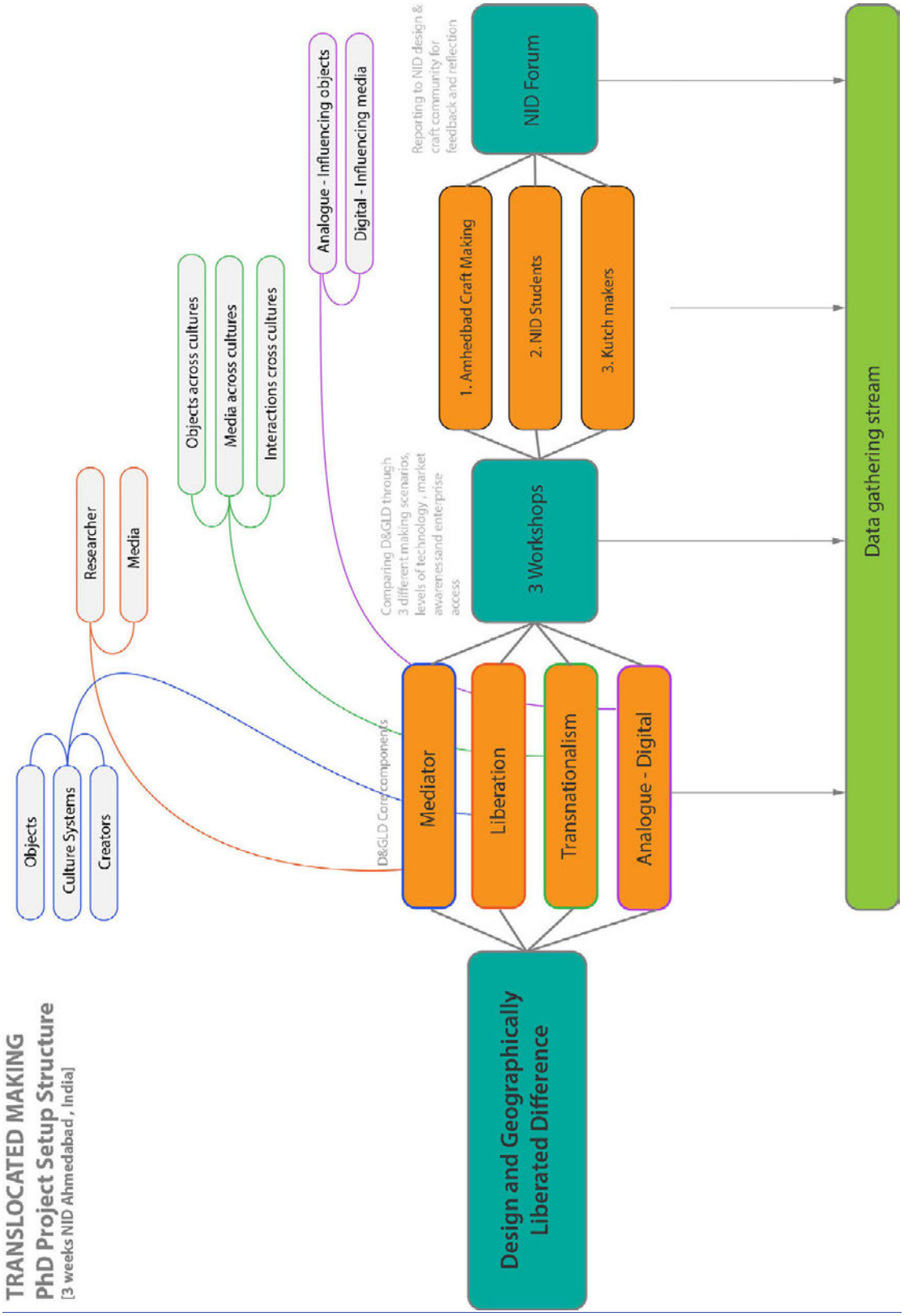
A8 – Translocated making

Exploration of relationships between location and analogue & digital media outputs.



A9 – Geographically liberated difference

Diagram illustrating the proposed overall project structure and its relationship to testing the concept of geographically liberated difference.



Appendix B – Luhar Lamp

B1 – Nirona Context

B1.1 Houses in the region

B1.2 Compound in the Nirona area

B1.3 Interior of a home in the Nirona area

B1.4 Mosque at Zura near Nirona

B1.5 Leather shoemakers outside Bhuj

B1.6 The Rann of Katchchh great white salt desert north of Nirona

B2 – Copper Bellsmith Context and Making

B2.1 Clay chapatti's being wrapped around copper bells

B2.2 Copper bells range

B2.2 Copper bells being fired

B2.3 Cattle and local ‘forest”

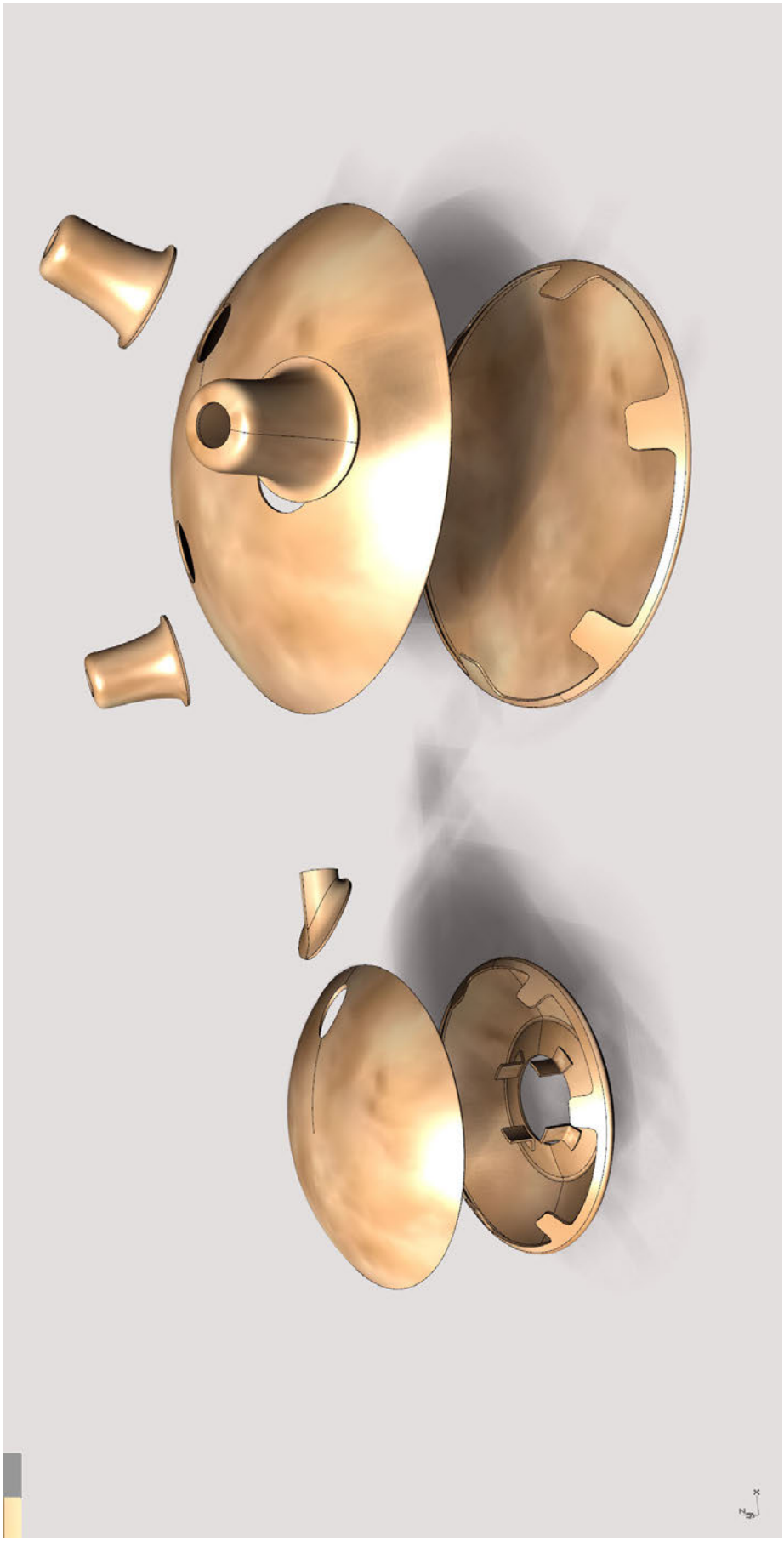
B3 – Concept introduction

Umar Husen seeing the secret designs from Cairn Young for the first time

B4 – Lamp designs

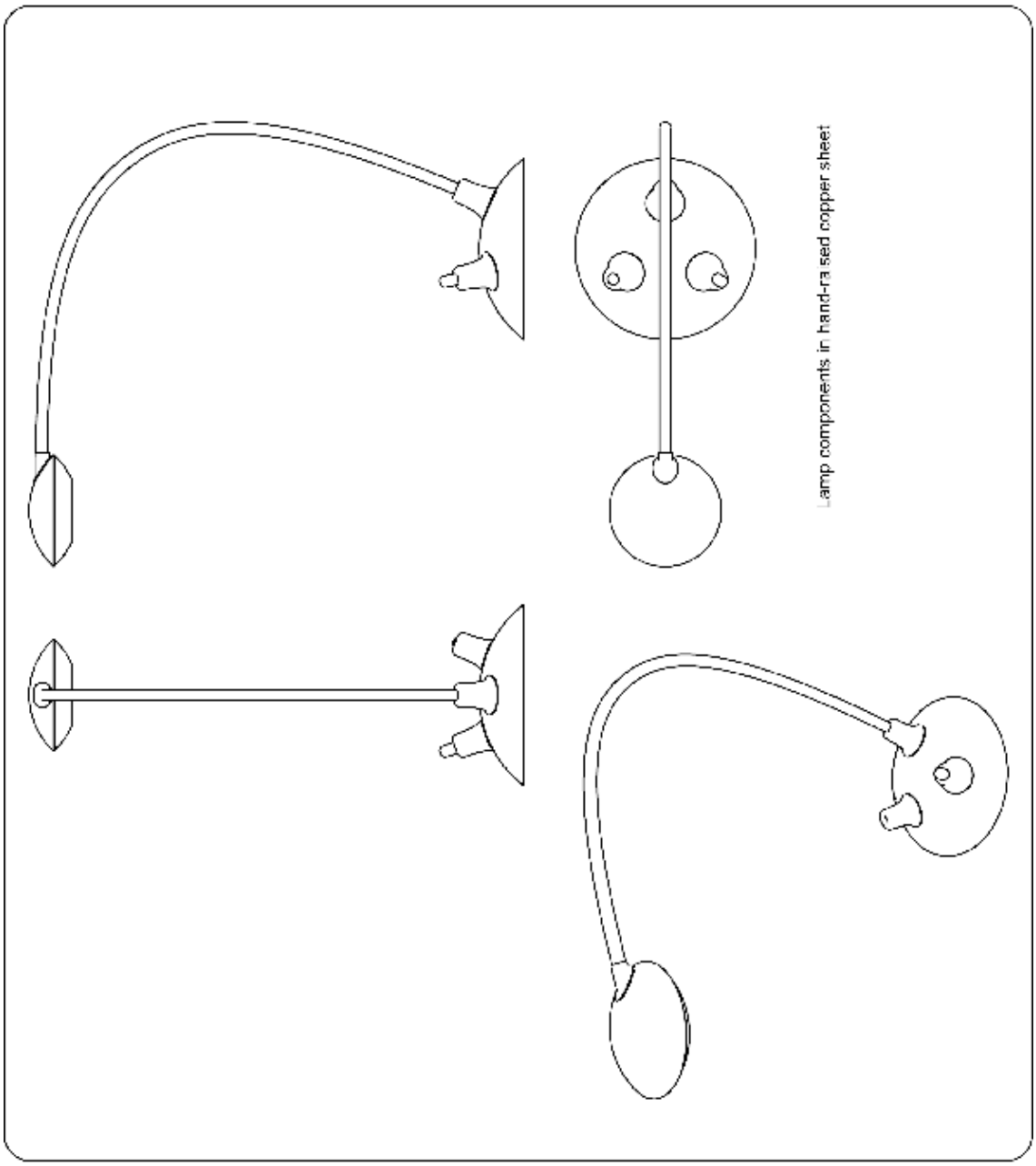
B4.1 Cairn Young lamp secret design 3D rendering

B4.2 Cairn Young secret design lamp exploded view of components

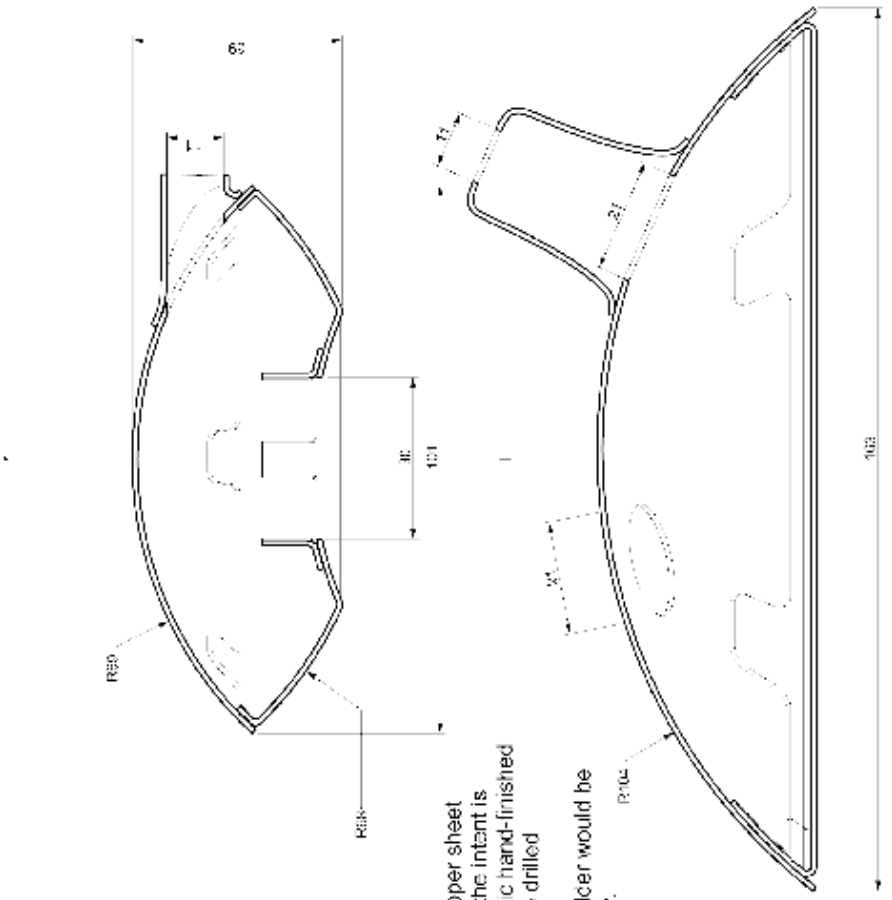


B4.3 Cairn Young secret design lamp components rendering

B4.4 Cairn Young secret design lamp technical drawing



B4.5 Cairn Young secret design lamp base sectional drawings



Lamp components in hand-raised copper sheet
There is flexibility in the dimensions: the intent is that the components have a very rustic hand-finished quality, however the holes need to be drilled with reasonable accuracy.
The flexible shaft, switch and lampholder would be supplied by me but assembled locally.

B5 – Final Luhar lamp **H35cm W30cm D18cm**

B5.1 Lamp head detail

B5.2 Lamp base detail

B5.3 Lamp side view

B6 – Sample copper bell from Umar Husen, H29cm Ø18cm

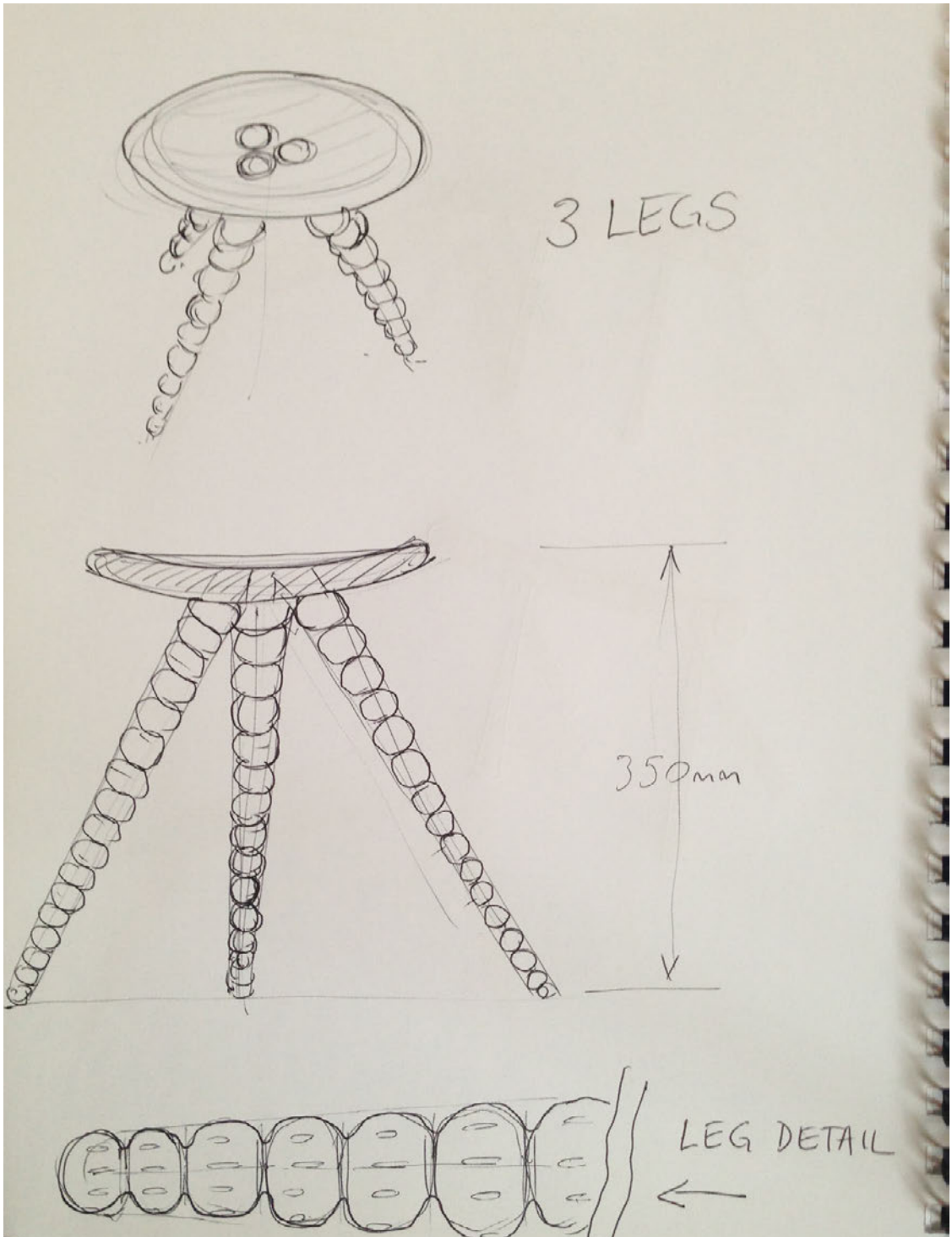
Appendix C – Nirona Stool

C1 – Concept introduction

Bhavik Bhavchaya seeing Matthew Kavanagh's secret designs for the first time

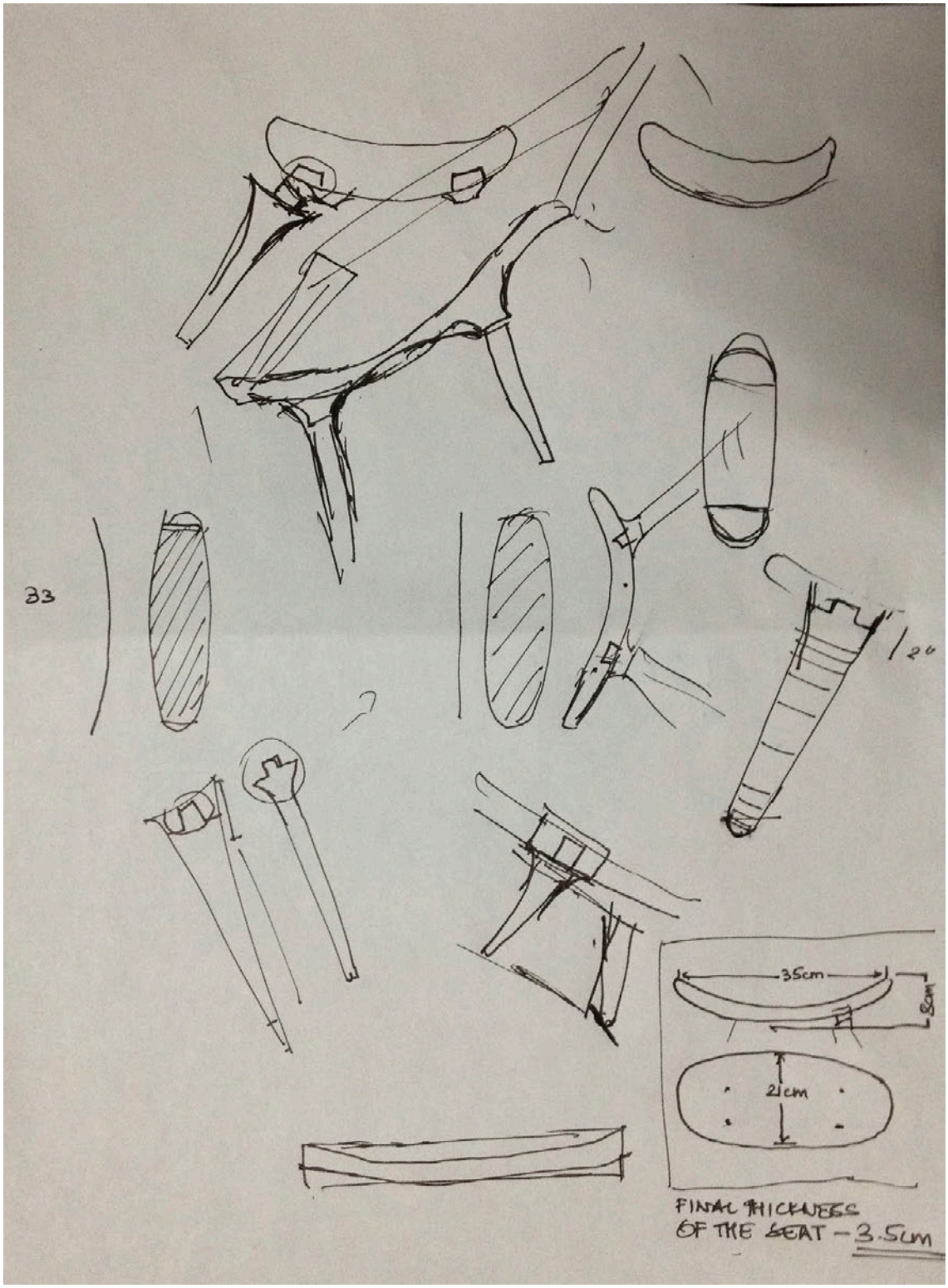
C2 – Stool designs

C2.1 Thee leg stool secret design by Matthew Kavanagh



C2.2 Four leg stool secret design by Matthew Kavanagh

C3 – Yunas Bhai's sketch



C4 – Final Nirona stool H34cm W35cm D21cm

C4.1 Stool foot detail

C4.2 Stool seat detail

C4.3 Stool lac pattern detail

C4.4 Stool top view

C5 – Sample wooden lacquer objects from Bhavik Bhavchaya
L to R – Box of secrets H15cm, Ø12cm, Chapatti rolling pin L40cm Ø 2.5cm, wooden spoon L40cm W 6cm

Appendix D – Ahmedabad City Crafts

D1 – Copper utensil makers

D1.1 Water contained being beaten over an iron stave

D1.2 Utensil makers workshop in Manek Chowk

D1.3 Castellated seaming detail to join container components

D1.4 Containers ready for beating and polishing

D2 – Basket weavers in the old city near Manek Chowk

D3 – Birdcage makers

D3.1 Birdcage maker on Mirzapur Road

D3.2 Weaving the cages from aluminium wire

D3.3 Birdcage designs

D4 – Slotted furniture makers near Manek Chowk in the old city

Appendix E – Ashram Stool

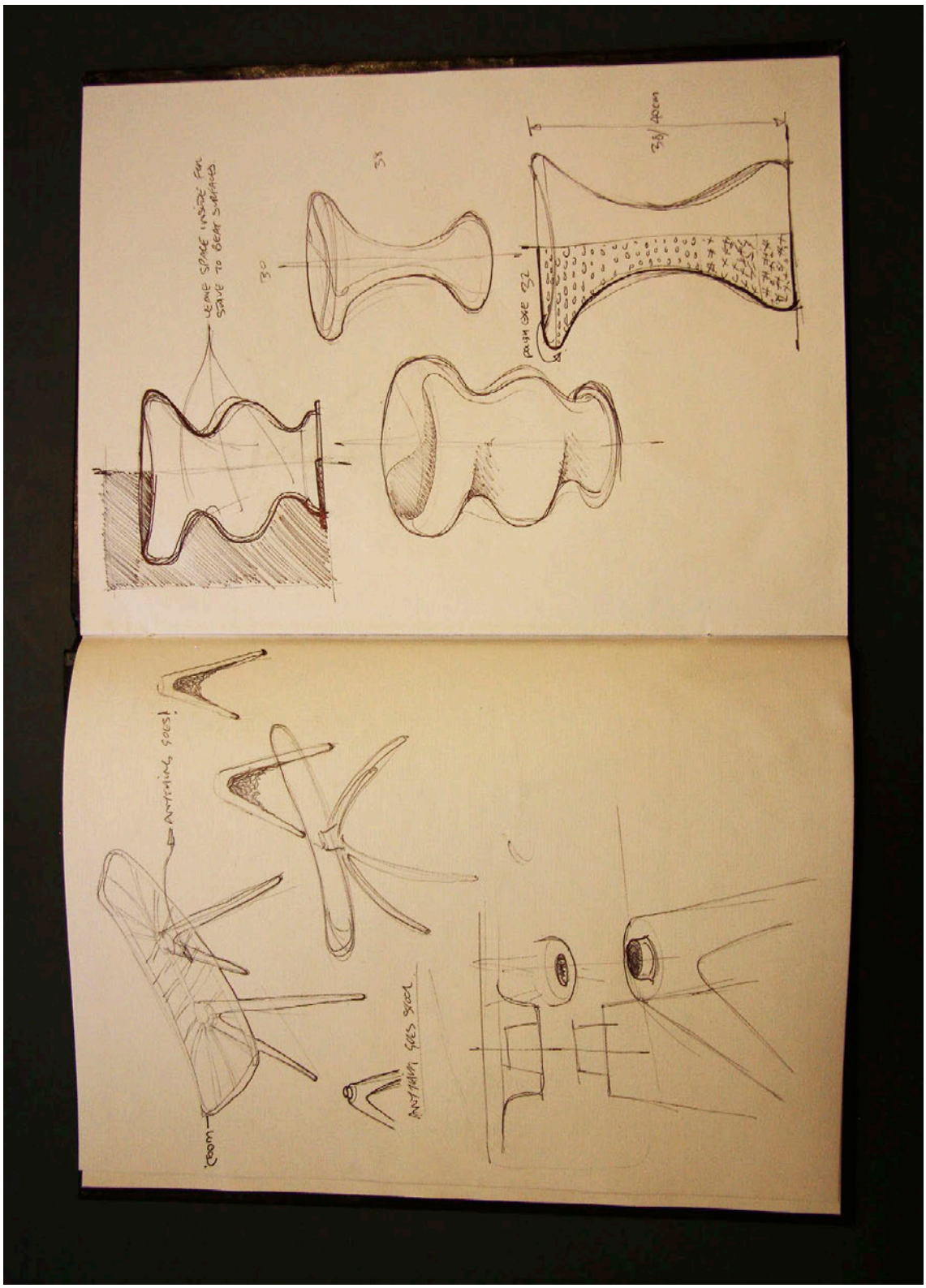
E1 – Ghandi Ashram context

E1.1 Shredded cotton being soaked and formed into paper sheets

E1.2 Paper drying

E1.3 Paper bowl that inspired the idea of a stool

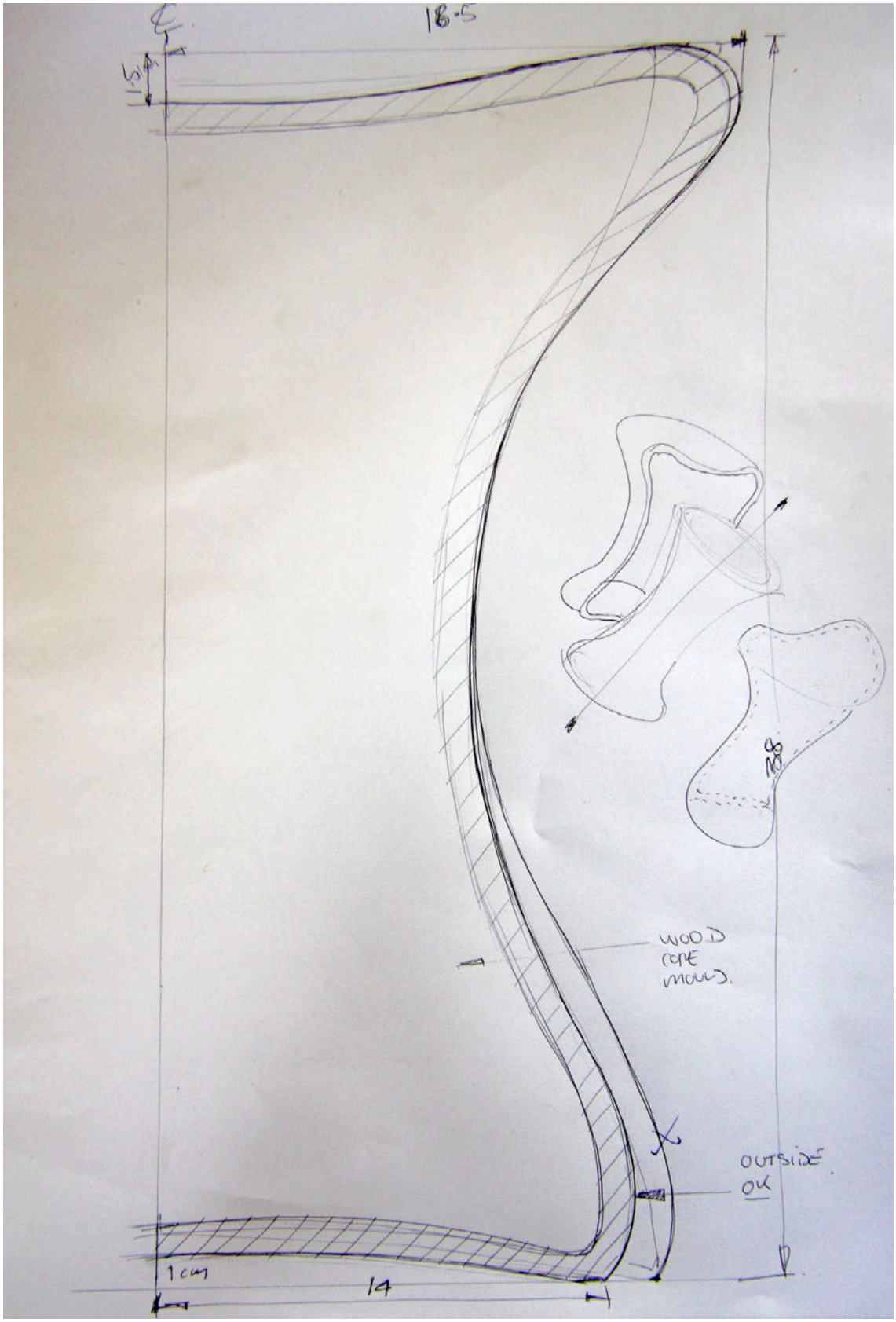
E2 – Stool designs drawings by Ashley Hall



ASHLEY HALL RCA
ashley.hall@rca.ac.uk.

E3 – Stool templates

Original stool template drawn by Ashley Hall



E4 – Final Ashram stool H37cm Ø36cm

E4.1 Edge detail showing paper construction

E4.2 View of centre section showing profile

E4.3 Stool three quarters view

E4.4 Stool in the Ghandi Ashram paper store

Appendix F – Copperking stool

F1 – Ahmedabad foundries

F1.1 EssBee foundry near Sikandar market, charging the flask with molten stainless steel

F1.2 Pouring into the pre-heated ceramic moulds

F2 – All-win context

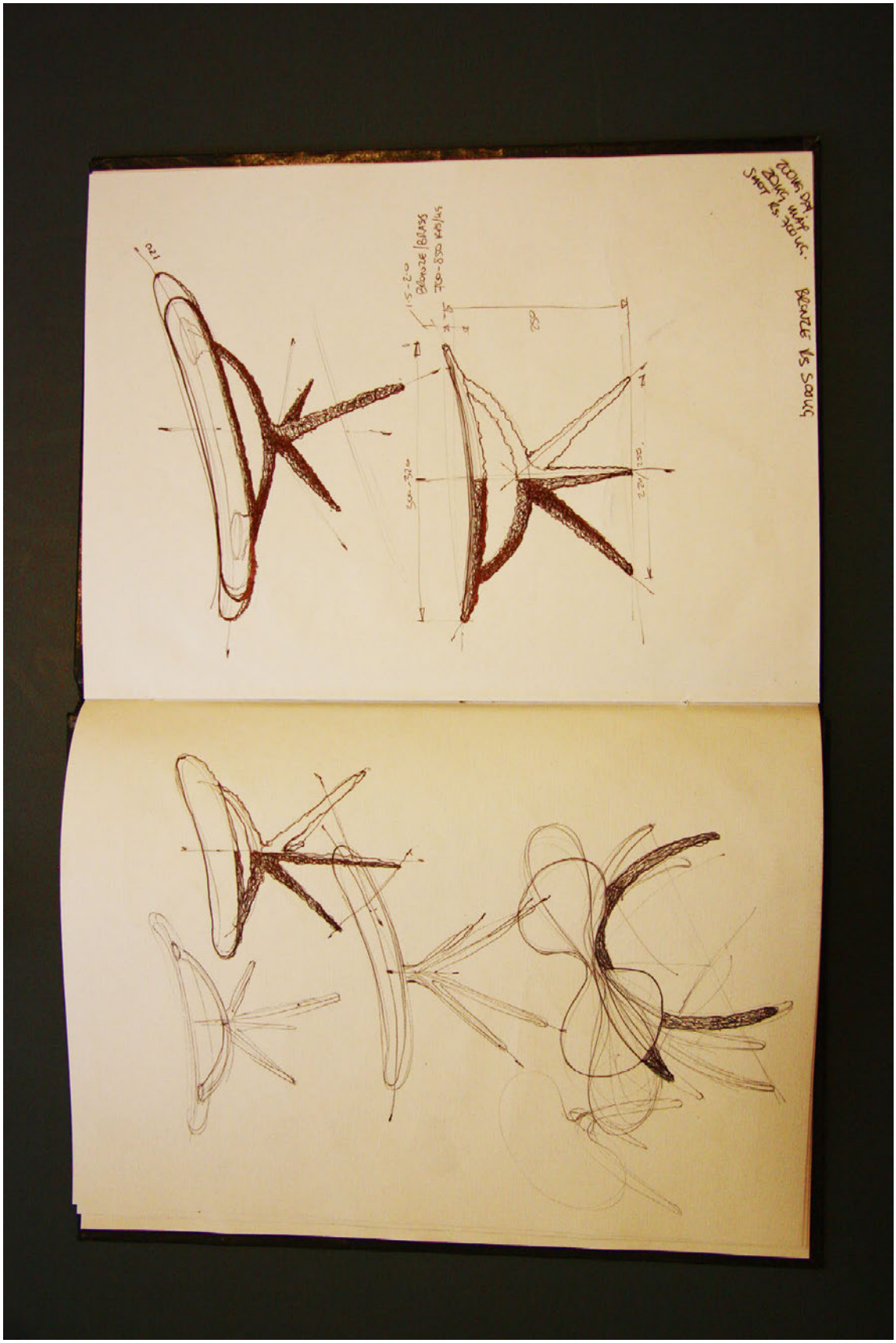
F2.1 Charging the casting flask with molten Aluminium

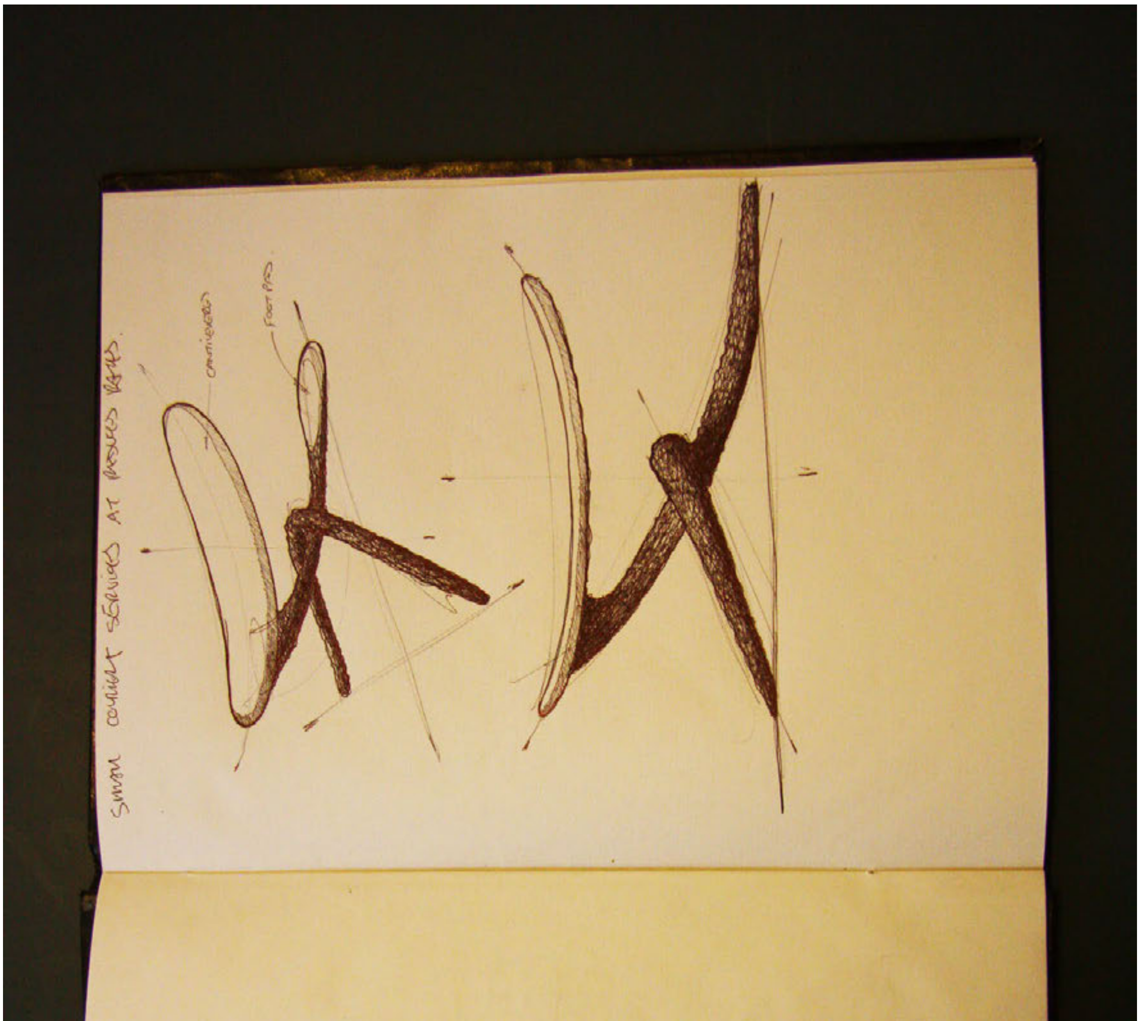
F2.2 Pouring the mould

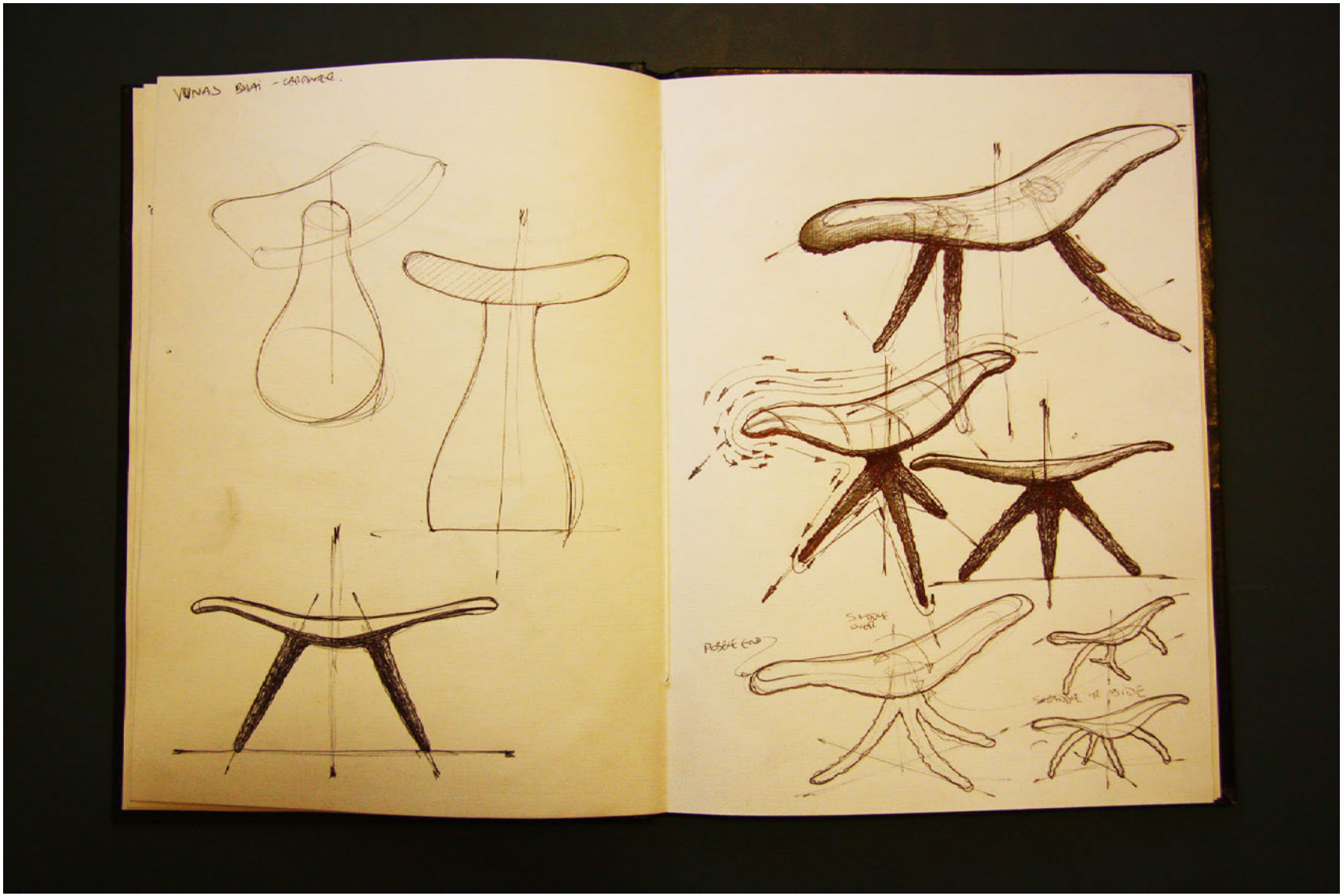
F2.3 1Metre + Aluminium casting

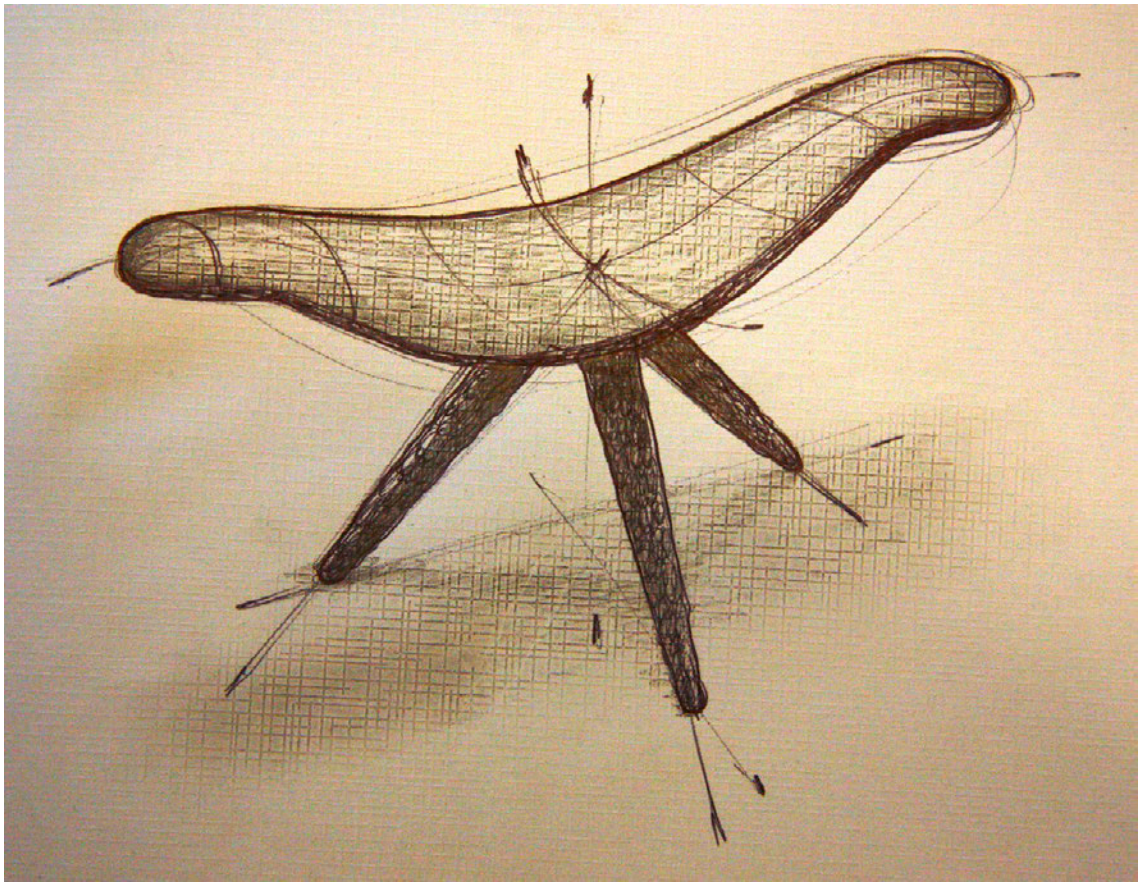
F2.4 Fettling, grinding & polishing room

F3 – Stool designs drawings by Ashley Hall



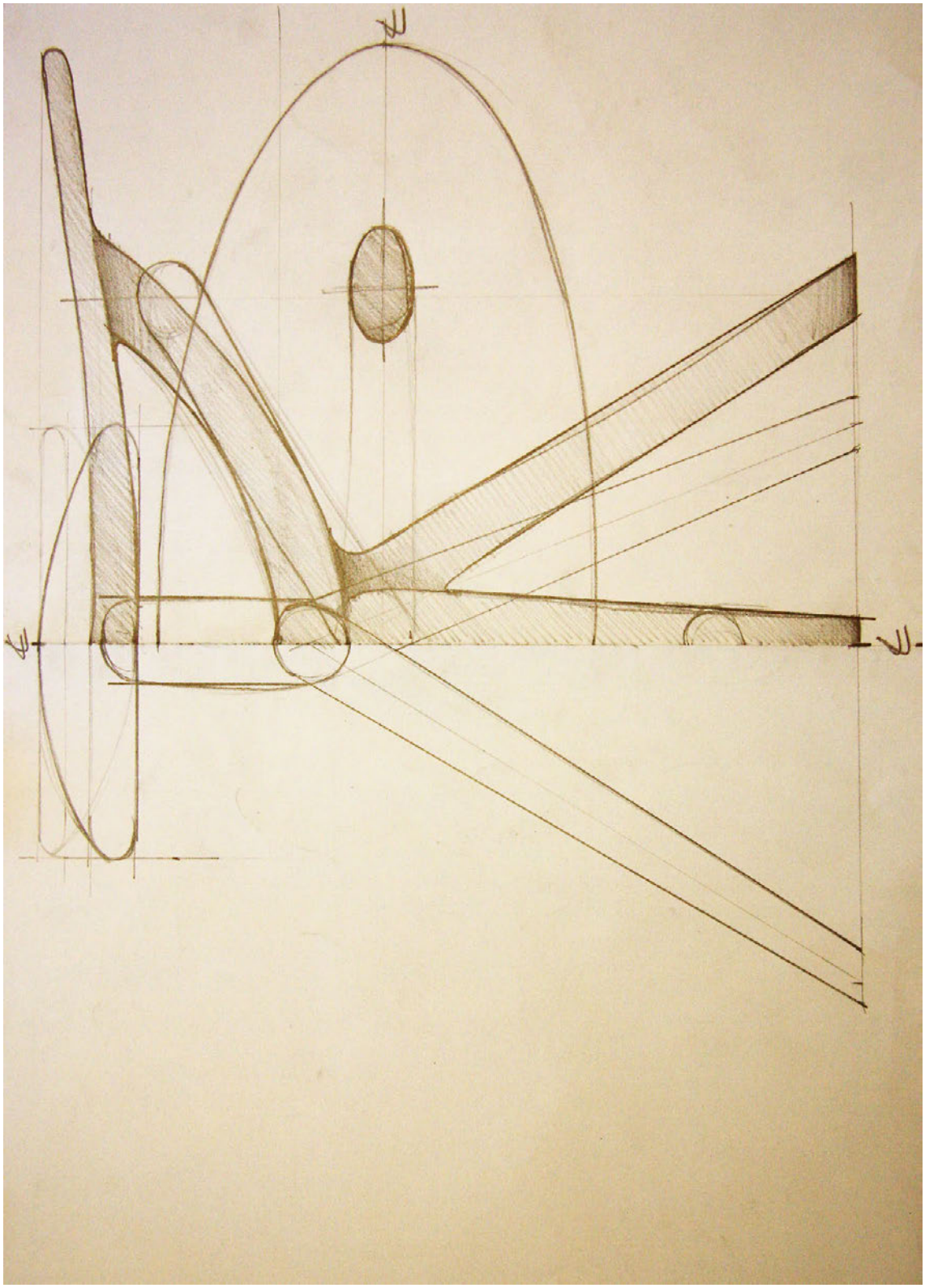




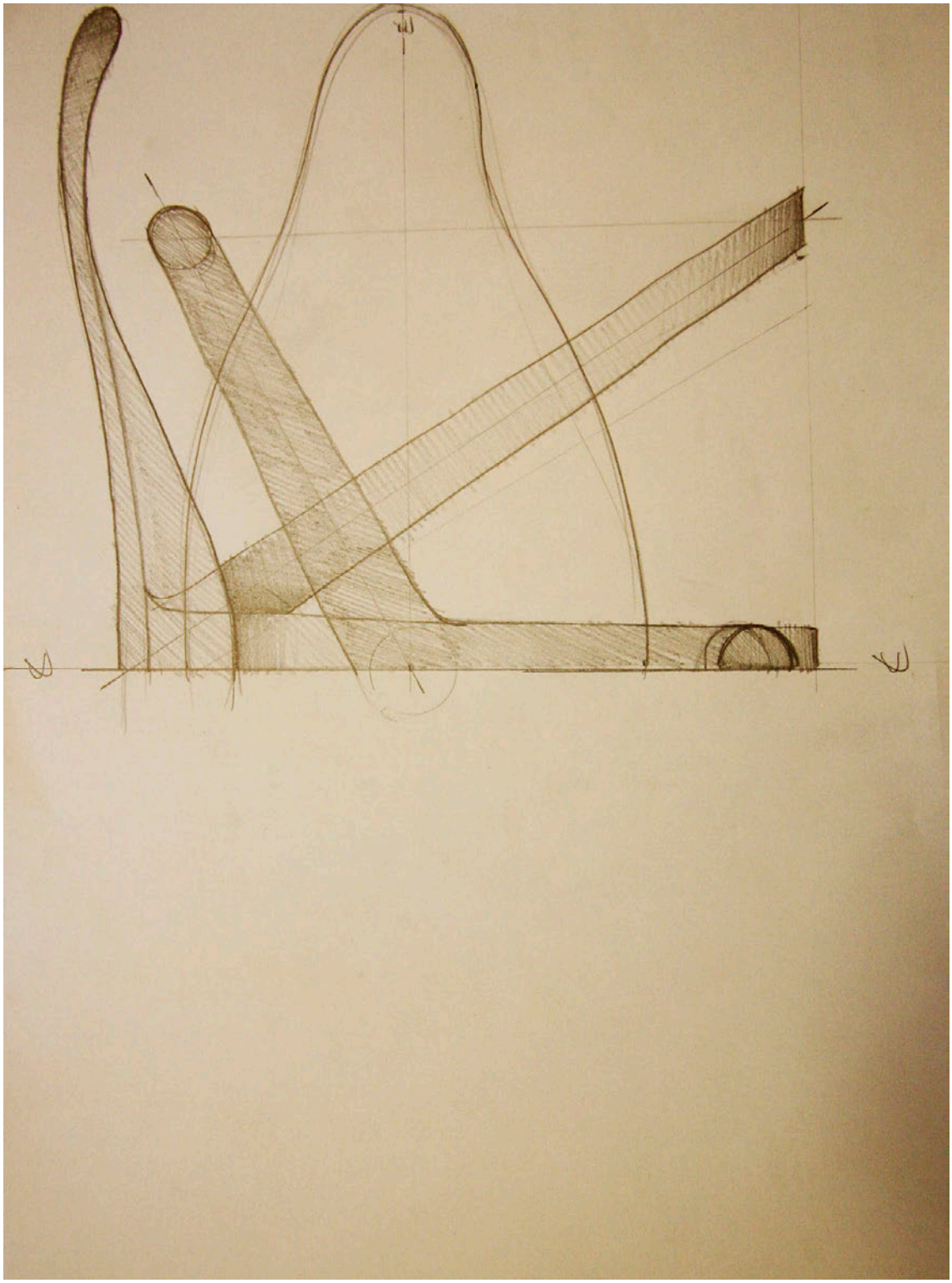


F4 – Stool technical drawings by Ashley Hall

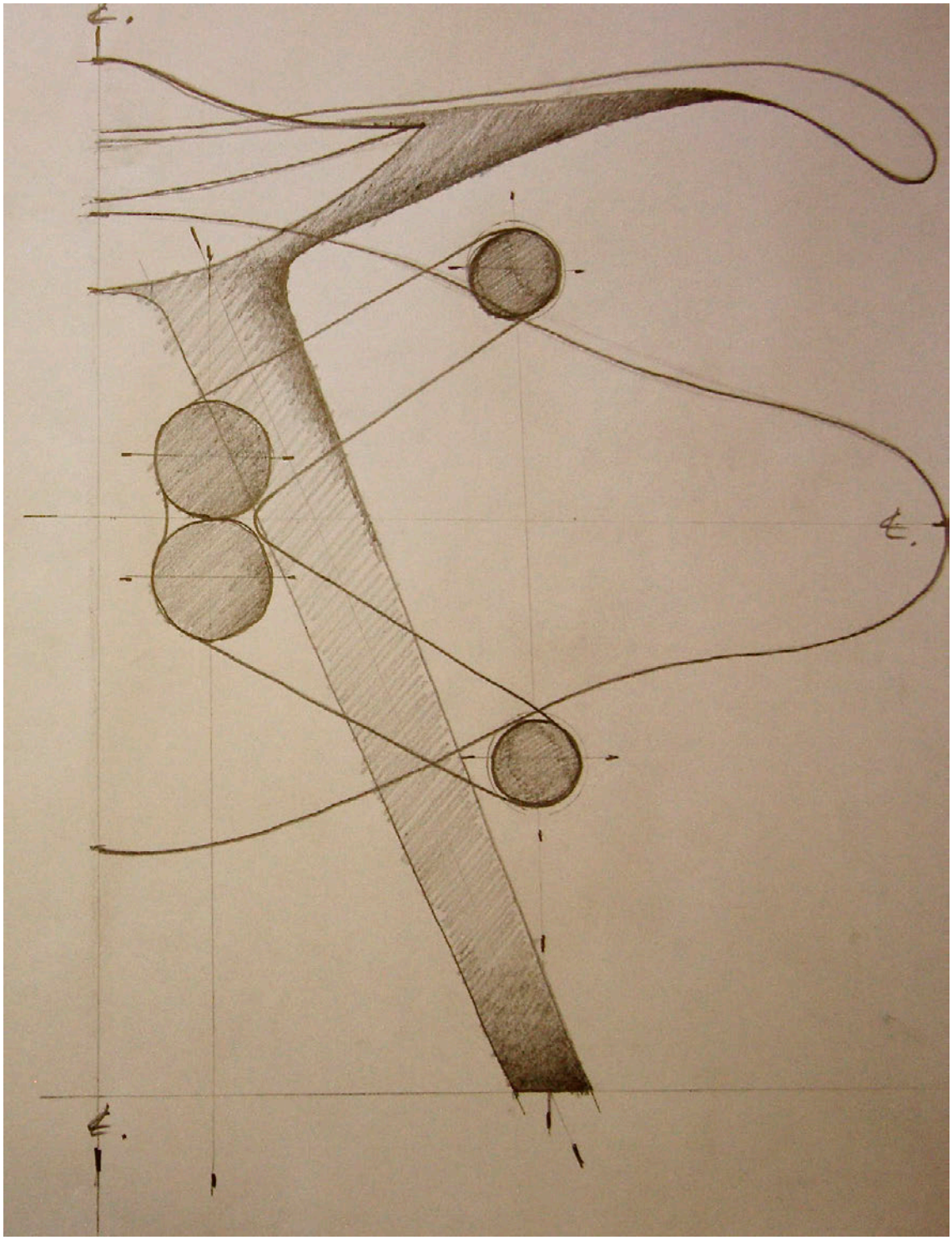
F4.1 Technical drawing for 3 legs stool V1 (unmade)



F4.2 Technical drawing for 3 leg stool V2 (unmade)



F4.3 Technical drawing for final 4 leg stool



F5 – Casting sample

F5.1 Sample casting of ¼ stool top section in Aluminium

F5.2 Sample casting showing the underside texture from the Thermacore foam

F6 – Final Copperking stool H28cm W30cm D14cm

F6.1 Edge detail

F6.2 Side detail

F6.3 Three quarters view

F6.4 Top view

F6.5 Front view

Appendix G – Chameleon Characters

G1 – Workshop poster

The world is changing and the way we use digital technology to influence our approach to making is undergoing a revolution. In this workshop we will be using digital media to create new 'chameleon' creative personalities and then design in the persona of the new characters. You will be led through this new creative method of sourcing and creating characters. In the final stage you will be shown how the process of designing and making an object can capture the new potential of this way of thinking.

This workshop will appeal to curious students from any design background who are happy to explore and take creative risks culminating in making a 3d object that expresses your new design persona.

Week 1: Sourcing and making my new chameleon character

Week 2*:* How does this character think and create?

Week 3: Making an experimental object in the personality of my character

Dates are from November 19th to December 6th with a briefing and introduction on November 19th at 10am (location tbc). The workshop needs 2-3 days a week commitment for a good result and learning and 6-8 places are available for interested students. It is part of a research project called *'Translocated making in Collaborative Experimental Design Projects'* that looks at how we can liberate difference from geography.

This workshop is offered to you by **Ashley Hall** who is deputy head of the Innovation Design Engineering programme at the Royal College of Art in London. He has experience of working on craft and design collaborations in India, China, Thailand, Ghana, Japan, Mali and South Korea. In 2011 he worked at NID on the Craftology project combining technology with craft. Ashley's research and academic profile http://rca.academia.edu/AshleyHall/About ashley.hall@rca.ac.uk

Royal College of Art
Postgraduate Art & Design

UNIVERSITY OF TECHNOLOGY SYDNEY

G2 – Briefing document

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Translocated Making Workshop November 2012

Week 1

Chameleon

Remote Influences

NID

Image courtesy http://youngagropreneur.wordpress.com

Week 1 - Chameleon Characters 1

- Use the internet to create a new chameleon creative character for yourself, something that is radically different and an experiment to the way your normally think and have influences.

- You could imagine that your in the past/future, another country on the other side of the world, take fragments from a Peruvian knitter, German industrialist, Japanese manga animator, Portguese water colourist, Hong Kong master baker, Malian wooden mask carver.

- Make up the character as a drawing or collage
- It should have a head (brain), heart & soul (emotions) and a body (skills).
- Swapover body and soul for more differences

Week 1 - Chameleon Characters 2

- Think about how your character would create in a way that's radically different to how you work now and describe it as 1 page of text, it could be bullet points.
- Ashley will take a copy of the final character and text

Translocated Making Workshop November 2012

Week 2

Inspiration

New Personality

NID

Week 2 -Inspiration

- Using a simple object that you could make in 1 week, design that object in your new creative personality.
- Ashley will Photograph the results and tutor you on how you develop the design.

Translocated Making Workshop November 2012

Week 3
Making

Creative Experiment

NID

Week 3 – Making!

- Make your final design as an object in your final character, there is no right or wrong but if you have to make a decision try and make it in the character you have designer, take risks!!!
- Ashley photographs the final designs.
- **HUGE THANKS FOR TAKING PART!!**

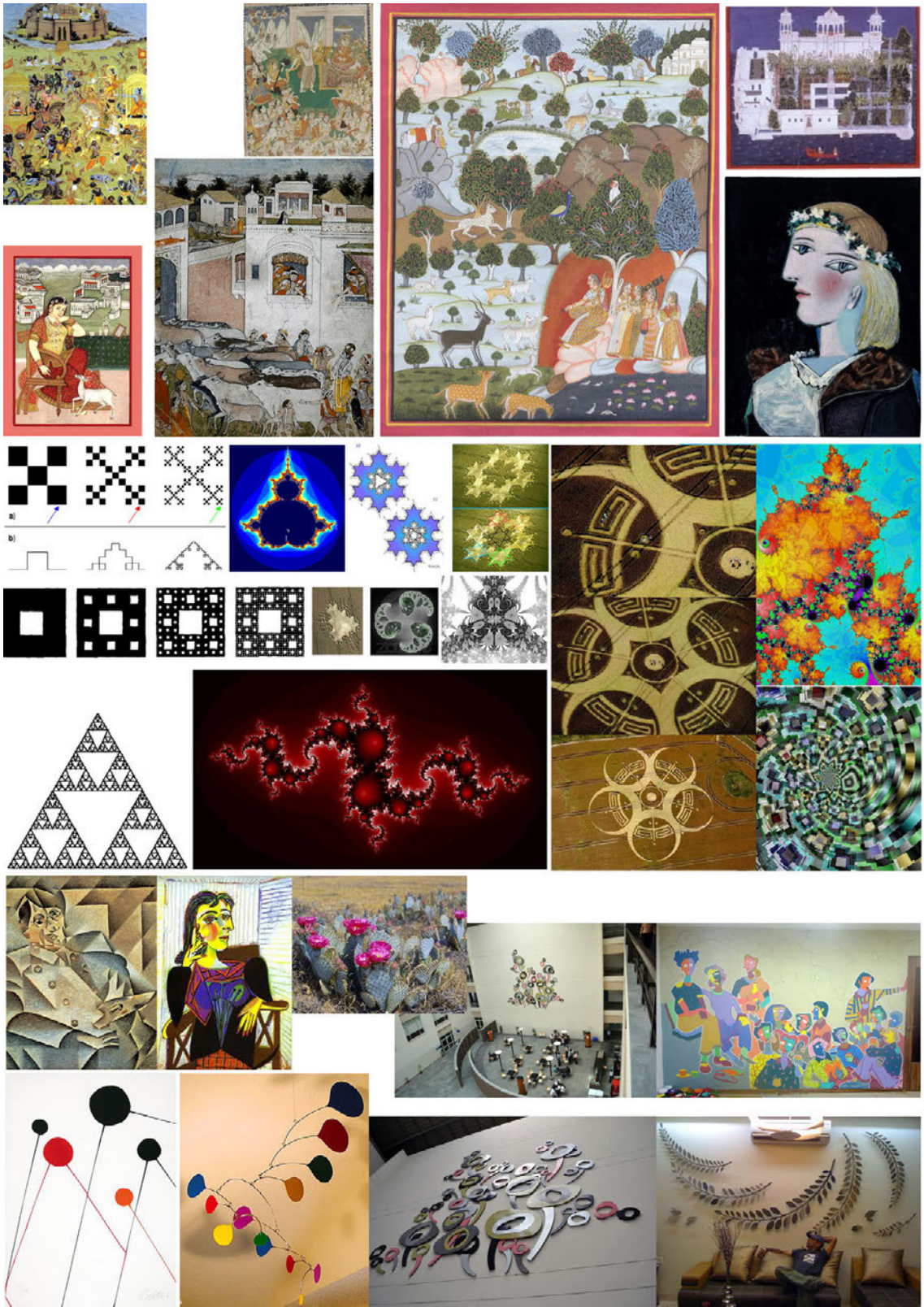
Stuff to sort

- Names and email addresses
- When and where to meet next
- Research permissions forms
- Films and lectures on request

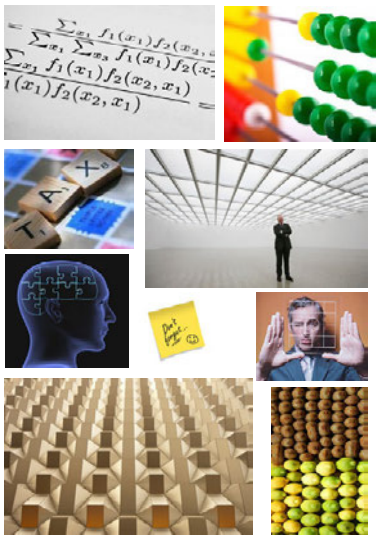
ashley.hall@rca.ac.uk
+447870648882 (texts)

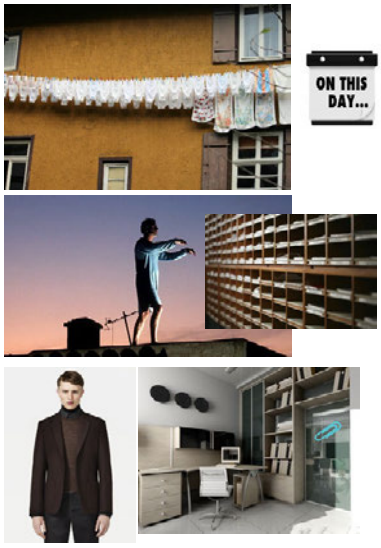
G3 – Initial chameleon character sets

G3.1 Akireddy Prakash original chameleon character

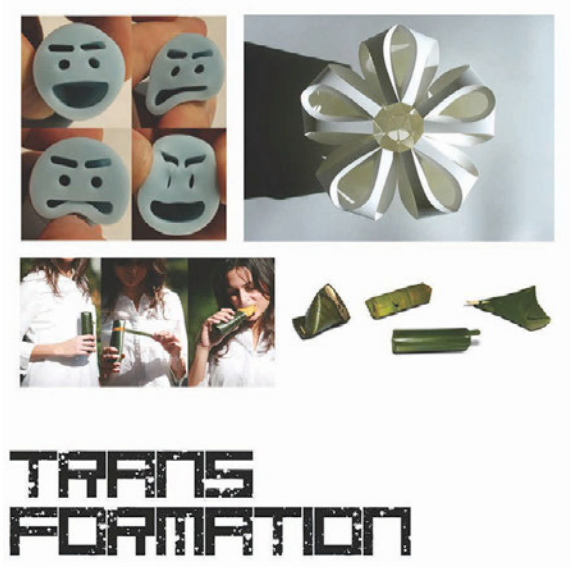


G3.2 Karina Muller original chameleon character mind, body & soul.



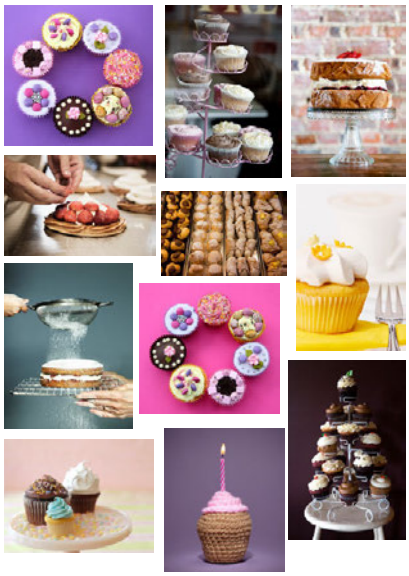


G3.3 Larita Parikh chameleon character mind, body and soul

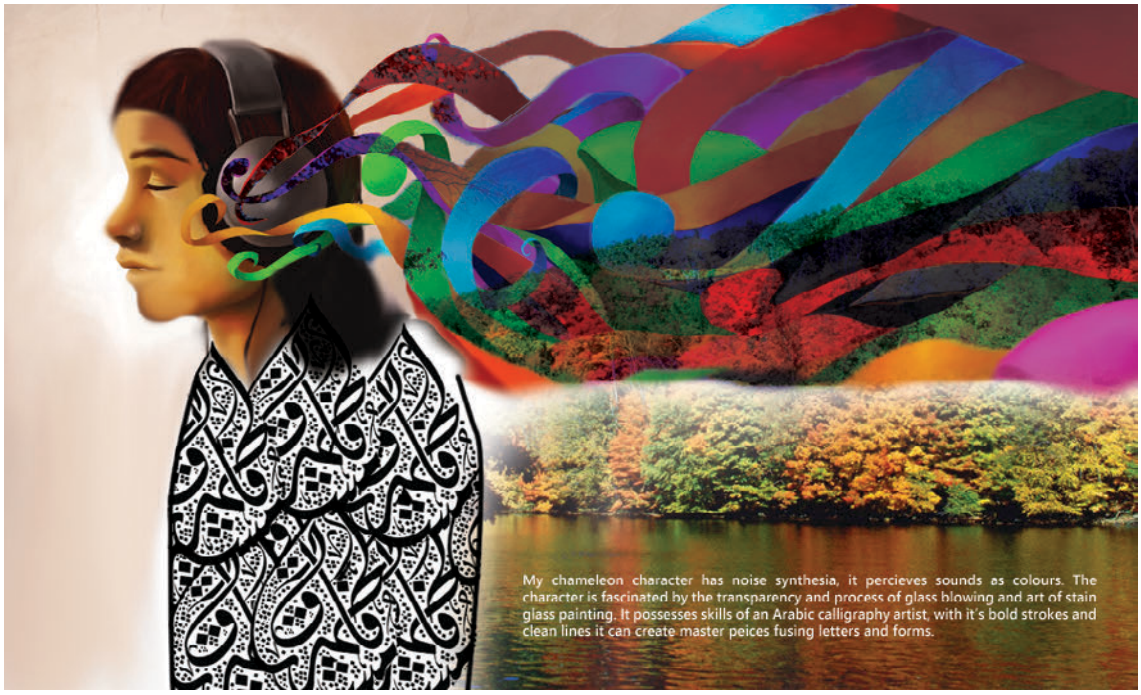


G3.4 Malav Sanghvi chameleon character

G3.5 Sarah Gmelin chameleon character mind, body & soul



G3.6 Vidhi Mehta Chameleon character mind, body & soul



G4 – Swapping list

Karina Muller with Akkireddy Prakash

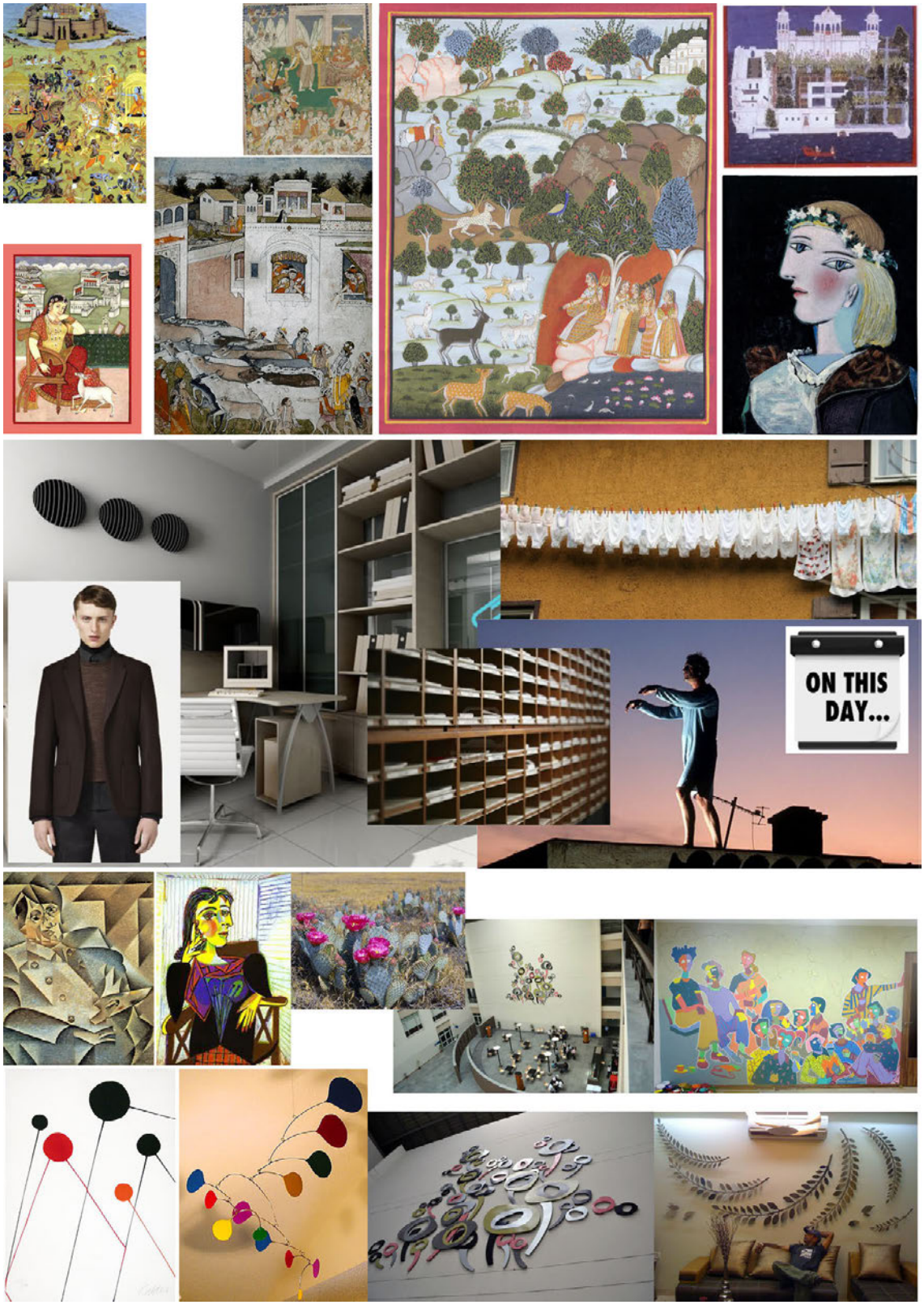
Sarah Gmelin with Larita Parikh

Judith Woker with Kishen Patel

Malav Sangvi with Vidhi Mehta

G5 – Swapped characters

G5.1 Akireddy Prakash swapped chameleon character



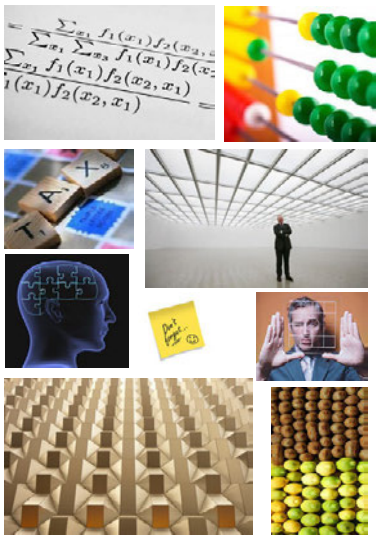
G5.2 Judith Woker swapped chameleon character

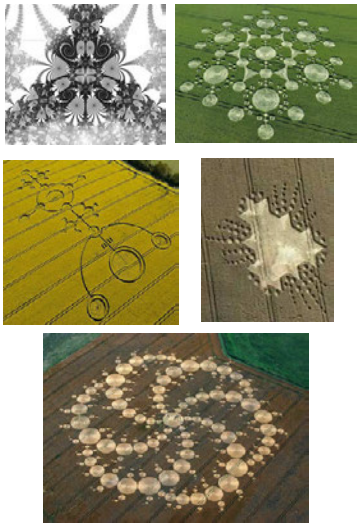
BODY

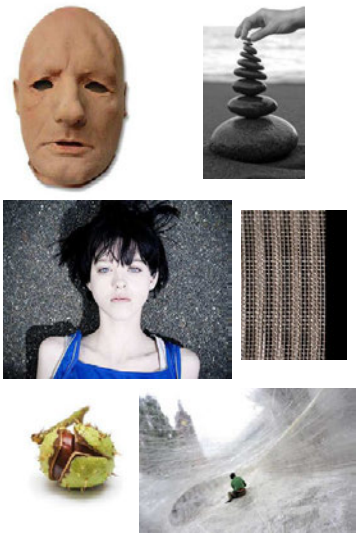
HEART & SOUL

BRAIN

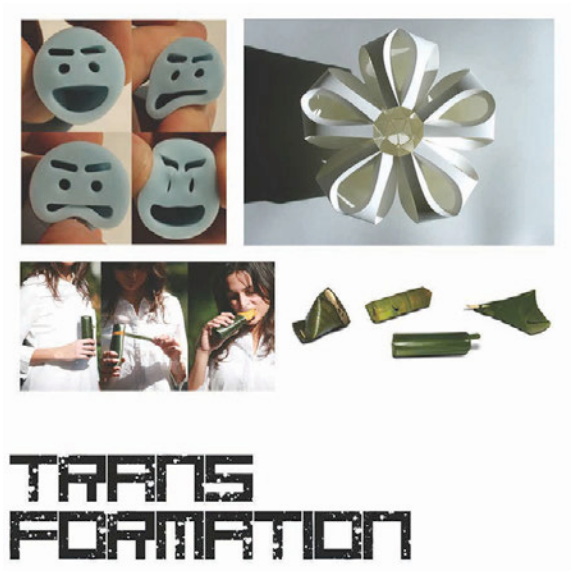
G5.3 Karina Muller swapped chameleon character







G5.4 Lalita Parikh swapped chameleon character



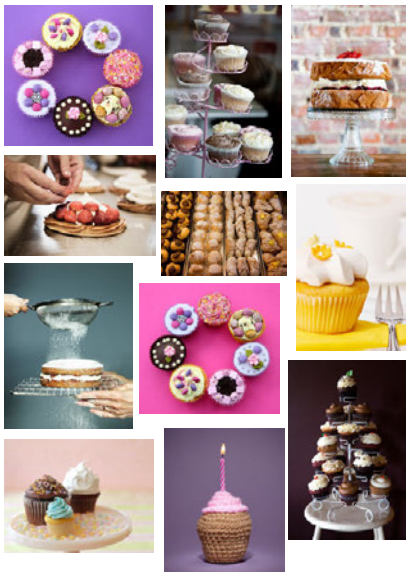
HAPPINESS

bringing people together - spreading happiness - joy of making and sharing - beautifying surroundings - :) - :D - being artsy - creating friendly environment

SUBSTANCE

G5.5 Malav Sanghvi swapped chameleon character

G5.6 Sarah Gmelin swapped chameleon character



G5.7 Vidhi Mehta swapped chameleon character

G6 – Character descriptions

G6.1 Judith Woker chameleon character description

Soul

- Build something in a new way
- Choose different materials
- Inspired by nature
- Use a given thing for another purpose
- ~~Form follows function~~, NOT a must

Body

- Simple form
- Smooth surface
- Basic forms (square, circle, triangle)
- Structure

Brain

- Analyse
- Reduce
- Focus
- Simplify

->Take a natural (or mechanical?) thing, analyze it, reduce form, give it a new purpose

-> mimetic

G6.2 Karina Muller chameleon character description

Thinking and creating of my new character

Mind

– He is thinking very straight and clear

– a bit emotionless, without introducing (private) feelings into the product

– future-oriented

– he has a mathematical approach

– derives from forms of mathematical calculations

– based on geometric shapes

– he is creating with Fractal Geometry

Body

– works monotonically

– without many tools and materials

– he has a good retentive memory

– every day he works a certain number of hours

– very organized

Soul

– Sometimes he wants to break out of his life structure

– to feel free and independent

– then he is inspired by natural and organic forms

G6.3 Malav Sanghvi chameleon character description

Initial Character

Mind (brain): Space
This character is the one who likes to explore new areas, it looks forward to the trasformation of the space/ objects/ enviornments and learn from the same.

Soul (emotion): Magic
It looks for element of surprise. It wants to have the ability transform things and create new/ unexpected elements.

Body (skills): Technology
It loves logic and mechanical/ technical aspect of work and posses the skills of making and innovatting products.

G6.4 Sarah Gmelin chameleon character description

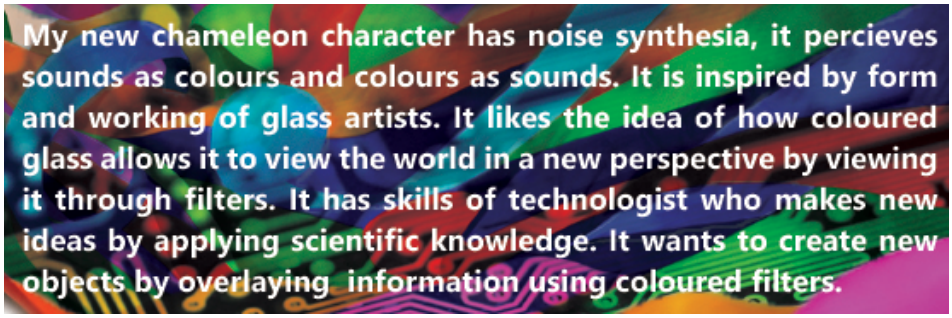
How does my new character – Master Baker – think and create?!

- my new character is very… creative and impassioned with his work

- experimental
- open minded and welcoming to other people
- very into details and colours → eyecatcher
- want´s to make other people happy
- likes the idea of bringing people together

- my character would create a product that… is interactive
- which gets everyone's attention
- can be used from everybody (no age or gender difference)
- easy handling
- easy to understand
- something useful that makes people happy

G6.5 Vidhi Mehta chameleon character description



G7 – Final presentation posters

G7.1 Judith Woker final presentation poster

Vectorworks Educational Version

'Feeling like a Seed'

Character description

Soul

-Build something in a new way
-Choose diffexrent materials
-Inspired by nat,ure
-Use a given thing for another purpose
-Form follows function, NOT a must

Body

-Simple form
-Smooth surface
-Basic forms (square, circle, triangle)
-Structure

Brain

-Analyse
-Reduce
-Focus
-Simplify

->Take a natural (or mechanical?) thing, analyze it, reduce form, give it a new purpose
-> mimetic

Inspiration

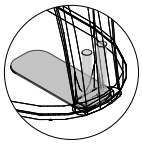
Seed pouch

-form like a bank
-smooth, hard surface
-seeds = sitting people
-Hull thin but strong

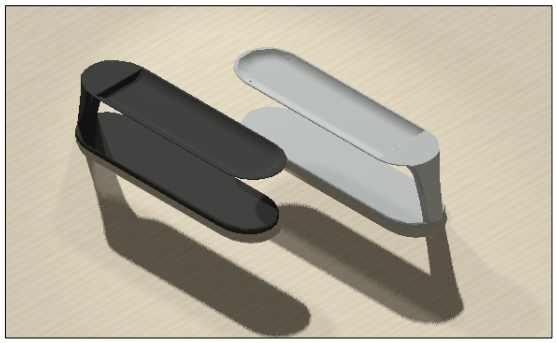
Product

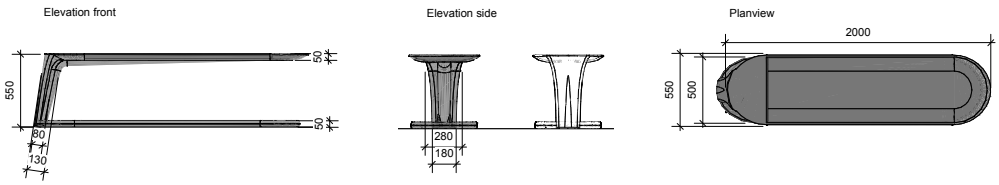
Bank including a tray

-Material: Carbon fiber
-cast
-Materialthickness, Seat: 20mm
Leg: 80mm (massive)
Bottom: 22mm



Metalplate and stud for bracing
-flush-mounted of the bank
-Studs: 30x200mm
-Plate: 350x150x5 mm





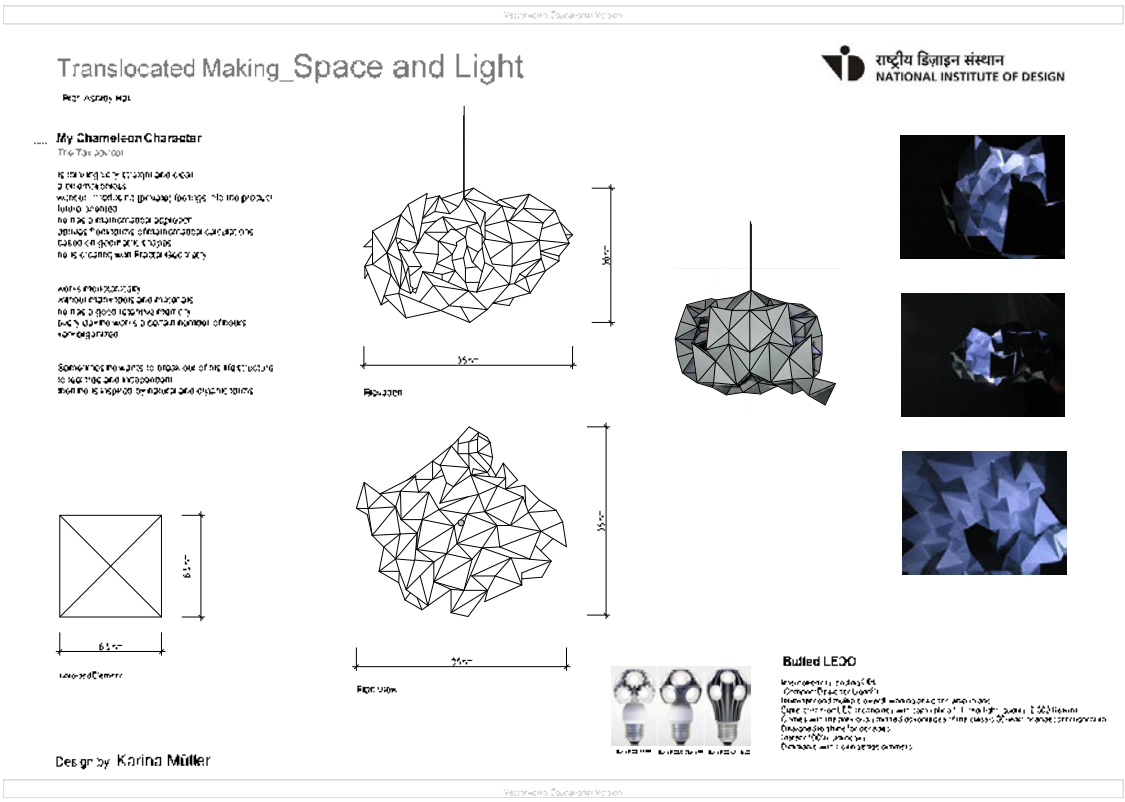
Judith Woker, Detmolder Schule für Architektur und Innenarchitektur

राष्ट्रीय डिज़ाइन संस्थान
NATIONAL INSTITUTE OF DESIGN

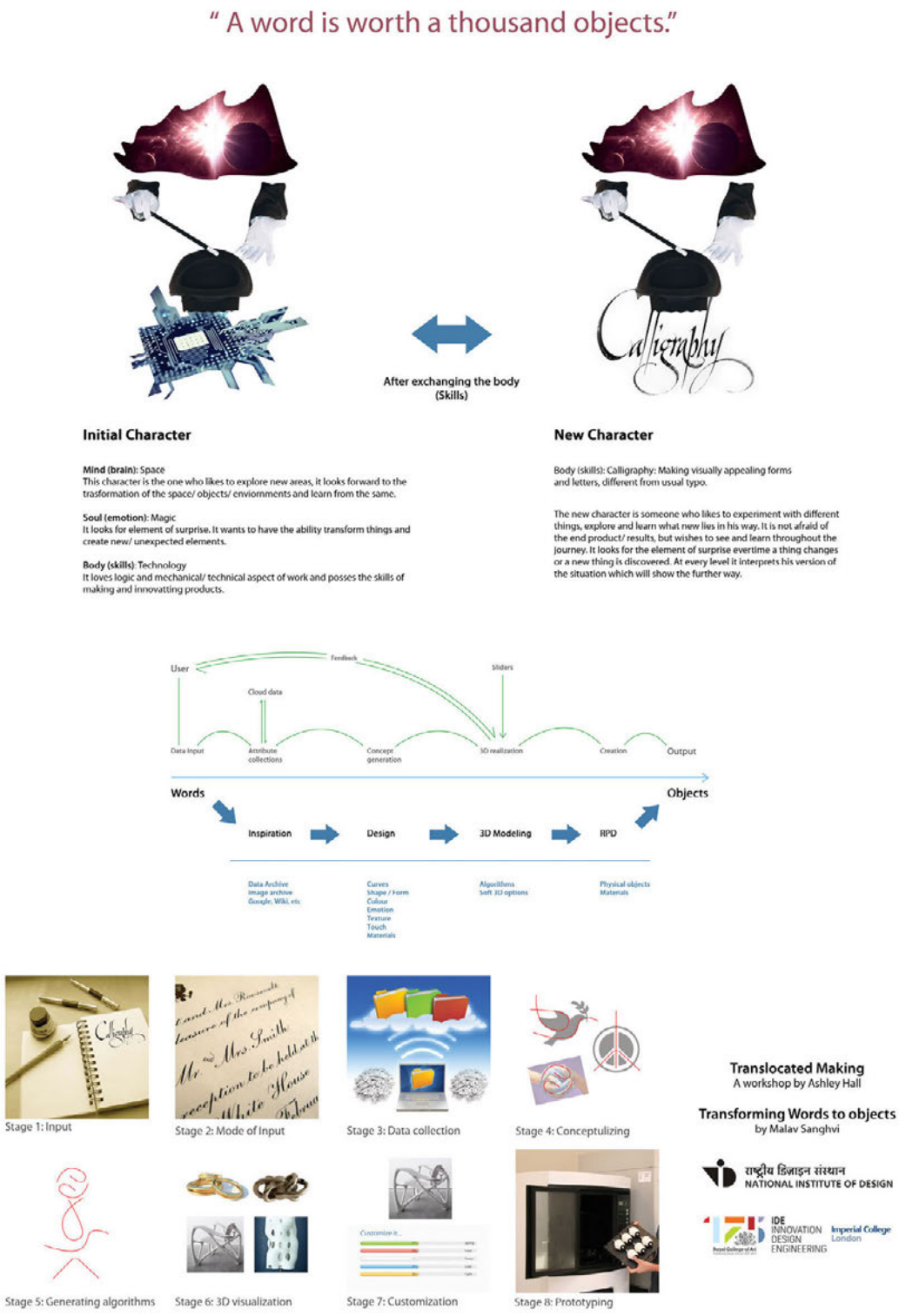
'Translocated Making' by Ashley Hall, Workshop November 2012

Vectorworks Educational Version

G7.2 Karina Muller final presentation poster



G7.3 Malav Sanghvi final presentation poster



G7.4 Sarah Gmelin final presentation poster

VECTORWORKS EDUCATIONAL VERSION

Translocated Making

Prof. Ashley Hall

1

How does my new charakter – Master Baker– think and create?!

- my new charakter is very... creative and impassioned with his work
- experimantal
- openminded and welcoming to other people
- very into details and colours □ eyecatcher
- want´s to make other people happy
- likes the idea of bringing people togehter

- my charakter would create a product that... is interactive
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- can be used from everybody (no age or gender difference)
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2

Soma Cube

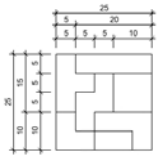
Tangram

Pentomino

Is there a game that can bring people together from all over the world?

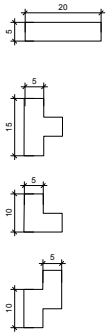
many countries - seven nations - one world

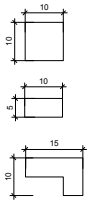
3



Plan View
M 1:5

Perspective
M 1:5



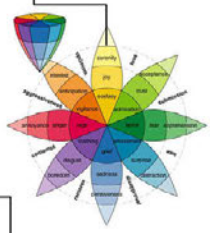


VECTORWORKS EDUCATIONAL VERSION

G7.5 Vidhi Mehta final presentation poster

Sound Snaps

Whats the colour of whisper or the loud whistle of the train? Through these photographs my character explores new ways in which sound can be captured in photographs.



Colours have various associations with emotions and feeling. Using filters in photographs, I potrayed the sound that was a part of that scenario.
(photo courtesy: National Gegraphic)

Human sounds: softer bulbous shapes

Machine sounds: jagged lines

Volume of the sound: softer sounds have smaller shapes that grow with the loudness

What will you click with sound snaps?

Vidhi Mehta I Sound Snaps I Translocated Making Workshop 2012

राष्ट्रीय डिज़ाइन संस्थान
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IDE INNOVATION DESIGN ENGINEERING Imperial College London

G8 – Physical outputs
(not recorded earlier)
Karina Mueller lampshade

Appendix H – Translocated

H1 – Translocated diary (edited)

Written in Ahmedabad, Gujarat, India from November 19th to December 8th 2013
Recording project activities, thoughts, research outputs etc.

Monday Nov 19th

Met with Praveen, head of the ID programme to update each other on progress and an agenda for the three weeks.

Interesting Bruce Archer info that Praveen sat in on his lectures when a young student at IIT Bombay and there is an archive of these in Mumbai and possibly NID, he was going to check. He recalled that Bruce Archer always changed his shoes before a lecture, so he could get into character we assumed. He found the lectures hard to follow in those days.

Met my group of 4 students. More are on the way back from Diwali and the total number is looking at 8-10, that is ideal. Presented the workshop introduction and emailed all a copy as a PDF. A few questions were asked to clarify what the chameleon character looked like. Explained that I was like and anti-tutor and was giving permission to experiment with a new way to pro-actively use the Internet for creative cultural transfer. Good mix of backgrounds from textiles, product design, furniture and interior design. One driver to engage was the interdisciplinary opportunity. The group are all post-completion but pre-graduation having handed in final assignments, awaiting their final jury date or organising internships. A couple have already begun small creative enterprise and so the cohort are all experienced designers if not fully professional.

Comment from one of the students that it was a different way of thinking to what they were used to, that a chameleon character was against the tradition of building a personal profile. One questioned how the character could escape their personal projection. Explained that it was in the swapping exercise at the end of the first week where they would trade for someone else's components in a swap.

Discussed with Himanshu the 200m Indians who are engaged in artisan production. The government forced to add it to the census in 2012 after pressure from a number of agencies including NID. Story of a bereaved family singing stories of deal relatives so that a stone mason with the clear mind who could carve an epitaph realtime in stone. Captured

on the http://www.blog.gaatha.com website whose function is to act as a realtime Wikipedia capturing Indian crafts to promote and keep them alive. Leather worker who recounted the story of his grandfather dreaming of chariots while he dreamed of Hyundai's, and rightly so, culture shifts and cannot heritage for its own ends.

http://news.indiamart.com/story/india-have-nearly-6886-lakh-handicraft-artisans-panabaaka-lakshmi-160873.html

This figure online is 68.86 Lakhs (100,000) = 6,886,000 artisans, more than half of whom are hand loom weavers.

Akireddy discussed the original meaning of the Khadi tradition promoted by Ghandi as not being primarily about cloth but a system of self-sustaining social craft makers. Especially in response to the machine made textiles imported from Manchester. Saw this as a way to maintain local craft making production.

Met Shimul and agreed to be a participant in the symposium at one of the round table events. 15 people. Set talks then everyone delivers feedback. Deliberately high level and will produce a white paper for the Indian government on the outputs and a set of findings. Set up and organised by the Australia-India Sangam initiative between COFA and NID. Four round tables of World, Social and Future.

Tuesday November 20th

Met Abhay Mangaldas for lunch to discuss suggestions for location to meet local makers. He pointed me towards the Uexplore.in website where he has set up a map of Ahmedabad with information points and location for various craftsmen including the birdcage maker. He also suggested visiting the copper utensil maker and the papier mache bowl makers.

He also asked for suggestions from students who could come to Ahmedabad for a craft residence. He would cover all their cost in country, host them food, travel and introduce them to local makers. The results could be exported to the designer for sale and sold locally to make a profit and support the initiative.

Met Isha Pimphalkhare who has kindly agreed to be my translator (suggested by ex-IDE graduate Gaurav Raut) so tomorrow we go off to see the copper utensils maker and birdcage makers plus hopefully the lost wax foundry if I can get the address off Franklin.

Met Praveen who suggested that the Katchchh trip would be best by overnight train and hiring a local driver/guide to save time as it's a 6-8 hour drive by road so I may save a couple of days. Hodka bell maker and Nirona for the wood turners. I looked up Ranjan's digital copy of handmade in India and it lists the semi-nomadic Muslim tribe who make the wood turning and the bellmakers culture as well.

Read Heidegger's 'thingness' and Tinari's original copies in the craft reader and made me realise that other types of reflective thoughts are possible outside of my normal environment. So my reading material from the UK has a different flavour and focus here in India. A different perspective is possible. Free from the westernised product layerings.

Started thinking about delimiting the space/de-anthropocisation and Heidegger's phenomenology meeting in the stool making. Delimiting and remaking the idea of a thing in space.

Wednesday November 21st

Morning session of translocated making went well with an extra couple of exchange students from Germany joining in. The three who showed some early research had some interesting influences including synaesthesia and off-world vehicles.

Met Rama and had a good discussion on culture craft and design in India. NID have a large consultancy operation so staff very busy on that and less time on academic matters. A few staff studying for PhD's and more interested. Met Krishnesh who's PhD is on Synaesthesia.

Went to visit the copper utensil makers, birdcage makers, slotted frame and basket weavers in the old city. The copper utensils are finished in the city but primary forming and soldering takes place outside. Fascinating watching the beaters creating the surface patters which also toughens the copper and provides a surface that wears well. The top rim is solid cast with the body is soldered on in sections. Then the whole lot is beater and polished with a sulphuric acid to clean of any residue of the processes. Realised the stave used to beat the vessels over was the inner void referred to in Heidegger's 'thingness'. It's the former that reminds us of the wrapping of the interior space.

Evening long conversation with Praveen and Ranjan who I will see over the next few days at the Symposium. Planning the Kuchchh trip for a sleeper bus, then hire a local driver to go up and stay just for one day if the makers take a while (and return the next weekend) or stay up to Monday if they can finish in a few days.

Talking to Rama realised that early Ashley/Diplomat was totally form driven from quite an abstract angle and the culture of forming, realising, thingness was actually the main driver. India is puling away the consumer pipelines to allows new thoughts and reflections through. Realising on personal level that designing and making here is as much a personal reappraisal as much as a design process.

Thursday 22nd November

Used the morning to catch-up on paperwork. Afternoon attended the intro sessions of the Crafts Symposium. As usual met several people I had common connections with and chatted to MP Ranjan. Then dinner at Agashiye and networking.

Friday 23rd November

Met up with Pavesh Soni to book the tickets for Bhuj. All day crafts symposium with a 2 hour break in the middle to give tutorials for the Chameleon character workshop. Very good progress by the students and arranged to have the element swapover.

A very useful discovery was the Indian system of the Geographical Indicators (GI's) relevant to Crafts. This is a government system that allows crafts to be registered uniquely to a location so that trademarks and local making cultures can be protected. They were originally set up by the Indian Government in 2003 and are only given to an authorised community or group and cannot be passed on to other groups.

(Met Akki later in the week who reported that the session finished around 8pm and they had developed a number of useful conclusions)

10pm met Isha at the NID gates and made our way to Paldi to catch the night bus to Bhuj. There had been a miscommunication along with a misprint on the ticket so we were in the wrong part of the city and had to be ferried across town by another bus and just managed to board at SG Highway making the departure 45 minutes late.

Saturday 24th November

Arrived just outside Bhuj at 6.30am after a long journey on the sleeper bus across the state. I had a double berth with a brown vinyl mattress. Lots of rolling a round and catapulted into

the air on the speed bumps on the edge of towns, slept 2 hours then half awake until arrival. Met a driver then off to Khamir in an auto rickshaw. Checked in and had 3 hours sleep then a quick breakfast of Chai and fired vegetables then off in the car north to the desert villages. Very quiet at Khamir as everyone had gone into town for the 25 concurrent marriages that were taking place in the town that day. The first time ever that so many people had got married.

http://www.khamir.org

Satesh has been working at Khamir a month so came with us along with Dipesh Bhai who is the local craft expert and knows all the families in the area. After an hour and a half we arrived at Nirona and walked across the small town to meet the Husen family of copper bellmakers that I had met last time. They are Muslim Luhars – ironsmiths whose craft originated in Sindh Province

Umar Husen happily showed gave us a bell making demonstration and then we began to discuss the project and he was shown Cairn's sketches that I had not even seen yet on purpose. Cairn's design for a light looked a bit of an odd choice at first but as we examined the designs it began to look like a logical and good choice that would stretch his skills into a new product area. Umar was enthusiastic and told us it would take about a week to finish making it. His business is spread throughout his compound with a small forge with an electrically powered bellows in one corner. The entire family are involved in the process including his wife and children. The women take care of the applying the powders to the surface and wrap the clay chapatti's

The core material for the bells are steel sheet beaten into shape with a very efficient method. Then the bells are dipped in slip (Clay + water) and rolled in a layer of copper, brass, zinc and borax. The brass comes from Jumnagar and is the filings from other making processes and refurbishing old bells. The zinc and borax comes from the market. They are then encased in a clay chapatti and fired in a forge for a few minutes. The clay is broken off and the non-ferrous metals coat the surface.

The bell which can vary in size from 2-30cm is then tuned, the lower ridge is crucial for the long reverberations the bells are famous for. They can be heard over 15-20km's away and

are placed on the lead cow or camel. They have a very long echo duration due to the shaping of the lower edge indents.

His family were 5 or 6th generation copper bellmakers. After the 1819 earthquake caused an 80km long uplift in the land and dammed the Puram river, the local forest (locally called a forest but more like a high shrubland) and pastureland slowly dried up affecting the areas rich pastoral life. A tsunami flooded the great Rann of Katchchh desert following the quake. The area is now quite arid and although there are still some small herds of animals the bellmakers trade is now for local craft agencies and the small numbers of tourists who visit the area plus DIY repairs. His nephew has laptop and a blog on copper bells and they are hoping that the Internet can help them gain new customers and find new designs to make.

http://en.wikipedia.org/wiki/1819_Rann_of_Kutch_earthquake

http://copperbellart.blogspot.in

Umar was interviewed, signed the ethics forms and I bought four bells from him as a record of his trade and skills. He had used the Internet via the help of Dipesh Bhai to find some new designs of candlesticks and had made these himself. Part of Dipesh's activity is to encourage new designs and experiments directly from the craftsmen himself (create a difference map of this project). He had also made an improved bell after a Swedish customer asked him to make one with a wind chime at the base of a cord under the clapper. The Swedish design of chime was too small but he enlarged it to be a successful design. Uman also used the local leatherworkers to make simple straps to hold the bells by. The central clapper in the four bell array was inspired by seeing the spinning tops made by the wooden lacquer turners in the other part of the village. Later on Bhavik explained how he had made the wooden spinning top after being inspired by a stone version so it looks like a chain of influences from stone top to wooden turned top to copper bell clapper. 3 types of difference exhibited:

1. Local difference elicited from lacquer makers (and stone top origin).
2. External analogue difference from Swedish client
3. Self initiated collaboration to use the internet for image sources

Throughout it was a fairly straightforward task to avoid intervening in design decision and reflection pretty much all back to Umar who seemed happy to be given the trust and role reflecting his craft skills.

Bhavik Bhachaya the lac wood turner lived about 100m away around the corner and again gave us a demonstration of his skills by turning a small chapatti rolling pin sitting down and using his feet as guides, one hand for the lathe bow and the other for the cutter. His making space on the shaded stone apron in front of his house. He is from the Meghwals and Maniars clans of wood craftsmen. The pigments are vegetable based and used in conjunction with a hard lacquer. The pigment is first put onto a stick and then rubbed across the piece when it is still. The lathe is spun and the lacquer is applied with a rag that also marbles the surface by dragging and polishing the paint at the same time. The marbled design is unique to the craft practiced here although the bow-lathe technique is also used in Sindh.

We showed Bhavik the stool designs Matt had prepared and he was very happy to make the legs but could not carve the top as drawn and suggested a local carpenter. He said it would have been a 'No' if we had not arrived in person to ask him; he seemed to appreciate the effort. The need for a local subcontractor for elements was always a possibility and raised some concerns about the value that each maker would put in, how they would coordinate and the agency of design and transfer, especially as the top was the most complex part.

He has been learning the craft since he was 7 years old and his 8-year-old son has been learning as well and can now make his own spoons. His father is a master craftsman and develops his own designs. Saw a stone spinning top and now makes his own in wood (as shown in the photos). He wants to diversity and tries out new object types. His family were originally from Pakistan and moved over the border to India 50+ years ago. He started making wooden bed legs and huge pestles. Years ago they used to make one bed leg, then go to the market, buy some food, then make another leg and so on. Essentially they were subsistence craftsmen always very close to the bread line.

A second alternative was also suggested by where a chopping board for chapatti's could be used for a round stool top. Although this would be in the full control of Bhavik it was clear that he was unhappy with the timber and form quality this would provide and Bhavik put the carpenter solution forward. During both conversations all the detail decisions were referred to the craftsmen and very little if any influence came from the researcher.

Bhavik had not used any Internet resources to influence his work and did not have any access. He was however very happy to try out new ideas and showed us one of the box of secrets he had made. His father was a master craftsman, the definition for which was to be able to produce new design and although these were mainly confined to patterning experiments based around contrasting colours rather than physical product forms.

The village also contains craftsmen making the very rare Rogan paintings. These are made with castor oil and pigments. A stick is dipped in the oil-pigment and then dripped onto the ground material fabric to create highly intricate designs made without templates or traces.

Following the visit to Bhavik we drove a short distance to the village of Zura to see another Luhar copper bell maker with larger premises making 60-70 bells a day. He had some quality control problems with Khamir and Satesh asked m to get involved in the conversation to represent a western quality perspective. The bellmakers issue arose from patches of raw steel sheet that were left over from the firing process and the proportion of this to the brass material. The feedback I gave was that uncovered steel would rust in wetter climates so the covering was important but that variability emphasised the handmade quality. Filing the surface afterwards reduced the appeal, exposed more metal and this would be good to avoid as well.

We then returned to Bhuj via a small village of leather shoemakers. They had relocated about ten years before from a more remote area after the 2001 earthquake that killed 20,000, injured 167,000 and destroyed 400,000 homes. Their new homes are round to reduce earthquake forces and have an added 10% concrete for extra binding. The interiors have a nomadic feel and all the crockery is on permanent display to denote wealth.

http://en.wikipedia.org/wiki/2001_Gujarat_earthquake

On returning to Khamir we met with the carpenter for a long conversation driven by his need for specification. At a crucial point it became clear that the carpenter had in mind changing or had misread the design and was proposing 'tombstone' dimensions for the small stool at 5cm thick and 45cm wide. This threw up a conundrum that Bhavik understood the design very easily and the carpenter less so and an on the spot decision

was made to subtly remind him of the dimensions on the sketch. The making process was also reversed where the legs would now be made first and then fitted to the stool.
The interesting observation revolved around the desire for specification from the carpenter verses Bhavik the craftsman's interpretation skills.

Following the meeting we had dinner and Satesh introduced us to Prithwiraj the potter whose studio was at the centre. He showed us his impressive new collection and produced his 1,000-year-old lineage that he could trace back through the 30 Maharaja's of Dheeraja from the present day to the year 1033. We viewed the Khamir shop and following this we wandered around the compound and Satesh used an app on his iPhone to show Jupiter arising in the night sky.

Found out that Kutch is in fact locally spelt Katchchh. The former is an anglicised version.

Isha was excellent for all translations and organising.

Sunday 25th November

Returned to Ahmedabad on the 7.30 am bus just outside Bhuj. With one 30 min stop arrived back at NID at 3.30pm so 8 hours return trip. Toilet on board had a problem so was not very pleasant for the last 5 hours of very strong odours. Relaxed and caught up with emails rest of the day and diary writing.

Monday 26th November

Met Franklin at midday and went to see the EssBee lost wax foundry next to the Sikandar market in the Muslim quarter of the city. I was expecting more of a craft foundry but this one turned out to be a high capacity industrial foundry casting stainless steel that day. Impressive to see the facility and the quality of output. The owner gave a quote of INR 18,000 for a metal tool and INR 1,000 per KG for the Bronze. Good prices but the setup would take 30 days and they were not able to do the textured finish on the legs so decided this was not the right sort of facility.

They were casting stainless steel in the foundry with 500kg in the crucible at 1510+ degrees centigrade so was extremely hot and all the foundry workers were covered head to foot. The inside of the building lit up with an orange glow. The entire casting crew had

resigned the day before in a union protest so a new team were bedding in. The pressure waxes were cast into metal moulds that looked like aluminium and the post-finishing and coating processes were heavily used and industrialised.

Went for lunch with Franklin to have Samosa's in the old city. Delicious food.

Around 3.30 met up with Isha at the BMW café (Behind Metal Workshop) and took an auto rickshaw to the Gandhi Ashram to find the paper bowl maker. After a while wandering around we saw some interesting papier-mache bowls with a rough white texture and cobalt blue rim. In the shop we saw some vases about 1m high with very tough textured paper. Interesting to see organic forms made from structural paper construction. The Gandhi Ashram was setup up by Mahatma Gandhi and is a not profit organisation collaborating with a range of NGO's including Manuv Sadhna who are on the premises over the road at the main Ashram.

The owner asked to see a sketch of what I had in mind (I showed the designs for the copper utensil makers) and after making a quick sketch to explain more details he agreed to make a prototype with the papier-mache craftsman within 5 days. What a result! This was very unexpected to be able to commission a design so fast. The sketch had a side elevation and three quarters view with just the seat width and overall height. My intention was to give leeway to the artist in interpreting the form and function of the design and to allow the papier-mache process to naturally adapt itself to the design.

Tuesday 27th November

Conducted workshop tutorials in the morning that went well, the next crucial stage will be how the students translate from their chameleon characters into design activity. Once that's well on its way the remaining challenges will be on execution and delivery. There are some very high quality ideas, especially around synaesthesia, fractals. 2.5 d perspective, and radial engineering design.

Went with Naim and another staff member to see a small Bronze foundry in about a 30m sq. room in a market about 4k north of NID. The first time I have been on a motorbike in 20 years and great for it to be an Indian Royal Enfield model. Its an excellent way to see the city and good insight into road behaviour plus much easier to negotiate the narrow back alleyways and a fast way to travel.

PD moulding works is a small brass foundry specialising in aluminium and bronze casting in sand with the loose pattern method. They have a single furnace and good conditions. It looked like they had a good quality product but the foundry was not in operation as it was a festival. They hadn't experience of using styrene foam as master so we went to check out another foundry a couple of kilometres further away

Omprakash Kothari is the owner of All-win sand foundry (AKA Copperking). He's been in the business 29 years starting originally as a Docra casting business then progressing and developing to higher industrialises capacity. His company casts Aluminium and copper alloys. They got into the casting business originally being purchasers of components so then decided to start their own manufacturing of parts as well for more flexibility and quality control.

We watched his casting crew pouring some exhaust fan blades in aluminium, which at 650 degrees centigrade was a lot cooler than the stainless the day before. We also visited his pattern shop which looked to have been working on big diesel engine blocks and also had a state of the art CNC for machining parts in metal, wither tools or components and they had been making some very intricate thin blade dual direction turbines in bronze.

Omprakash looked at the original Iron stools and the new designs and quickly understood the process and agreed to give it a try in Bronze. He liked the idea of a lost wax-lost master and agreed that it would be a very direct process between him and myself without a patternmaker in the middle. Undercuts would not be a problem and this was one of the big liberations of the process. We discussed a separate concept of my designing a frame and he would design some decorative inlay for the seat element but it became obvious that we would have to employ a separate wood carver for the job who would only work to a drawing so the chance to instinctively work together in a personal co-designship would be extended and unsatisfactory so I left that drop instinctively and we focussed on the foam option. It was obvious that Omprakash bought into this process as he had used foam before but not in this way or product type so he was curious to see if it would work, especially the textures undersides. He has worked all the way from heavy industrial through to delicate art-bronze and religious icons and decorative screens. We took a sample of styrene from the patternmakers and went back to NID to source a big block of foam to carve.

Isha texted to say that Gandhi Ashram paper craftsman could meet tomorrow at 1.30 to show me the first lay-up of the paper stool.

We then returned to the NID stores to see if they had a big enough block of Thermacore foam which they didn't so we went on to the purchasing department who gave us the details of the styrene foam supplier at Centre Point so we went off there to make an order. We saw a sample then ordered a 3mx1mx0.5m block to arrive on Thursday morning.

Wednesday 28th November

Met Arvind Chowda the paper artists with Isha. He had brought along a paper template for the stool which needed correcting so I redrew it with an added radius to the top edge, narrower base, more fluting to the base and a deeper depression in the top. The proportion look quite well resolved so we will see what the fully lathed form and the deep orange paper texture do to how the form is read. The paper will be a 1 cm thickness of core material with an outer skin of the recycled cotton paper made at Gandhi Ashram. Its super tough like leather so should wear well. The inside base will be sealed as well so that will make it stronger. Arvind was cagey about how exactly he would make the mould and at one stage told us he would make a solid wooden mould then coat it in a layer of paper and then carve out or to be more accurate remove the wood. This seemed highly unlikely, as the mould was captive so I asked again and he diverted the question. In the end he said it was his secret. We respected this and told him it was fine not to tell us and we were happy for him to keep knowledge to himself. Isha mentioned that the project was research related and he asked if he could reproduce the design once we had left if it looked like it might be successful. I consented to this and would be happy if the results of my research we locally valuable.

I photographed the improved template and then he left. We would see the final tool with one paper layer on the Monday and then he would finish it off by the end of Tuesday. I spoke to Rama later and we discussed that he may have a siding core system, to remove the inner mould.

From 3-5pm gave tutorials to the three German exchange students as they were going to Katchchh on the weekend then headed back to the guesthouse on campus to draw up full size elevations of the casting patterns ready for when the foam arrives hopefully tomorrow morning.

In the evening started preparing freehand full size sections of the stools for carving (hopefully) tomorrow when the foam arrives. Found out that its illegal to sell carrier bags in India, not sure why, it may be for environmental reasons and the fact they block drains when it rains in the monsoon season.

Thursday 29th November

Went to the purchasing office to pay for the foam. Met Sanchari and talked about crafts development and her interest in a research degree or masters and generally craft and development in India.

Re-drew and refined some of the stool elevations realising that I was working in the same Danish drawing style that I had seen in the RCA when a student from original Hans Wegner drawings that go back to the 1950's and 1960's of using multilayers overlapping half sections. It's a fast and efficient drawing system for symmetrical objects that allows easy referencing of planes and drawing space efficiency.

Praveen took me on a tour of the workshops to see the glass blowing and set up for the foam carving. Saw that some of the workshops had small shrines, Praveen explained they were for Vishnu Karma whom he described as the 'machine god' and sure enough his image has a tape measure and tools. Spent the afternoon catching up on my diary and sorting RCA stuff. Waiting, waiting, waiting for the Thermacore that's late in arriving

Huge block of Thermacore has arrive but its much lighter than the sample we saw so have rung up and had it swapped for a heavier grade. Its going to arrive the day after so will use some foam from the NID store and joint it to try and make a sample carving to refresh my skills, refine the new Indian stool design and try and make a castable master.

Friday 30th November

Tutored the translocated group but had some confusions over the rooms so only saw them later on.

Thermacore block is going back to be replaced by a new one that arrives on Saturday so used the last small block in the stores to carve a master. It took 6 hours. Longer than

normal as the top form is much more organic and quite a complex surface to achieve in foam. I have enough left for the second stool if needed. Back is hurting.

Met up with Isha and the wooden stool is on its way down from Bhuj on the overnight bus so have to be up early to meet it at Paldi stop.

Saturday 1st December

I spent the morning refining the stool master for a few hours. It needed some straightening and foam removal to thin down the cast as much as possible for a combination of weight saving and more essential aesthetics.

Dipesh has sent the Lac stool made by Bhavik and Yunas Bhai on the overnight bus from Bhuj so Isha and I are off to Patel travels on SG highway to pick up the package. Its very well wrapped inside a hessian sack with plenty of paper packing inside a card box and is heavier that I imagined.

We brought it back to guest house and opened it. First impression was impressive, the leg section thickness shows off the marbling effect much better than on smaller sections and it can be seen in its full potential. The top thickness is very well proportioned to the legs and it has a solid and robust but not overly heavy appearance. There are a few gaps where the legs join the seat, a few pieces of filler in places, the legs are not perfectly aligned and the seat was not waxed but these are minor observations in what has been a successful result. I had expected the carpenter to use larger proportions, as he seemed to think our dimensions were too small but he worked exactly to the dimensions and he made the final prototype to a good standard. The blends drawn by Matthew in his original sketch design have been omitted, largely as they involved a large amount of free carving hardwood that would have significantly increased the work for the carpenter and he seemed less interested in doing this. The visual result however is simpler and cleaner with a more direct connection between the legs and seat element.

After packing the foam master into the Lac stool box we took an auto over the see Omprakash at Allwin foundry. He liked the master and was very interested to cast it. He first suggested that we test the process with the small sample corner I had made so we went off into the foundry and he worked immediately with the pattern setter to encase the Thermacore test piece in sand supported by an Iron-casting box. About 20 minutes later the aluminium had come up to temperature and one of the hands dipped an iron dish into

the aluminium and poured into the mould, vaporising the Thermacore and taking its place with molten aluminium. Five minutes later the mould was broken open and the test cast was released to cool down after which Omprakash picked it up with Tongs and dropped it into a bucket of water to finish the cooling. He then took the piece into the finishing shop and power sanded the top surface to check the quality and finish which looked OK considering the whole process took about 45 minutes start to finish.

We then retired to Omprakash's office and saw him use a laser pointer to summon a member of staff. He said this was the best way he could find of getting attention as the foundry was too noisy for bells or shouting and his staff could easily see the red laser dots on their clothes or a wall near them. He then showed me his 'impossible cast'. It was three spheres; the inner whole and the outer two were three quarters and made of different metals, the centre being lead, the next aluminium and the outer Bronze. The smallest lead inner ball is the size of a ping-pong ball while the outer was the size of a tennis ball. The lead melting point is around 350c, Aluminium 650c and Bronze around 1000c. This meant that each casting would melt the next one and was effectively impossible to achieve. The solution was to cast the lead ball, then wrap it in a tight sphere of sand and then cast the aluminium around it. Once the aluminium is poured the cast is dug out 15 seconds later and doused in water to stop the lead melting. The aluminium ball is coated in sand and suspended in another hollow mould for the Bronze to be poured in and again quickly dug out and doused with water. Finally the whole loose assembly is cleaned up.

Its clear that Omprakash sees the Bronze stool as a way to impress with his foundry skills and also a way to push his output and expertise. So the final cast in Bronze will be an experiment and risk for us both. In my carving time and effort, and his time.

Arrived back late to an email from Naim saying the Omprakash was concerned about the level of porosity in the Bronze and could I get in touch with him.

Monday 3rd December

Rang Omprakash Bhai and discussed the porosity in the Thermacore foam used for the stool top and he has come up with a technique that he thinks will solve the problem and improve the surface. Essentially any pits or holes in the top surface will fill with sand and stop the bronze from properly flowing. The holes mainly form between the polystyrene balls that make up the foam structure.

Generally reflecting on the collaboration with the Katchchh craftsmen in Nirona and the story of how Umar aided by Dipesh used the Internet to source the candlestick designs. It seemed that this was not a very popular item judging from the limited stock of one that he held and the bells still seem to be the main sales by a large margin.

Its becoming clear that although using the internet to inspire craft has a value and is being conducted, the contextualisation of the new design in relation to the craft culture of the maker, market for the product in another culture or part of the world, integral design features and relationship, representation and exploitation of traditional craft skills require face to face communications.

The more complex issues surrounding the future of a maker's culture and their thinking around whether the emerging digital communications processes formed a threat or opportunity was elusive. Conversations inevitable revolve around gaining access to better export markets, sometimes developing brands and strengthening cultural making roots although feedback in the make it new symposium suggested that the GI (geographical Indicators) trademarks have yet to prove as valuable as initially anticipated. Part of the problem lies in the very long application process and in the complexity of establishing how long a craft needed to have existed for its claim to geography to remain viable. Many crafts have migrated across India, for instance the lac turning and bellmaking originated in Sindh province.

Reflecting on the role of digital communications technologies it's becoming clear that it's the *interplay* of digital and analogue technologies that are providing access to the suffixscapes of cultural transfer through the agency of collaborating individuals. Franklin told me today that my advantage as a western visitor was in being able to try out new approaches and techniques that would be a lot more difficult or take a lot more persuasion for local designers to achieve. Bhavik Bhavchaya also reinforced this by saying it was only the fact that we travelled to see him that persuaded him to try the stool design. So in this is the double-edged sword of the agency of liberating difference from geography. That moving myself to a new location enables the production of new artefact, however it's the difference contained within myself for what I am rather than who I am that releases the new contributions.

The reflective value of the India projects are as useful as the physical output, interviews and processes in being to understand and thinking about the meaning of liberating difference from Geography and how it connects theory to practice.

Tuesday December 4th

Met up with Arvind Chowdra the papier mache craftsman to see the stool prototype before the final layer of paper. He has made the wall thickness 2.5 cm in the centre of the stem and 1.5cm thick in the other areas. The top rim has been thinned to reduce the forces on the corner and the same with the base edge. Its comfortable to sit on and feels very strong. I decided to ask for the top layer of orange paper to be added in a diagonal diamond pattern to compliment the turned organic form. Regular squares would emphasise any asymmetry. We pick up the final stool tomorrow at the Ghandi Ashram.

Arvind has been working in the paper industry for five years after entering it to supply the emerging market for recyclable paper products. He chose this area for its innovative potential and eco-friendliness after working in leather shoes. Some Indian states have banned the sale or plastic bags, presumably to reduce litter and prevent the bags blocking drains when it rains. This has rapidly increased the marker for recycled paper products and he sees this as a growth area. He used a new technique for the stool that comprised of a wooden mould split along the horizontal axis at the thinnest point. He then laid up the paper and pulled out the wooden mould. He then capped the end and thickened the walls to the correct point. The stool takes 3 days to make and costs Rs. 2500 with part of the money going to the Ghandi Ashram as profit.

Arvind's main business is flower bouquets and paper decorations for Diwali. He also makes paper slip boxes, ladies wallets, files, folders, decorative items and chocolate boxes. He makes about 50-60 products in all and often designs his own, He does not use the internet but his son has made a website for him at www.handicraftshop.in. He doesn't think there will be a big local demand for the stool but he does think it could be attractive for visitors and export markets.

In the afternoon I took an auto to see Omprakash at All-Win foundries. After a short wait he showed me the stool that like all castings straight out of the sand (it was till too hot to touch) looked very disappointing. After a good inspection we decided to straighten out the legs that were quite heavily deformed from the sand packing process. After an hour of

heavy duty hammering with aluminium blocks to shield the Bronze surface we had straightened out the legs well enough and he then polished a sample corner that looked quite impressive. The legs can still be hammered as the crystalline structure is probably not fully set and this gives a window with greater material malleability for deformation. Later on it will be more prone to fracture. The top surface looks pretty free from porosity but we will only really be able to tell once its polished. The material he used is Industrial lead tin bronze so a slightly different grade to an art foundry's material.

Omprakash suggested next time to use stainless steel pins inside the legs when the stool is packed to keep them straight. They could then be removed once the pattern is made. This was a good improvement to the technique for casting the stools.

The final stool weighed 9.48kg costing 4,973 rupees with mirror polishing of the seat a further Rs. 1200. I pick it up complete of Friday.

Wednesday 5th December

Went to the bank and deposited Rs. 9700 in Khamir's account for the bellmaker and wooden Lac stool. 2-4pm tutored the translocated workshop group. The paper maker cancelled until tomorrow. Gave lecture to NID students at 6pm as part of their Gaatia programme of visiting lectures. Nearly a full house of 150-ish people and very friendly. Great questions at the end as well with a long follow-on session.

Thursday 6th December

I've been thinking of names for the pieces and decides to call the bronze stool 'Copperking' after the name of Omprakash's other company. Its ideally suited to describe the copper alloy used for bronze of Copper, Tin, Lead and Zinc. The paper stool naturally supports the name of 'Ashram' while the wooden stool can be called 'Nirona' after where it was made and the copper lamp 'Lohar', the name of the ironsmith's trade.

Went to the Ghandi Ashram today to see the paper stool made by Arvind, The results are very good indeed and much better than I had imagined. The surface is even higher in quality and the colour is strong. The final forms have been refined to an elegant level and some of the surface irregularities have been removed. It probably needs a coat of Lacquer to protect the paper.

Isha is ringing Pater couriers so I'm planning to go there on Saturday afternoon to ship back to the UK.

Lots of people were stopping me on campus today to discuss the lecture from last night, about the RCA, IDE, GID and design thinking in general. Had a good conversation during the morning Chai break with Ranjit Konkar.

Met MP Ranjan for a great flowing conversation all over the design world. He suggested looking at the Sotsass's golden eye project from 1986 for a view of analogue cultural transfer. He described seeing as confident possibility. Now I've seen someone else do this, I know I can do the same. The power of memory as a catalyst for action. Recommended Latour on maps and inscription, I have his copy of the paper.

He described how Buckminster Fuller visited the campus and when Ranjan approached him and asked him to talk, he refused saying he was saving up all his energy for his lecture. So the students sat around and just looked at Fuller appreciating his presence. Later on Bucky gave a 3 or 4 hour lecture as was his habit.

Friday 8th December

Went to All-win to pick up the stool but its not even been started yet so I have to go back this evening at 6 to pick it up so its making the schedule rather tight.

Final student presentation went very well, everyone had completed a poster and many had models. The common thread became the liberation of thinking and designing without a clear solution in mind. Made lots of notes. Final output in terms of learning is far greater than the visual outputs, Plenty to write about for the PhD and some very strong projects with translocated material.

Went to see Omprakash and picked up the finals stool, had a quick look at in and a little disappointed though it's not the best place to see it. Then off to see Abhay at the house of MG to show him the results of my making projects, bit of a struggle carrying all those things with me and the traffic was manic busy in the old city. Abhay was very complimentary about the amount of work done in my three weeks. He likes the lac stool and has offered to stock it in his shop but need to make the legs unscrewable. He offered a free residency at the house of MG to develop new products and was especially interested in a huge new stone CNC company on the edge of Ahmedabad who cut stone for temples across the world. They want to do something with their spare blocks and can cut pretty much any

shape. Abhay is interested in small accessories to sell from the shop in stone and related materials. Is also interested in the Starcke crafted chair or plastic products idea. Suggested July next year or the year after as a possible time to come over.

Went back and then out for dinner at Praveen's. It was lovely to meet his family and cook pasta with them. His house is full of fascinating things and he recounts the huge amounts of information about the changes he has seen in his life and food rituals and consumption in India. He talks about a Jain monk friend of his who sells beautiful copper utensils and serves food at his shop a couple of kilometres away. He comes back to see the bronze stool and I can finally appreciates that its much better than I first thought and has fulfilled the potential I always hoped it would. Recounted the process of the bronze being so hot that it turns the Thermacore into gas before it even touches it. So the molten bronze is chasing gas through a series of sand channels to make the final form. It's a serious weight at 10kg but has a timeless quality as well.

Saturday 8th December

Up onto the roof to take photos of the stool before the courier arrives. Its looking great in images. Showed Isabel from downstairs the stools and she also likes them and along with Abhay is very enthusiastic about the Luhar lamp and its future/past nature. She calls it the "metropolis quality" after the film.

Patel couriers arrived, weighed the stools and took them away for shipping. It costs INR 8740 so more than I expected but they were way too heavy for my suitcase and will be in wooden boxes so well protected (hopefully).

Lunch then final packing.

ENDS

H2 – Translocated making notes on general findings

Evidence of translocated making in craft activity

Translocated making as a design method is supported

Agency of the individual and human-to-human connection reinforced

Analogue aspect remains a significant factor

Designing research

Digital media acts as an accelerator and enhances connection but has yet to replace physical presence. Demonstrated by the effort comments of Umar and Bhavik

Using the Internet for communicating with new clients

Using the Internet for sourcing ideas

Crafts agencies and craftsmen mainly consider the Internet as an economic and communication tool alongside simple form sourcing.

Evidence of multiple layers of geographical liberation of difference

Difference as a phenomenon seen in action

Workshop

Radical change in design thinking process claimed by participants

Chameleon characters acted as permission givers to explore new ideas and embrace a process that was not a linear problem-solution type.

Mind body and soul elements enabled thinking of how remote cultural elements could be adopted by designers in new forms of creative influence.

Supports the idea through a collaborative design activity of chameleon characters as a design approach to successfully liberating differences and influences from remote geographies. Possibly even a simulacra as reinterpreting an interpretation. Some influences are already to an extent liberated and translocal. They have lost their connection and meaning to a single space.

Researching through design

Copperking successfully extended translocation into a third continent

Developed a non-anticipatory approach to generating design ideas

Deliberately did not design anything or draw before going, relied on spontaneity and local influences

Wanted to design within the environment but brining my skills, not designs.

Reduced specifications down to bare minimum to allow space for artisans and the environment to impact and guide the final forms and functions

Open to a wide range of making processes in India and explored many

The communication of trust as a motivation to engage. Showing pictures of previous tools

Understood Heidegger's thingness in action by observing the work of copper utensil makers using an iron stave to form water containers.

Questions

Outside of design skills how to describe my own expertise in facilitating these projects.

Think about how the results describe the relationship of the theories of cultural transfer.

How to find a position from which to critique the designs so they have value to all.

H3 - List of craftsmen and contacts in Ahmedabad and Gujarat

Prof. Praveen Nahar – Head of ID NID

Prof. Rama Krishna Rao- Deputy head of ID

Prof M.P Ranjan – NID & CEPT

Krishnesh Metha– NID doing a PhD on Synaesthesia

Isha Pimpalkhare – Introduced by Gaurav and helping me find makers across the city

Abhay Mangaldas – Owner of house of MG and helping me find contacts in the city

Naim Shaikh – Co-designer with Praveen, owner of 4 Square and helping me find bronze foundries plus exploring the city.

Sanchari Mahapatra – Outreach programme and textile crafts in Katchchhchh

Shimul Mehta Vyas – Organiser for the crafts symposium

Franklin – DVC coordinator an helping me with foundries as well

Pavish Soni – Helped book the Bhuj tickets

Meera Goradia– Head of Khamir crafts organisation, accommodation and retail

Satish – Looking after Web and marketing for Khamir

Dipesh Bhai – Local expert on craft families and traditions, also a fixer.

Umar Husen – The son of Husen the master copper bellmaker and making cairn's light.

Bhavik Bhachaya– The son of a master lacquer turner and making matt's stool

Lokesh Ghai – Manager from Kala Raksha in Bhuj, invited me to the fashion show and recommended a driver.

Yunas Bhai – The carpenter from Bhuj making the stool top

Dilipsinh Chavada – Gandhi Ashram manager

Omprakash Kothari – Owner of All-win foundry bronze

Arvind Chawda – Papier Maché Craftsman

Rupesh Vyas – Head of IT

H4 – Crafts and manufacturing processes researched

Copper bellmaking in Nirona Katchchh

Lacquered wood turning in Nirona Katchchh

Leather shoe making near Bhuj Katchchh

Pottery at Khamir near Bhuj, Katchchh

Copper Utensil making in Manek Chowk, old city market Ahmadabad

Basket weaving near Manek Chowk, old city market Ahmadabad

Slotted metalwork near Manek Chowk. Old city Ahmadabad

Bird Cage making on Mirzapur road Ahmadabad

Stainless Steel lost was casting near Sikandar market, Ahmadabad

Bronze and Aluminium sand casting at Shahibaug, Ahmadabad

Paper making at Ghandi Ashram, Ahmadabad

Appendix J– Research Instruments

J1 – Indicative participant questionnaire in English

Q1. Do you use digital technologies like the Internet or your phone to get ideas for your work and how do you find out what other people are designing and making?

Q2. Have you heard of anyone the internet and digital media and incorporating the inspiration or idea into their work. Can you describe it?

Q3. Have you ever seen anything on the internet that has changed the way you design or create, if so can you show me and explain?

Q4. Has it changed the way that you understand your work?

Q5. How do you think your work would be valuable and influence someone in another region or country, would you be happy for this to happen?

Q6. Are you happy that the Internet and digital methods may combine a lot more new ideas into your work and also allow others to combine your work into their craft?

Q7. Do you think the influences you receive from the outside world could affect your work in a negative way?

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Note: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (telephone (02) 9514 1279). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

J2 – Indicative participant questionnaire in Hindi

संकेत प्रश्नावली

1. अपने काम के लिए, आप फोन और इंटरनेट की तरह तकनीक से विचारों का उपयोग कर रहे हैं? आप दूसरों के निर्माण और परियोजनाओं के बारे में कैसे पता लगा रहे हैं?

2. क्या आप इंटरनेट पर उनके बारे में सुना है, जो अपने काम में उनकी प्रेरणा का उपयोग कर रहे हैं? क्या आप इस का वर्णन कर सकते हैं?

3. आपका निर्माण और विचार क्या इंटरनेट पर देखने से प्रेरित है? यदि हाँ तो आप मुझे दिखा सकते हैं?

4. काम के बारे में आपकी समझ इस से बदल गया है?

5. तुम्हें क्या लगता है संभावना है कि आपके काम अन्य देशों में महत्वपूर्ण होगा? यह आप के लिए ठीक रहेगा? आप इस के साथ खुश हैं?

6. तुम्हें ख़ुशी होगी अगर इंटरनेट अपने काम में और अधिक विचारों को जोड़ती है? आप इसे पसंद करेंगे अगर दूसरों को उनके शिल्प में अपने काम का उपयोग होगा?

7. क्या आपको लगता है कि अपना काम बाहर के प्रभावों से खराब हो जाएगा?

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Appendix K – Interviews

K1 – Matthew Kavanagh questionnaire

[Signed ethics form]

1. What did you understand of the design process for the Nirona stool?
2. What did you understand of the creative opportunities of the making processes from the lacquered wood turners?
3. How did your previous experience in working on remote making projects help you?
4. Are there any particular skills or methods you have adopted over the years to ensure success?
5. Review the original drawings again and discuss.
6. (Show stool) What do you think of the outcomes:

    - Do they match your expectations?
    - What is surprising about them?
    - What is expected?
    - How is it different from your vision?
    - Where do you see differences of interpretation?
    - The lack of dimensions threw up some challenges for the makers, were you happy that thy made up their on mind on sizes and was this part of your plan?

K2 – Matthew Kavanagh interview transcription

Nirona Stool Interview

Royal College of Art,

London

February 20th 2013

Hall 1: I think the first thing I want to ask you is what you understood of the design process for the Nirona stool?

Kavanagh: You wanted to get a design that you wouldn't see, so that you could observe the interpretation of the design using the maker's craft skills and to then oversee how that changed the design. And also to see whether their years of experience of crafting an object would influence how they interpreted it into something else that maybe had a different output.

Hall 2: Do you think that changed your way of designing, do you think you've designed differently, because of that request or of that kind of end output?

Kavanagh: Yes, I think so. Well, having understood a little bit about the process, because I think you indicated that the output, or the skills, the ranges of skills they had. And from my experience of working with people in different places, there was an element that I left to a little bit of interpretation in the design in the hope that they would see, from the design, what my idea was, and leave enough room to improve on the areas that would overlap into their skill set. So I used sketching instead of technical drawings so that I could give a visual impression of what it was meant to look like as a finished object, and enough detail in terms

of scale, proportions, and end up actually with just a single dimension height, so that they can make choices about what was possible in their skill set. I guess that's a learned process of working in factories where you try to play to their strengths and harvest what they do well and include it in the design process.

Hall 3: Would you say that this is a technique you would use with local factories or distant factories or do you see much difference in how you respond depend where the factory is in relation to you, or where the makers are in relation to you?

Kavanagh: I guess the biggest thing is in the purpose of the design as well because what you're effectively doing is giving over some of the creative direction to a maker and in most scenarios where your employers are creative, that's not your role. Your role is to control the creative output for whatever reason the brief dictates, so that you manifest an idea that reflects the intention of the brief and therefore use your knowledge of making processes to select accurately what is possible and make those decisions yourself. In this particular exercise it is more of a position of trust in that you are trusting to let go of that and enter a collaborative area in some of that creative process. In a way in resonates with me – I think a lot of designers will find that quite difficult to do but I think, having worked in a design partnership where we do that quite a lot, back and forward with the creative ideas, there's already an ability to let go of some of the control issues, and also from experience of working with factories you get the best out of overall project when you can really leverage the things they know that you don't. And quite often, even in a full-on commercial project, I would go to, you know, whether it be a retail interior or whether it would be a sign or a piece of furniture, I would design even in technical drawings down to a level of design intent so that it leaves then a gap between what the intention is and the production detailing for that manufacturer to take

over and fill in the blanks. I guess this is just drawing the boundaries a little bit closer to the creative process in this exercise.

Hall 4: So when you talked about leaving this space for a kind of, interpretation open in the materials that you provide to a maker, what do you think you get back, because normally we give up something in expectation of something being returned, so what do you think you get back as a designer in that situation?

Kavanagh: Again it depends on the actual product or the actual project. Sometimes it's efficiency that leads to cost saving, and actually then bringing it into the realm of it being an achievable object to make. So if you are making an object that's scaled into large volume products you want to make sure that you leverage cost savings along the way. If you stipulate a process that's very difficult to manifest then you have a position where you're increasing the costs through your own vanity as a designer rather than looking for the best, most appropriate, design solutions in the situation.

Hall 5: Okay, that's one kind of efficiency, how about the kind of creative angle, essentially you're giving up something by offering a bigger creative envelope for the maker to interpret. What do you get back? You've just talked about getting back efficiency in terms of the manufacturing.

Kavanagh: Yes that's the first one. In objects where you're engaging somebody and you're, well actually, in all making situations, there is a skill set that is honed by the nature of the fact that they're doing this job and are still doing it and making a living from it and have skills in it. As a designer you have an appreciation of a large number of manufacturing techniques through the years but there's always more knowledge in the

hands of the people doing the making. That area can develop more in touch with the manufacturing, in touch with material, and a sensitivity to the making process that makes it a more essential object. It's a honed process of, on one side, efficiency through use of that material, so you know you've got something that is sometimes efficiently using material to be the most either ethical or maybe a beautifully neat use of that. I guess what I mean is that there's a beauty through achieving a central making. Like rationalising down and using the most efficient amount of input to create an object and often as a designer you don't work round that. The other thing is that there is a making, there's often sensitivity to the materials in the process of making that you could leverage a different way. You know, like if you give them a problem to solve, they don't always solve it the way that you would, and they can achieve things that you can't quite extract from that.

Hall 6: So after seeing the making processes of the lacquer work from Bhavik that I introduced to you, what did you see as the creative opportunities?

Kavanagh: I saw someone that had developed this beautiful technique of spindling, and created these wonderfully turned patterns of material that had this lovely high gloss lacquer colour. I was hoping to combine that really beautiful design element with an object that put it into context and in a way it provided us, you know, it's like precious, in the value of those items, and I wanted to have a design that could maintain the use of that preciousness of that design but be a useful object. So it had to have an area that was more worn, an area that was more beautiful and I think the stool should seem to have this kind of like, this lovely pebble-type top that was obviously constantly being used and touched and firmly rubbed down and almost like a pebble formed through use. And then this very delicate sort of like colourful high value legs that extruded out of them, so there was this nice tension of those

two elements there. And then the design challenge was as well: How do you link these two things, how do you create a meaningful join, where one provides to the other? And there were a couple of different approaches, one was that it appears through the top and you saw the thickness of the legs going through, the other was that it blended out of the seat and created that join.

Hall 7: Okay. You talked a little bit about leaving space for interpretation, just one dimension for the height allowing more interpretative opportunities for the maker. Not doing technical drawings, again, there's a bit of space to interpret forms a bit. You've also produced a three-legged version, and a four-legged version. What was your thinking here..?

Kavanagh: Well I think it was giving opportunity for different levels of.. I wanted to give enough breadth for there to be solutions, depending on the skill level and the interpretation of the way of making it. I mean a three-legged chair is always going to be stable, you don't have to worry about it, all the legs the right length for it to sit correctly. And in some ways, if you, you know, there is a skill set to assemble those elements that it's missing, you could still result in a stable stool. The four-legged one can have a slightly higher level of skill requirement involved in it. There were four legs so they had to be assembled in a way that those four legs sat stable. There was also a real challenge in the way that the seat then had this three-dimensional carve that then blended into the legs and for me that was probably the most key form element of the stool that would be difficult. It was a very understated design element but one that was probably the most difficult to achieve out of all of them because you're carving from form from a block of wood, but it's in these details that, you know, as a designer, you recognise the things that could be done differently and any displacement that's done differently. The other thing, the three-legged stool there is this introduction of a

tension through the legs piercing the top. Also with the legs because this was a skill, you know, a key part of the craftsman's skill, was this turning. I tried to present a couple of quite different ways of working with that that introduced bands and in the three-legged stool introduced a high degree of carving so that you got much more regular.. There was a very tapered level of carving that was probably another level skill, might have been a challenge or may have been re-written by the craftsman.

Hall 8: Okay. We talked a little bit about the timber that was available for the top as well so you sort of opted eventually for this one-piece carved solution.

Kavanagh: Yeah. I quite like the idea of the contrast of the natural timber joined to the legs to really allow you to understand that the legs are also timber. You know, they're part of the same material set, but are treated in a very different way, and the toes of the legs, the timber then are the two elements of the chair that are in contact with the ground and the person and therefore remain timber. I wanted to have that slightly curved seat that reflected its use as a chair, an arse imprint shape really on it.

Hall 9: Excellent. Okay so thanks for that. I think what I'd now like to do is to show you the stool and get you to give me your initial impressions. So you've seen photographs but you haven't actually seen the finished thing close up physically. [AH unwraps the stool and places it in the centre of the table]

Kavanagh: Well, proportionally it's really perfect really. I think it's a very stable stool, it seems to be roughly about the same height as to what I

suggested so it's quite a low perching stool. It's the right shape for your arse. You know it kind of, it's not too bowed, it's not too curved it's not too small. I think that works really nicely actually. And it's very soft, it's got that chunkiness to it to give it real value and it's got enough of a radius to make it.. You know to come towards making it look.. I can imagine it's hand-carved isn't it, it's not machined? It doesn't..

Hall 10: He did mention..

Kavanagh: Did he route it?

Hall 11: He did mention routing yes. And he did mention also making a jig for the legs to position them as well.

Kavanagh: Yeah. So I mean it's, there's a little bit of a hint of a flat on the outside but it's generally bullnosed all the way round. You read it as a fairly kind of chunky sufficiently radiused edge. What I was really hoping that I wouldn't get, and I didn't, is like a mean radius running round a kind of you know a piece of flat timber, you know it's exactly… You know so..

Hall 12: So it looks like a carved volume rather than a solid, which is how the edges were rubbed off.

Kavanagh: Yeah, and he hasn't got the blend which obviously would have been a carving challenge, and a little bit of shakiness [referring to the filled split in the grain on the underside] and a little bit of a, you know.. I mean you don't see it when you're sitting upright but the join of the legs to the seat itself is a little bit untidy.

Hall 13: There are some gaps aren't there. Some filler in that as well.

Kavanagh: Some glue where it's joined which is one of those details that it would have been nice to see really resolved. But that's the kind of.. Because the trouble that's gone into the spindling, it would have been nice to have..

Hall 14: Just seen a completely clean finish at the top.

Kavanagh: Yeah, just to continue that into the chair. And he's obviously missed the reference of the wood at the bottom of the leg because that was one of the ideas that ..

Hall 15: Was that it wouldn't actually..

Kavanagh: You'd have wood on wood for the attach points. But I think..

Hall 16: Well also I guess for wear as well because if that sat on the ground then obviously you don't want to have a painted finish because it's going to chip or damage so a wooden finish is going to age more gracefully. That's a good point to raise.

Kavanagh: Actually the wood is quite nice. I like it, it's – I've no idea what it is.

Hall 17: Well it was called "bubble wood" and I've no idea..

Kavanagh: From the bubble tree?

Hall 18: From the famous bubble tree yeah with the bubble fruit. I have got no idea what it is in real life, apart from the fact that it looks like a tropical hardwood it's vaguely in the teaky mahogany family but apart from that I'm not.. Your guess is as good as mine.

Kavanagh: Yeah and I like the legs, I think.. And this is where the spindle guy's (Bhavik Bhavchaya) has obviously come into his own and taken complete control of what that pattern is, and I quite like that actually as I never would have drawn that section in the middle. I mean by contrast the way I drew that with stripes, it doesn't do justice to what he was good at, and actually I was being indicative and quite straightforward hoping that he would then turn a job like that and he obviously has.

Hall 19: Which he has.

Kavanagh: And I like it.

Hall 20: He said actually this was the first time he'd used those colour combinations, that's the first time he did use this yeah.

Kavanagh: Was it?

Hall 21: Yes and most of his turning is on a smaller diameter so it's quite interesting seeing it on a larger diameter compared to the spoon

sample that I gave you which is probably about a third of that diameter. So there's more colour surface area to appreciate the actual work that's gone into it as well.

Kavanagh: Yeah and actually in a way he's tidied up the aesthetics of it as well, and in the sketch there's a little bit more tapering going on, on a leg, and also the seat, and he's gone for a slightly blunter kind of, perhaps a.. It still tapers, but less, so the bottom of the legs and the seat top have this chunky feel which I like actually I think he's most, I think it's a bit better, it's an improvement. I think I can see improvement in the overall proportions from the sketch, and particularly in the leg. He's not overdone the striping. He's created that wide band at the bottom and then this kind of focus around the block which gives it a nice balance actually. It's a nice separation of.. And perhaps, you know, that compensates for the blend at the top, you know, that he's taken it in layers rather than this tapering even leg going into a sort of different..

Hall 22: So you've actually answered a lot of the questions I was about to ask you organically as we've got through. One thing I'm quite keen to ask you is you've obviously introduced a difference into his environment by asking him (Bhavik Bhavchaya) to make an object type that he is not familiar with and so on. So what do you gain back, you know, what, if there's a difference going from you to India and there's.. and I've just come back from India to here so, what do you bring out of this that's useful to you in your practice or maybe you know even reflecting on the test of the information you gave him versus what was manifest in the object?

Kavanagh: Well I think it's almost quite fun to have creative interaction. I think you get this, it's quite satisfying to co-create an item in that way so you know there is creativity flying both ways which is nice, it's like.. From

that point of view it's interesting. I think the other thing is you always kind of, you're always surprised by what you learn. You never really kind of fully anticipate what the other person's gonna add to it, and you know the legs, is that a surprise to me? I understood that this blend might go because I know that's the half of the cost of doing it, it's a very wasteful piece of wood. And then you have to hand carve the blend to meet the diameter of the legs and it reveals the connection quite difficult to resolve. The legs, you know, angle and lengthwise all connect with the joints. I kind of was expecting that not to go well. But I didn't expect the legs to look the way they are, so that's kind of a rewarding process really. I mean in terms of rewards of commerce and opening trade and things like that, I don't know. It's difficult to image how that gets harvested but, because I think when you go beyond experimentation and into productionsing something for sale, the article is going to end up being paid for and sitting in the home of people who value it, it's a slightly more fraughtful kind of process because you know you have to make sure that it's.. It's difficult to guarantee that people are going to want to buy it at the time.

Hall 23: I think it's a quite interesting comment about the legs and the fact he's proportioned the legs appropriately to the thickness of the top.

Kavanagh: Yeah. Which was a result of him carving it with a router probably in something else.

Hall 24: Well the problem I should point out is that when I presented the designs to Bhavchaya he said he could immediately do the legs but he couldn't do the top. So he suggested that we use a local carpenter to do the top so the legs and the top separated in the production. So a local carpenter made the top.

Kavanagh: So it spawned a further collaboration.

Hall 25: It spawned a further collaboration but it wasn't what I was expecting actually. So the carpenter wanted to make the top 5cm thick and 45cm wide. So there was a point where I had to refer him back to your drawings to avoid these kind of like tomb stone dimensions and I kind of saw to try and get him to see the proportions that you were using, a 350mm high means that the seat isn't going to be more than 350mm 'cause it's roughly squared that it's probably 320mm, so, you know I had to reintroduce some of these kinds of ideas. But what I kind of realised is that Bhavik's skill is actually, he turns things so he can paint them. So although they're turning is good in his practice actually it's the lacquering that's the skill. So his skill is actually just the surface covering. Everything else is the ground or the body for that surface covering. So I think for him to have the skill to proportion the legs to the top and to understand all those dimensions and get it actually very right, it's kind of quite interesting actually.

Kavanagh: And that's often the bit that you don't understand. I mean I think it's very difficult from looking at an object to see where the skill is because, yeah, it can be hidden in other ways can't it.

Hall 26: So interestingly he's immediately understood and got the drawings you know within a few seconds he immediately understood and he talked about making the round top because he had a chopping board he used to chop bits of food on. He could be able to go and buy one within the market but it was made of plywood, so it didn't look amazingly good and he realised that and he suggested we use a carpenter because he believed more in this design and he thought this had the high value.

Kavanagh: Yeah.

Hall 27: So he could have made the three legs himself but I think we'd have been looking at a very different object and he, you know, I reflected all his questions back to him, and said, "Well what would you like to do? What would be the best output, what do you think is the most interesting?" You know, so by constantly doing that he eventually chose the four-legged one and, so, problem solved, the situation of how you carve the top really.

Kavanagh: I mean I like the way he looked at the legs and you know he's obviously seeing them in their position of use. I imagine he makes spindles for things like, cots and four poster beds and, things like that does he?

Hall 28: Yes his family started off making the very low four-poster beds that you see in India, with a woven mattress. They used to make one leg, take it to the market, sell it, buy food, and come back to make another leg the next day. And they made one leg every day, and that's how they survived for quite a while. Though recently they've been making a bit more money and they've started making other kinds of objects. There's a little bit of tourism in the area as well so people started buying artefacts from them.

Kavanagh: So he's probably quite used to seeing it in the context of furniture, which might have allowed him to be able to understand how that should behave in the chair?

Hall 29: Well sort of, I mean the only furniture he has in his house is the four-poster beds, no chairs at all, there's no tables. The houses in a village

like this would have three or four houses, five houses, and they're all the same, so he certainly wouldn't recognise, wouldn't be familiar with, say, day-to-day seeing lots of kind of turned wooden chairs with backs and that kind of object. Most of his work is, he makes these small boxes which he calls, "Boxes of secrets," which are small timber boxes and he makes carved wooden spoons and chapatti rolling pins so that's pretty much all he makes. It's interesting because I think you know more complex bits of furniture are less in his familiar territory actually. And he mentioned he thought this looked quite heavy and was from a group of nomadic people so might be a valid criticism.

Kavanagh: I can imagine so.

Hall 29: He was talking about making another version that was demountable so made from lots of spindles and then with a soft seat and you could take it apart, and take it with you. But he said he wouldn't use this at home. He would sit on the floor. But he would make another one to show the other people coming along to see his practice.

Kavanagh: Hm.

Hall 30: So what do you say is the most surprising thing about this?

Kavanagh: That it actually looks closer to what I was imagining than I thought actually. For some reason I kind of was fearing the worst and hoping the best.

Hall 31: What was the worst thing you feared?

Kavanagh: Well I just thought the proportions would be further out that maybe the top might be flat.. Because people make value judgements based on their own experiences and as a designer you attach value to details of design, and as a maker you attach a different value set, and people with different cultures attach different value sets. Like you're saying, you know, to him it looked a bit heavy, you know, he doesn't see that as a valuable thing. And going to giving an idea without much explanation to someone, saying, "There, you interpret this now," gives them the freedom to not only in the way that they think about making what you've drawn but how they assess the value of it along the way. So I would image it would be a lot lighter, thinner legs, that kind of stuff. Or the material, or the finish not as good.

Hall 32: So if you did this again, what would you change?

Kavanagh: Well I think now, understanding the.. I think it would be interesting to see if, well, now knowing his skill set, you know, it's about the decoration, not about the forming.. Although a lot of that was evident and I guess part of this was pushing it slightly anyway, perhaps I would look at designing something that was more within his skill set, you know.. I don't know actually, I'm not quite sure what I would change. Perhaps I would not try the join or do something else to give it value in a different way. I think it's to kind of figure out what they're good at and what they, you know, what works.

Hall 33: So would you narrow the scope of interpretation or would you broaden it or would you maybe give him more or less vision in terms to work with?

Kavanagh: If I was going to work specifically with him again on an object?

Hall 34: Yes, lets ask that one first first.

Kavanagh: I would have a better understanding of where his areas of comfort and skills are and I would not be more prescriptive but I would present it in a way that is easier to read in those ways so that he can relate, you know, knowing what he relates to a bit more now. I would probably push, you know, but try and emphasise that side of it, so that I can still work in a way he feels comfortable and can add value to it. But not be prescriptive because I think clearly with this bit I couldn't have told him how to do that. But the areas that are challenging to him may be in my, sort of, what might come back.

Hall 35: So would you say that was the most surprising thing?

Kavanagh: Yeah.

Hall 36: So it's the leg, the leg patterns and detailing and his interpretations were the surprising element.

Kavanagh: It's the level of skill, I mean this is actually it's very, very beautiful and I've never seen it anywhere else. I've never seen something of that kind created in the way that he's done. And it's not something that I, as a manufacturing process, that I know inside out.

Hall 37: They are the only people who do that.

Kavanagh: I don't think I could have contributed to that process, as an element of design, that decorative detail isn't something that I could add value to really, so giving him the free reign with that is probably the most, it's likely to give the best results. And then it's a sliding scale towards like form mongering and carving and your knowledge of manufacturing and scaling it down from machines to chisels in your head. It's more easy to understand how it's going to be made and then it's just a matter of how skilled the person is.

Hall 38: So now we've talked through this and I've asked you all the main questions I suppose maybe I'll return to an earlier one which is, having spoken about it now, how do you think this differs from say standard commercial collaboration where your designing say for a Japanese factory, what the differences are?

Kavanagh: I think the output is more critical in a commercial situation. It's more important that it's resolved to a level that answers the brief and this is more of an experimental process. So if this were stage one, you know, furniture manufacturing process for a big commercial organisation, you would then concentrate on the areas that have not hit the value criteria in the brief and find a way that they can comfortably and efficiently produce those. So, you know, have a leg joined to the top, you know, how do we find a repeatable way of that looking at every detail. It might not be the blend it might have to be another way of joining it that creates a value object. Because it's all about detail, it's a product, object design detailing, but then makes it a lovely object or not in the case of that situation. So I suppose you could go in at this level but you'd have to have the knowledge that it might not, it might need a couple more passes. I think there's a little bit of that goes on in like if you work for an Italian factory, if they allow you close enough to do that,

and often they don't.. And actually in my experience of working in commercial factories the role of designer is almost one of bringing them production process in a resolved way. You know it's like, "Here is the design and by the way I've solved all the production processes for you." Because there's an unwillingness to have an open-ended development in the factory of the idea and in a way that would add value actually, which is a shame, and I think that's disappeared in a lot of the major relationships.

Hall 39: I suppose I've got another fuzzy question, it's one I'm not actually sure if I'm going to phrase it well but it's something to do with future relationships with makers in different parts of the world. So, you know, if we, say, wanted to maintain some of these rarer craft practices and that meant that we needed the more open type of collaboration, what's your views on that in the sense that obviously this is a unique craft that makes the legs and the space you've given in the project has allowed that to happen in the way that you didn't expect, which is valuable. But outside of a research project do you see this as being something which may be a design method or a collaboration approach that has a value or could go further?

Kavanagh: It could be. I mean I think the difficulty is it's no longer, it requires commitment on both parties really, or is a little bit open ended. You know like there's someone has to have the expectation that it's not going to be right the first time, and be willing to pay for that time, and money and the material, to go through a process that might not resolve anything. Whereas if you, you know, in a commercial world you pay someone a fee to produce an item to a standard within certain expectations and it's less creative. But it's less surprises. I don't know I think it's more interesting and if you have a mind to be collective, aim at not.. You know it's almost like you can park your ego as well, which is another thing. I don't think too many people do.

Hall 40: Yeah that "park your ego" maybe suggests another question which is how do you feel then about the authorship and about the kind of… creative ownership. Where do you feel that lies?

Kavanagh: It's a fuzzy line isn't it?

Hall 41: Do you think it's important to think about that?

Kavanagh: And I think you know in a way if you look at kind of, if you move towards crowd sourcing as a means of making stuff, which seems to be the future in a lot of ways, it doesn't leave room for ownership. You know there isn't ownership that's left 'cause there are too many people claiming part of that. I think ownership is one of those things that perhaps is an old fashioned notion in the terms of it's a means of being remunerated for your work. If there were a different model then ownership perhaps wouldn't have the value that it's attached to at the moment. I don't know. I'm not sure actually.

Hall 42: Is there anything else you'd like to comment on or mention or?

Kavanagh: I don't think so. Has that given you enough to go on?

Hall 43: Oh yes. Yeah.

Kavanagh: Have I just written a thesis for you? (Laughter) Because you've got to then put me as co-initial it on that, as like co-author (Laughter).

Hall 44: I just want to thank you for the sketches and for engaging, especially for the interview, you've given us some fantastic material actually there's a lot of very useful things in there I don't often get.

Kavanagh: Yes.

Hall 45: Well thank you that's.. I think we're probably both quite surprised actually by the output.

Kavanagh: Yes, yes.

Hall 46: I certainly was very pleasantly surprised, you know. I suppose because there's quite a confident output.

Kavanagh: Yeah it looks proportionally..

Hall 47: It's a confident design.

Kavanagh: It looks really nice proportions. You know, it looks like a good confident chair. In my mind the view of what a stool would be like and then it's got that striking leg detail.

Hall 48: I suppose one of my observations in terms of visual language was the legs appear very much to come from Bhavik, his skill set. The top looks

more contemporary, it has a more of a slightly Europeanised contemporary..

Kavanagh: Yeah, hasn't it.

Hall 49: So I think that's quite an interesting insight, not a disconnect but there's a tension between both of those.

Kavanagh: Yeah, yeah. Which is why I was interested in seeing you know how you connect the two. You know, what is it that you use to bring that together. 'Cause that was clearly his domain, and wasn't something that I saw in anything that you showed me and in my mind would be the bit that added something that was beyond what he was doing.

Hall 50: It's an interesting question about whether you know that junction, that connection point, which is the connection between his craft and skill and the contemporary European top was missing and so the connection is much more abrupt.

Kavanagh: It is yeah.

Hall 51: The reason I did that was practical but in a narrative sense it does describe those elements it gives you a stronger sense of the difference.

Kavanagh: Yeah. I mean lovely that's not an ugly piece of wood. You know it has a little bit of sensitivity in the way that it's clearly carved because it's got

curvature. You know it's not a flat sheet which would have made it have less value in the eye of the beholder. You know it's very..

Hall 52: So even though it's simple, it's got craft.

Kavanagh: Yeah definitely.

Hall 53: Thank you Matt.

Kavanagh: Maybe more than that actually because you know you can tell him that.

Hall 54: Yes, yes.

Kavanagh: That would be..

Hall 55: Well I think that this shaped top, the pebble top, is a more of a definition of craft whereas the round top can be more machine factory in a sense.

ENDS

K3 – Cairn Young interview questionnaire

[Signed ethics form]

1. What did you understand of the design process for the Luhar lamp?

2. What did you understand of the creative opportunities of the making processes from the copper bellmakers?
3. How did your previous experience in working on remote making projects help you?
4. Are there any particular skills or methods you have adopted over the years to ensure success?
5. Review the original drawings again and discuss.
6. (Show lamp) What do you think of the outcomes:

- Do they match your expectations?
- What is surprising about them?
- What is expected?
- How is it different from your vision?
- Where do you see differences of interpretation?
- The lack of dimensions threw up some challenges for the makers, were you happy that thy made up their on mind on sizes and was this part of your plan?

K4 – Cairn Young interview transcription

Luhar Lamp Interview

Clements Yard Studio,

South London

April 25th 2013

Hall 1: I wanted to ask you first of all what you understood of the design process that we discussed for making the lamp and if it was a familiar process or slightly different to ones that you'd worked with before?

Young: Well it's very different because I think the whole exercise was to try and channel the design in to something that was realistically feasible, given the guy's (Umar Husen) skill set, and even looking at the images of his work that you showed me that he'd already been making, they were very specific, very repetitive elements, very few of them in fact. So very few different forms were being generated, although the techniques seemed to be elastic enough to be able to incorporate these things.

Hall 2: Did you find it easy enough to understand his making process with just some photographs and my description. How did you, I suppose from your point of view, see the creative opportunities in the objects he was making and the things that your interested in and designing?

Young: First of all, the question of whether or not it was easy to see his working methods, yeah pretty much, because they are quite self-evident in what he's doing. Like I said before, the number of pieces that he makes is quite small, so quite quickly I could get a grasp of what he can do. Actually looking at the drawings now, it looks like this might have been, I think, quite a stretch for him.

Hall 3: You're about to find out.

Young: Yeah. But I guess it's all about managing expectations and understanding that you've got somebody who's got a real .. what's the word? It's a traditional craft. Those types of crafts often are very inflexible, in general. So my expectations were not high when it comes to getting him to do new things, but quite high when it comes to trying to achieve something within his skill set. So whether or not that was properly anticipated, that'd be really interesting to see.

Hall 4: But you've worked on .. you have this expertise of working for clients like Koziol and Rosenthal, and in a sense you're based in different geographic locations, so do you think you've got expertise in that kind of skill that transfers to this way of working?

Young: It's hard to say because in the instance of the German companies there's a lot of communication back on forth on each individual project, whereas this one was pretty much a one step back and forth. So, there was no opportunity to get feedback from the maker and then perhaps make some suitable adaptations, which I'm sure there could've been, to optimise things for his capacities. Whereas that's incorporated automatically in the (commercial) process that we're more familiar with and you expect to have lots of problem solving and adapting stages. So that's the real difference, trying to anticipate everything in advance is probably not ideal.

Hall 5: Seeing the drawings again now, do you think you would've changed anything in retrospect without having seen the final design yet?

Young: Yeah. I mean just looking at that component or these two components (Indicates the base and lamp shade), they look pretty much machine made, laser cuts and things like that and I wouldn't want to have to do that with a fret saw or snips or anything like that. So this is where it's a perfect example of where it would be nice to have a discussion with the maker and have him say: "Why can't we just have that flat and turn up some tabs", for example, which I think if I was him I would probably want to suggest. So that's the first impression looking at these things again.

Hall 6: Okay, well I'll get the lamp out and you can have a look and see what you think of the final result. So here you go.

Young: He made a neck for it as well, brilliant. That's awesome. That is absolutely awesome. It's got all of the flavours that I was hoping for. So it looks slightly machine made, but it looks .. what's the word .. steam punk and he's done a really impressive job of raising (the edge of the dished base and shade). He's adapted the shapes, they fold over in to like a mushroom shape, so he's taken quite a lot of licence which in this instance, is fine. I think it'd be interesting to know why he did it, perhaps he had some forms that he could use to bash these things over to get these shapes. Because this looks like a more simple shape to produce.

Hall 7: A lot of his forming was done over simple steel stakes or literally into sand bags. So he was forming with fairly simple technology.

Young: Okay, so perhaps it was because of .. how does this pop up? (indicates the reflector)

Hall 8: It pulls out actually.

Young: So maybe that's why he did it, so it enclosed this and held it. That is done better, I would've thought.

Hall 9: I noticed he's changed a lot of the dimensions. He made the head a lot bigger, that's about 101mm (in the drawings), I think this (indicating the finished component) is around 175mm, so he's changed the dimensions a lot. He's sort of flattened it, almost caricatured the forms.

Young: Yes these are all swelled up. I wonder why he chose to do that, because I would've thought bigger is more difficult?

Hall 10: You mentioned something about the edges that he's folded these over, so maybe it's about enclosing these base discs (of the lamp) in the –

Young: Perhaps he doesn't like the exposed edge, perhaps that's it. Part of his normal routine would be to try and conceal those naked edges. It actually works reasonably well, folding over. Yeah, then again, you think it's going to come out one way. I think that might actually be an improvement because it makes a more encapsulated finish to it.

Hall 11: So what would you say is the most surprising feature of the lamp now having seen it full-size?

Young: It's too big, because with the new modern, miniaturised light sources, it's slightly, comically too big, so it needs to be reduced again. But the form I think is great. I love the patination of the metal. It's very nice of him to try and make this (indicated the 'gooseneck' lamp stem).

Hall 12: He asked what that was and I said: "Oh it's goose neck" and he said: "I don't think I can get those around here" and he said: "But I'll see what I can make one because I've got a big, old, floppy spring somewhere". Obviously what he's done is braised a –

Young: Braised a spring to it, the backbone.

Hall 13: Yes. So there's a solid, brass rod inside there which is eventually going to break if it's bent too much. One thing I wanted to ask you: I showed this to some of the professors and the students, people in India, also people here as well and one of the common comments they make is that it looks like it's something that was designed in the future and made in the past or designed in the past and made in the future. So there's this discussion that it's like an object that's between two worlds.

Young: Absolutely, that was completely the intention to try and produce something or get something that would ordinarily be produced in a very high tech way. A table lamp is typically industrially mass-produced and to try and have some of the same formal flavours of something that would be produced in that way, but made by hand deliberately and that steam punk thing was really what I was after. Yeah it's like a retro version of the future, absolutely, a 1950s flying saucer or something.

Hall 14: How did you decide on a lamp? Because there are lots of different possibilities of objects, types and materials, so how did you?

Young: I think just the shapes that he was producing in his bells immediately brought to mind lampshades, lamp holders. It was quite immediate; it seemed immediately the appropriate thing. So then taking that as a starting point and then looking around to try and find ways to apply things that he was familiar with as elements in his shapes. One would be a power switch and one would be a dimmer switch. So, simple ways to adapt his familiar elements in to a new object.

Hall 15: Something I'm very interested in my research is in, where there are landscapes of culture between different groups of people and how they overlap and so I think it's quite nice to ask you what you recognise as being familiar to you and then things you recognise as maybe being unfamiliar or potentially coming from changes the ironsmith has made in his interpretation of the object.

Young: Let's see. I hadn't been aware of this tradition of going and working in India and it was interesting just to be introduced to that. As a tradition in its own right and I'm not completely sure, if I'm honest with you, the question that you've asked. But it's an interesting exercise to try and find overlaps between what we would consider to be a commercially acceptable product and then these traditional craft skills. There's cultural significances to the bells, which I'm unaware of I'm sure, they seem to have ceremonial and just significant in the purposes that they were used. Almost as a religious icon, is it?

Hall 16: They're used for cattle.

Young: Oh really?

Hall 17: Yes, they're used as cattle bells and the area the bells are made in is a huge stretch of desert with a shrubby kind of trees and so they make the bells so they can locate the cattle and they put the bell on the neck of the lead cattle. So it was used with their cows and sometimes goats and they can hear them from about 15 to 20 kilometres across the desert and they very, very carefully tune the bottom edge of the bell so it has a particular type of sound which carries a long distance.

About 150 years ago there was a huge earthquake in the area and it raised a big block of land which cut off the local river and the whole area began to desertify to an even greater extent and so the bell makers changed their trade and they started to make slightly more decorative bells, larger bells and they started to sell them as artefacts to a small, emerging, tourist industry which has probably lasted .. it's quite hard to track that back, but several decades.

Young: Right, okay, because I think some of the pictures showed more installations of groupings of bells in trees and stuff, much more ceremonial. So that's something that they've adapted to –

Hall 18: To the changing climate.

Young: Right, but the economic climate rather than .. I mean the tourists come in and express interest in things in a different way.

Hall 19: So in a way their making practice comes more from being in a purely pastoral life, cattle, to actually now bring really driven by making these bells for tourists and there are the beginnings of an export trade as well. So there's a local NGO who will buy bells from the craftsman and sell them internationally to try and keep that trade, that craft tradition alive.

Young: So he is from a bell making family?

Hall 20: He's from five generations of bell makers and what they do is they beat all the components out of sheet iron, then they cover them in a layer of slip, they then roll it into a pan of ground copper, bronze and borax and then they wrap it in a clay chapatti and then fire it to a very high temperature until the whole thing is red. It takes about 10 to 15 minutes and then cool it down in a bucket of water and break the clay off and then it gives it this amazing, I suppose, patinated, metal finish.

Young: So this is the copper that we're seeing, is it a coating?

Hall 21: This is a coating, with steel underneath. So they coat it in copper initially just to make it weather-proof so it would last longer.

Young: Right and does that work?

Hall 22: It seems to. They often have old bells that they refurbish. So the old bells come in, they scrape off the loose material, they recoat them, so everything's coated in one piece.

His reaction to this (product type) was quite interesting. He doesn't have electric lights at home and so he thought this might be interested of people in the local market or potentially visiting tourists who might want to buy a different type object. So he was now going to experiment and make different versions of this to see if he could sell them locally.

Young: Sold to tourists presumably, not to local people.

Hall 23: I think they'll be mostly sold to tourists, I would guess, partly because it's a fairly poor area, so there's not a lot of people with a high income.

Young: Yes. It'd be interesting to see, to be able to talk to the guy to see what his reactions to it were actually. But yeah, five generations of making one particular type of thing can make somebody quite resistant to doing new things is possible. You just gave him these drawings with very limited communication.

Hall 24: The way the process worked is that I got your drawings which were sealed in an envelope and then took them to India, took an overnight bus to the Rann of Katchchh, hired a driver/translator and then went up to the villages which were about another hour and a half. So it's on the edge of the desert outside a city called Bhuj, and probably about 50/60 kilometres north of that. I'd been in the village two years before so I knew the copper bell makers lived there, but I tried to find the same man I'd met before. I ended up meeting his son who's in the same location and I introduced the project first, then opened the envelope, showed him the drawings and then asked him if I could commission him to make the designs that were on the drawings. I explained to him that my role wasn't to explain the designs, but to watch him interpret the designs and to see if he'd be willing to make the lamp.

Young: Great.

Hall 25: He said it was going to take him about a week, so that seemed a long time to wait in the area so I then went back to Ahmedabad and he then sent the lamp along later on and he was actually very happy to make the lamp from the drawings and give it a go. I think he was quite conscious that his craft needed to change and evolve and develop if it was going to keep relevant.

One of the big challenges in the local area is that people move away, they move their cities for jobs and he identifies himself through this craft. So his cultural identity is what he does.

Young: And he wants to maintain that?

Hall 26: He wants to maintain that, he wants to preserve it. So he sees this as what marks him out, which is an iron maker or copper bell smith.

Young: Well it would be nice to think that he could make something with it, a local electricity supply would be a perfect place to start. So do you think there was any difference between him as a younger person compared to his father or was his father as keen to look for new opportunities?

Hall 27: I met his father briefly (a couple of years before and again during the last visit) and I didn't have a conversation with him and everything was translated as well, sometimes through two languages, because there is a local language as well. But the sense was that he is keen to try out

new designs. One of the local NGO officers had started to work with him to show him a couple of images from the internet, he'd try to make an array of bells based on some influences he'd seen from the internet and there was a Swedish client who'd sent him a drawing for a bell as well. He was keen to remotely collaborate and that was a useful conversation point. This project was something more ambitious, bigger than he'd tried before and the change of typology from a bell to a lamp was huge compared to anything else he'd done. He'd just made bells or candlesticks before.

Young: Right. I tried to give him forms that wouldn't be too unfamiliar, but I guess these big dished shapes .. I don't know what's the word .. the biggest pieces that he normally makes.

Hall 28: Yes, his biggest bell is about 30 centimetres, so it was quite large.

Young: Right, okay, quite large. I thought he was working directly with copper which is worked in quite a different way. I think copper is much easier to raise generally, isn't it?

Hall 29: I think all the sheet is second hand, so this is all roofing sheet or it comes from oil barrels or it comes from sheet that's flattened out. So it's all recycled or sourced locally.

Young: I'm not sure about that. I don't know if you can put me right, but I think steel is much harder to work than copper?

Hall 30: I think it is.

Young: It's just tougher stuff.

Hall 31: I was actually impressed by the lips and the edges he's been able to make as well. They have very sharp radii.

Young: Yeah, I'm not sure if these pieces are beaten. That's potentially those little switch holders are potentially flat sheets have been beaten and then soldered.

Hall 32: Yeah, looks like it or even welded actually.

Young: It works. I mean you can see that there are areas where you'd have to make adaptations to deal with the huge tolerances that he seems to want. This is where you need iterations, you put something in the pipe and see what comes out and then react to that and adapt accordingly. If we were assembling lots of different components from different sources and we'd have, obviously, huge fitting problems. So you just need to anticipate that and plan. That's not a problem, that's just you take some time to do it, a couple of iterations and a couple of trial runs and you design something that makes a virtues of that. I don't want to call it sloppiness, but I just mean the big tolerances that you're working with, because the sloppiness is part of the charm. It's the nature of the material, the nature of the technique. If you don't want that you would go elsewhere. So I think there's some real potential, but I guess these things you're talking about .. I don't know how long it takes to make all of these parts. The question is if it's economically viable for him as well as for me as a potential client.

Hall 33: He charged around £35 for each lamp.

Young: Right. Did he do two?

Hall 34: He did two, one that's fully assembled and one that's in parts. I suppose for me a question I want to ask you is this, the intention was to create something that bridged these two different worlds of mass production aesthetics and hand-making and to see where this traditional craft versus production, design and technology could overlap. But once this is done, what's the value of something like this? Is it purely an experiment? Is it something you would take value from, that you could do something with or is it just something that ends as a kind of .. it does live in between two worlds and it can't quite survive in either. It's slightly too technical for one world or maybe ..?

Young: Well a lot of that is to do with the economics of it and whether or not you could make a viable business case for it. Me not being a business person or a marketer, not the right person to ask, but you see items handmade in India for sale in markets around the world, so in theory it's economically viable to have handmade things produced and sold internationally. Something like a table lamp, potentially it's got a high enough cash value to justify the few extra steps you're going to need for some of the different components and that kind of thing. From the point of view of me as a designer, I love the mixture of two cultures, the mixture of the two types of flavours you get. But, like I said, not being from the business side I would know how to put that business together. That's not my area.

Hall 35: I wanted to ask you a question around influence as well, some of my recent reading revolves around an idea called creative destruction

which is where different cultures keep cross influencing each other and digital methods, the internet, e-mail allows people to continually swap these influences faster and faster and faster. One school of thought is that this will homogenise cultures and we will have a lowest common denominator or a similarity across cultures and then there's another school of thought which says actually it does the opposite. It allows people to make these customised, more individual cultures. So what do you think about your input into India and the result coming back to you and how people are swapping differences through different media's? Is that something that you think about or something that you think is important for designers to consider?

Young: Well maybe it's a good reason to try and keep some of these handicrafts going because those are a few of the things that potentially less employers buy (into) the homogenising of cultural values. I think if a designer can adapt their expectations to incorporate craft techniques that are a good way to keep these things alive. It's more in the world of mass-produced items, consumer electronics and things like that; it's becoming a big grey soup of indistinguishable products. That's going to happen, it's well advanced and there's nothing we can do to stop that, so it does make a very good argument of looking for ways to keep these traditions going.

Hall 36: I'm glad you said that because that was actually one of the motivations for my research was to explore how craftsmen and makers in threatened areas, in terms of their economic and craft survival, could engage with the outside world and other designers and how we could negotiate an equitable exchange of ideas and making. I suppose without disproportionately polluting people's crafts and, at the same time, without offering patronising relationships as well.

Young: It's a tricky one, because what you're looking for basically it's a kind of entrepreneurial opportunity. You're looking to apply somebody's skills in a market that they're just not exposed to. So basically the designer is interpreting the needs of a business middleman and .. what's the word .. it's an interstitial opportunity and I don't know about the permanence of that. You've got, perhaps, a limited time scale for when that space opens up and you can operate in it and then the tendency is for more economically profitable techniques to supplant craft skills. Do you create an artificial protection for craft skills? Why not? I mean it's people's livelihoods, people's traditions, absolutely support that. The strategy of how you manage it on a larger scale becomes a political conversation and that's much more involved. But from a designer's point of view, why not support it if you can, absolutely.

Hall 37: The Indian government has just set up a scheme, it's called GIs or Geographic Indicators, and craftsmen can apply for a GI and that then protects their craft and the name of their craft and it allows them to own it. So essentially it allows a community of, say, copper bell makers .. these would be the original copper bell makers and only they could then use that name and that craft. So I think that, on the one hand its a useful attempt for people to profit from their cultural tradition and, yet on the other hand, we're engaged in a project where we're crossing those geographic boundaries and changing the artefacts people are making, introducing new influences. So there's a counter globalised threat in a sense with this idea of protecting geographic information.

Young: But isn't that slightly equivalent to the way that the Guild's used to operate here, which, basically, it's a form of market protection. In the original instance it was done to maintain economic dominance in a market, but is it the case now that it's more of a heritage idea or is it protecting the economic aspect of it? The heritage or the economics, which is the focus for the GI?

Hall 38: In India the focus is a combination of both, but primarily it's economic. It's to stop other groups of people from reproducing objects and muddying the market and preventing the original people from being able to ask a fair price actually. So in a way it stops the commodification of some of those crafts, it allows people to keep them as specialised activities and charge for the quality of that cultural connection, I suppose. So it protects the historical element as well to an extent.

Young: It's a unique, historical moment for those crafts, either protect them or watch them disappear.

Hall 39: So Cairn, you've mentioned working on previous collaborative projects in different countries and without naming any sensitive companies or people, have you had experiences with these craft making or production situations before where people have been asked to make things and there's been obligations?

Young: Yeah, well I wanted to ask you if you'd had any similar experience with these people. There's a situation in Thailand, for example, where if you offer a project to a company there's an obligation on them to attempt to produce it, whether or not they're capable of doing it and this has led to some horrendous wasting of time. One instance where a very, very complex design proposal was offered to this cutlery company and it was completely beyond their capabilities, but it didn't stop them throwing huge amounts of energy into it for a year and a half, wasting their time and everybody else's time. So I just wondered if there was the same situation with these guys (the craft makers in Nirona) where you're putting them under an obligation by offering them projects, because that means that you've actually got to .. there's a

responsibility on you or the designer to make sure that you're doing stuff that's properly targeted.

Hall 40: Yes, I thought about that actually and I do worry about it, because I worried about maybe putting people under obligations, like cultural obligations.

Young: Did you have any people refuse the projects that you were offering?

Hall 41: No, I didn't. Everybody agreed, well actually no, one group of people did refuse and that was a group of copper utensil makers in the old city in Ahmadabad and the reason was that the gentleman's father had died the week before and his uncle was very ill, so he just wasn't in the right frame of mind to take on any kind of collaboration. Everyone else agreed, so I suppose what I was thinking about is that I was just reading people and asking if it was okay and trying to gauge a sense of how far out of people's comfort zone the skills were and trying to benchmark, I suppose, the designs that I was showing them from you and Matt and the designs I was trying to develop and just see what that gap was between what they were making already and the new proposals and to see how far of a stretch that was. I think, in a way, that's part of the research is to see how people do cope with these differences that come from different areas and different cultures and different people's ways of thinking. But, to be honest, I wasn't sure how to test that. I wasn't sure how to know whether people felt a cultural obligation.

Young: Well, I guess, it's about finding an honest interpreter.

Hall 42: Yes.

Young: I know that in my experience in Thailand the interpreter was under a similar obligation, there were several layers of invisible tradition that were affecting the situation that we were completely oblivious to, which is very embarrassing for me personally because you would hope that this has been properly researched by the people setting up the meetings and it's a terrible thing to find out in retrospect. Especially after a year and a half with somebody toiling away on something they know they're not capable of doing just for the sake of this obligation, it's very painful.

Hall 43: One of the motivators for the collaborators was the idea that there was no IP, that people could just take things, copy them, make them themselves and I allowed everything to be open source and I think that was certainly a motivation to engage and people then felt that they would gain something from the process as well and there is a possibility that there was an economic benefit for them at the end.

Young: What's the Indian position on IP? I know in Asia, Thailand, Indonesia, IP is laughed at, basically. A factory will routinely produce half of their product run for you the client and the other half they'll sell out of the back door, which is quite a standard procedure. You have to just accept if you're doing business, in Thailand especially. What's it like in India?

Hall 44: Well I think going back to the global indicators, that was an attempt to, at least, give one group of people the ability to set their ideas, but there had been a very low take up of those, because I think people didn't necessarily trust them or they weren't sure how to gain benefit from them. So maybe they were too early actually in that cycle of helping people to protect their work because there weren't the economic

opportunities at the right level. But at the ends of patents and design registrations I don't know actually, I need to have a look at that.

Young: I mean there's plenty of high tech industry in India.

Hall 45: There are a lot of software industries.

ENDS

K5 – Hazel Clark interview questions and notes

Hazel Clark, Research Chair in Fashion

Parsons The New School University

New York

Tuesday August 1st 2012 4-6.30pm

Q1. Could you briefly describe your understanding of geographically liberated difference as described through your writing and research?

Q2. What value do you think this has in connection with the activity of design practice on the ground?

Q3. From my research the concept of geographically liberated difference seems to reside in social sciences and economics as a way of understanding globalization and the de-territorialising of culture, and in some design history areas as a form of contextual analysis. Are you aware of the concept of geographically liberated difference being used creatively at a practice-based level by designers?

Q4. [AH gives very short thesis overview linking Diamond to Kurtzweil via DGLD] Do you have a view on the significance of connecting these theses into an overarching narrative proposition on the evolution of making and the rationality of DGLD being a key connecting element?

Q5. [AH describes India workshop plan to test practice-based element] Any general thoughts on this?

Q6. What do you think the value or significance of exploring practice level activity of design and geographically liberated difference will have on the wider concept at a strategic and global level?

Q7. From your writing I have extracted three core elements of geographically Liberated difference. What do you think of these?

Binarism: The concept of design mixing eastern and western elements that retain their original character, a kind of jigsaw puzzle of juxtaposed imagery and iconography.

Decolonisation: The cultural vacuum left behind when colonial powers depart leaving a very different political, cultural, governmental and geographical relationship with new opportunities and challenges from global commerce.

Hyphenation: A concept of recognising how new designs can contain cultural elements from the local that can resonate with the needs of the global.

Interview Notes:

HK discussed the recolonisation from UK leading to China taking over control. HK saw a short window to establish its own cultural identity and focused on global local creative expression as described through hyphenation.

Was at HK Poly U for 10 years from around 1994 during the changeover period.

Interesting to see this as an extreme form of geographically liberated difference and to consider its relevance to other locations.

Discussed 'leakiness of geography' and the forms and methods that enable cultural influences to escape and enter. Digital methods have radically changed the porosity of geographies in these aspects along with the speed of reciprocal influencing

1. Effects of the social dynamic of liberation from geography.

2. Depersonalisation loosing hierarchical structures of challenging hierarchical structures. Issues of colonial behaviour or how to engage on an equal level in collaborative projects? Binarism is the classic first level creative cross-cultural response. Hyphenation is the more advanced level of a united output from dual sources.

3. What or who has the agency of design and the way in which this challenges conventional notions of design behaviours. Personal design model looses agency to facilitation and production of design approach/ skills.

IMPORTANT: Value of this research to future projected models of localization of production due to sustainable resource use and transportation. One view is that objects will travel around the world less due to energy and environmental restrictions and the value of this research is in exploring the conceptual model of creative influence and making that can be facilitated via digital media.

Link to remaking and reusing locally and the idea of indigenous and non-indigenous materials.

Very uncommon to see the term geographically liberated difference used in design.

Not aware of anyone looking at this on a practice based level or exploring it in term of a creative design approach. Usually seen as a post-analytical viewpoint.

What is my concept of geography?

AH explored idea of it being an observable approach to making within a cultural context and physical land space.

What is my concept of translocated?

Evening up the playing field in term of developed to developing economies.

Discussed NID changes to student objectives and classic design role model.

Write this into a chapter as part of the evolution of DGLD.

K6 – Umar Husen phone interview

Ahmedabad/Nirona

Hindi-English translation

6pm December 6th 2012

Hall 1: What does he think of the final light?

Husen: He enjoyed making something new. He isn't too happy with the finishing. Maybe he could use something better than the spring. A spring that can be adjusted.

Hall 2: Did he use any new techniques on the piece?

Husen: He worked on all the pieces first then later welded them together (looked like brazing to me). After making this one , he saw some other lamps and wants to make new ones. Showed the design to his father and he wants to make a new one and show it.

Hall 3: Is this something he would uses at home?

Husen: Yes

Hall 4: Has he made something similar before?

Husen: First time he has made an electric light.

Hall 5: Would he use the Internet more to meet customers and does he think it would change his techniques? If so, how?

Husen: Found it hard to answer/understand. Not much of a difference in the technique he uses normally. Cutting, hammering, plans to change the product or design according to fit his techniques, not the other way around.

ENDS

K7 – Bhavik Bhavchaya phone interview

Ahmedabad/ Nirona

Hindi-English translation

6th December 2012 5.30pm

Hall 1: What does he think of the final stool or legs?

Bhavchaya (Translated): Tourists will buy it, the design colours are not very common. Looks very good to him.

Hall 2: Is this something he would uses at home?

Bhavchaya (Translated): Yes he would not use it in the home, used to sitting on the floor so no use for it and its not a necessity, bed is more important (semi-nomadic). He will keep it at home as a sample and hope to sell it to passing people/tourists.

Hall 3: Has he made something similar before?

Bhavchaya (Translated): Stools/chairs very heavy. Is going to try and make it again in a lighter construction.

Hall 4: What does he think about making objects for people far away outside of India?

Bhavchaya (Translated): Would like to make more objects for people outside of India.

Hall 5: Did he use any new techniques on the piece?

Bhavchaya (Translated): The dimensions were different and very different looking legs. Had not seen anything or made anything like that before.

ENDS

K8 – Dipesh Buch email interview

Ahmedabad/Bhuj
December 6th 2012

Hall 1. I remembered seeing the pictures that you got for Umar from the Internet to help him design new candlesticks. Do you have any other examples or experiences of craftsmen using the Internet to get ideas and could you briefly describe them?

Buch: I have inspired to search new designs from Internet by experience with buyers, designers and some time with artisans, they are using internet to search new designs, Fashion forecast from net and as per my personal understanding they will choose the specified designs what they want to develop with artisans, and as per our long experience with craft sector we are aware about the craft techniques, limitation of craft process and artisan's skill and we gets feedback from co-staff and artisans to specify viable designs out of thousands of design options.

Actually all artisans are not able to use Internet because of education problem and proper guidance to use Internet. As we discussed during your visit, now most of the artisans are connected with direct market and they are getting opportunities to present their crafts through exhibitions, design and technical workshops with experts, and organisations in Katchchh like Khamir, Kalaraksha, Shrujan, KMVS (Qasab) are working with artisan very closely and inputs from these NGO is always there for new creation through traditional techniques.

Hall 2. Do you see the internet making a big difference to craftsmen in the future and if so how?

Buch: We think Internet is good option to create new designs according to market but the handicraft is always famous because of traditional designs and process so if we will compare the traditional and new designs then as per my understanding the traditional products are still on the top rather than new designs, of course smart artisans are more earning from new designs e.g.in Tie and dye craft one artisan will make traditional designed Dupatta (2.5 meters in silk fabric) and it will take 1 month to complete the

Dupatta and he will sale the same worth of Rs.3500 and one smart artisan will make the stole in modern design (1 meter in silk fabric) with 70% reduced work and making time than Dupatta but he can earn same amount which other artisan is getting from traditional Dupatta (this is just example to explain difference between traditional work and modern work but fact is artisans have very limited market for modern work).

Hall 3. Do you think it could affect their making culture?

Buch: There is mixed feedback for above question because some artisans are doing new thing with traditional motifs and process and some artisans are doing modern design which is totally different from tradition. So it will affect their making culture both side.

ENDS

K9 – Yunas Bhai phone interview

Ahmedabad/Bhuj

Hindi-English translation

6th December 2012 5.45pm

Hall 1: What does he think of the final stool?

Bhai: Looks good and comfortable, worth selling, very sturdy.

Hall 2: Is this something he would uses at home?

Bhai: He'd like to keep it in his house.

Hall 3: Has he made something similar before?

Bhai: They used to make similar stools for milking cows with splayed legs and the only difference was a flat seat top. His father and grandfather were making it for generations.

Hall 4: What does he think about making objects for people far away outside of India?

Bhai: He'd like to work, export with makers abroad and try things that are new and different.

Hall 5: Did he use any new techniques on the piece?

Bhai: He made a jig for the legs and fitted it onto the drill to get the angle right to keep it consistent.

ENDS

Appendix L– Ethics and Permissions forms

L1 – HREC research consent form in English

RESEARCH CONSENT FORM

I _____ agree to participate in the research project 'Translocated making in experimental collaborative design projects' UTS HREC 2012-344A being conducted by Ashley Hall, Email:ashley.hall@rca.ac.uk, Mobile :+44 7870 648882, of the University of Technology, Sydney for his PhD degree. His supervisor is Charles Rice C.Rice@kingston.ac.uk

I understand that the purpose of this study is looking at how people can be influenced to change they way they make objects by influences and information from the Internet.

I understand that I have been asked to participate in this research because I am an experienced craft maker in my area and that my participation in this research will involve working together to design and make an object influenced by information from the Internet.

I understand that it may be possible that I could be identified in images or text published as a result of this research.

I am aware that I can contact Ashley Hall or his/her supervisor Prof. Charles Rice if I have any concerns about the research. I also understand that I am free to withdraw my participation from this research project at any time I wish, without consequences, and without giving a reason.

I agree that Ashley Hall has answered all my questions fully and clearly.

I agree the objects we design and make together will be recorded and may be communicated to others for academic research purposes.

_____ ___/___/___

Signature (participant)

_____ ___/___/___

Signature (researcher or delegate)

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au) and quote the UTS HREC reference number. Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

L2 – HREC research consent form in Hindi

RESEARCH CONSENT FORM

मैं _____ , युनिर्वसिटी आफ टेकनालेजी, सिडनी के ऐश्ली हॉल (ashley.hall@rca.ac.uk, +44 7870 648882) के द्वारा (उनकी पीएचडी डिगरी के लिए) आयोजित अनुसंधान परियोजना 'ट्रांसलोकेटिड मेकिंग इन कोलाबोरेटिव डिजाइन प्राजेक्ट' (UTS HREC 2012-344A) में भाग लेने के लिए तैयार हूँ। उनके पर्यवेक्षक चारल्स राइस (c.rice@kingston.ac.uk) हैं।

मैं समझता हूँ कि इस अध्ययन का उद्देश्य यह जानना है कि लोगों को कैसे प्रभावित करने पर इंटरनेट व जानकारी द्वारा वस्तूएं बनाने कि विधि में बदलाव लाया जा सकता है।

मैं समझता हूँ कि मुझे इस अनुसंधान में इसलिए भाग लेने को कहा गया है क्योंकि मैं अपने क्षेत्र मे अनुभवी क्षिल्प निर्माता हूँ। इस भागीदारी के अनुसार मैं इंटरनेट की जानकारी द्वारा प्रभावित वस्तूएं बनाने में सहयोग दूँगा।

मैं रामझता हूँ कि इरा दौरान यह भी रांभव है कि इरा अनुरांधान के प्रकाशित परिणाम में मैं चित्र या पाठ के रूप में पहचाना जा सकता हूँ।

मुझे पता हैं कि यदि मुझे अनुसंधान के बारे में कोइ चिंता हो तो मैं ऐश्ली हॉल या उनके पर्यवेक्षक प्रो. चारल्स राइस से संर्पक कर राकता हूँ।

मैं यह भी समझता हूँ कि मैं इस अनुसंधान परियोजना से अपनी भागीदारी किसी भी समय और बिना कोइ कारण दिये, बिना परिणाम की चिंता करें, समाप्त करने के लिए स्वतंत्र हूँ।

मैं सहमत हूँ कि ऐश्ली हॉल ने मेरे सारे सवालों के स्पष्ट रूप से जवाब दिए हैं।

मैं साहमत हूँ कि जो वस्तुए हम साथ मिलकर बनाएंगे, ये दर्ज करी जाएगीं और अनुसंधान प्रयोजनों के लिए अन्य लोगों को दिखाइ जा सकती हैं।

हस्ताक्षर (भागीदार)
तारीख:

हस्ताक्षर (आयोजक)
तारीख:

NOTE:
This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au) and quote the UTS HREC reference number. Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

L3 – Research information sheet in English

TRANSLOCATED MAKING IN EXPERIMENTAL COLLABORATIVE DESIGN PROJECTS

UTS HREC 2012-344A

WHO IS DOING THE RESEARCH?

My name is Ashley Hall and I am a researcher at UTS. (my supervisor is Prof. Charles Rice)

WHAT IS THIS RESEARCH ABOUT?

This research aims to find out about how people can use the internet to receive new ideas and influences to develop and make new objects.

IF I SAY YES, WHAT WILL IT INVOLVE?

I will ask you to work with me to design and make an object together, influenced by some information/ images/computer files I will show you from the internet.

ARE THERE ANY RISKS/INCONVENIENCE?

The research involves making objects in the same processes and materials with which you are familiar with and use every day. The new design may change your processes and if you think there is any increased risk then we can stop immediately.

The objects we design and make together will be recorded, if you feel that at any time this communicated sensitive information about you or how you work or your culture we can stop at any time.

It may be possible that you could be identified in images or text published as a result of this research.

WHY HAVE I BEEN ASKED?

You have been asked to collaborate with me because of your expertise in craft and making skills in your area.

DO I HAVE TO SAY YES?

You don't have to say yes.

WHAT WILL HAPPEN IF I SAY NO?

Nothing. I will thank you for your time so far and won't contact you about this research again.

IF I SAY YES, CAN I CHANGE MY MIND LATER?

You can change your mind at any time and you don't have to say why. I will thank you for your time so far and won't contact you about this research again.

WHAT IF I HAVE CONCERNS OR A COMPLAINT?

If you have concerns about the research that you think I or my supervisor can help you with, please feel free to contact me on ashley.hall@rca.ac.uk M +44 7870 648882 or my supervisor Charles Rice C.Rice@kingston.ac.uk

If you would like to talk to someone who is not connected with the research, you may contact the Research Ethics Officer on 02 9514 9772, and quote this number UTS HREC 2012-344

L4 – Research information sheet in Hindi

RESEARCH INFORMATION SHEET

TRANSLOCATED MAKING IN EXPERIMENTAL COLLABORATIVE DESIGN PROJECTS
UTS HREC 2012-344A

अनुसंधान कौन कर रहा हैं?
मेरा नाम ऐश्ली हॉल हैं, और मैं युनिर्वसिटी आफ टेकनालेजी, सिडनी में अनुसंधानकर्ता हूं।

यह अनुसंधान किस बारे में हैं?
इस अध्ययन का उद्देश्य यह जानना है कि लोगों को कैसे प्रभावित करने पर इंटरनेट व जानकारी द्वारा वस्तूएं बनाने कि विधि में बदलाव लाया जा सकता है।

अगर मैं हॉ कहूँ, तो मेरी भागीदारी में क्या शामिल होगा?
मैं चाहता हूँ कि आप मेरे साथ काम करें और इंटरनेट व चित्रों की जानकारी द्वारा प्रभावित वस्तूएं बनाने में सहयोग दें।

क्या इसमें कोइ जोखिम या असुविधा शामिल हैं?
इस अध्ययन में आप ऐसी वस्तूएं बनाएंगे जिसकी सामग्री से आप पहले से परिचित हैं और रोज इस्तमाल करतें हैं।
नए डिजाइन के निर्माण के लिए आपकी प्रतिविधि में कुछ बदलाव हो सकता हैं लेकिन यदि आपको कोइ चिंता हो, तो हम तुरंत कार्य रोक सकते हैं।
जो वस्तुए हम साथ मिलकर बनाएंगें, वे दर्ज करी जाएगीं और अनुसंधान प्रयोजनों के लिए अन्य लोगों को दिखाइ जा सकती हैं लेकिन अगर आपको अपने या अपनी संस्कति के प्रति कोइ चिता हो, तो हम तुरत कार्य रोक सकते हैं।
इस दौरान यह भी संभव है कि इस अनुसंधान के प्रकाशित परिणाम में आस चित्र या पाठ के रूप में पहचाने जाए।

मुझे इस कार्य के लिए क्यों पूछा गया हैं?
आपको इसलिए भाग लेने को पूछा गया है क्योंकि आप अपने क्षेत्र में अनुभवी क्षिल्प निर्माता हैं।

क्या मुझे हॉ कहना जरूरी हैं?
हॉ कहना बिल्कुल जरूरी नही हैं।

यदि मैं मना करू तो क्या होगा?
कुछ नही होगा। मै आपको अब तक के वक्त के लिए धन्यवाद करूगा और कभी सर्पक नहीं करूगा।

यदि मैंने हां कहा, क्या मैं बाद में अपना मन बदल सकता हूं?
हॉ बिल्कुल। आप अपनी भागीदारी किसी भी समय और बिना कोइ कारण दिये, बिना परिणाम की चिंता करें, समाप्त करने के लिए स्वतंत्र हैं। मैं आपको अपने वक्त के लिए धन्यवाद करूंगा और कभी संर्पक नहीं करूंगा।

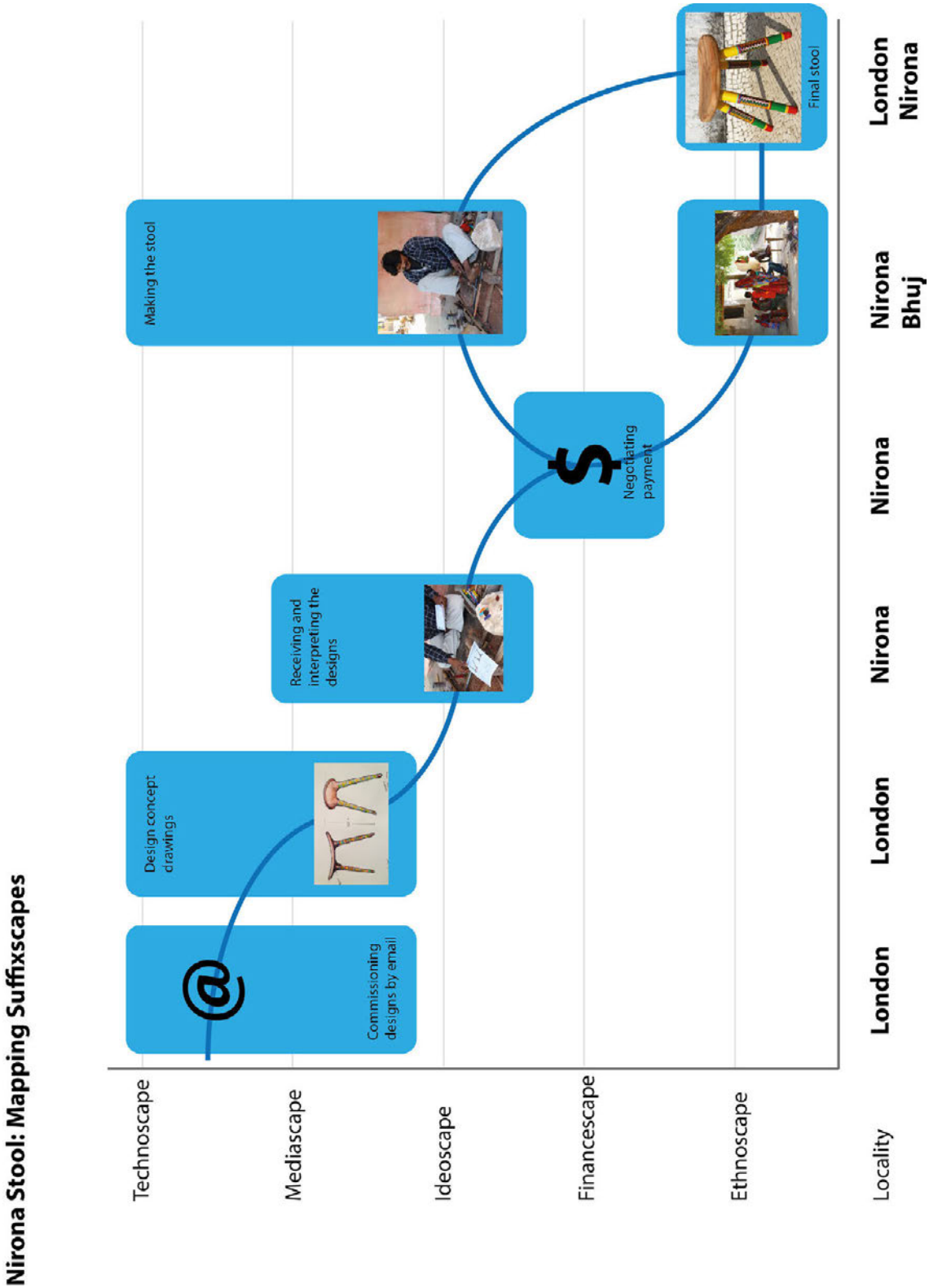
यदि मुझे अनुसंधान के बारे में कोइ चिंता हो तो मैं क्या करूं?
यदि आपको अनुसंधान के बारे में कोइ चिंता हो तो आप मुझे (ashley.hall@rca.ac.uk, +44 7870 648882) या मेरे पर्यवेक्षक प्रो चारल्स राइस (c.rice@kingston.ac.uk) से संर्पक कर सकते हैं।

यदि आप इस के बारे में ऐसे इनसान से बात करना चाहतें हैं जो इस अनुसंधान से नहीं जुडा है, तो आप +6129514 9772 पर अनुसंधान अधिकारी से 'युटीएस एचआरइसी 2012344' संख्या नम्बर बोलकर संर्पक कर सकते हैं।

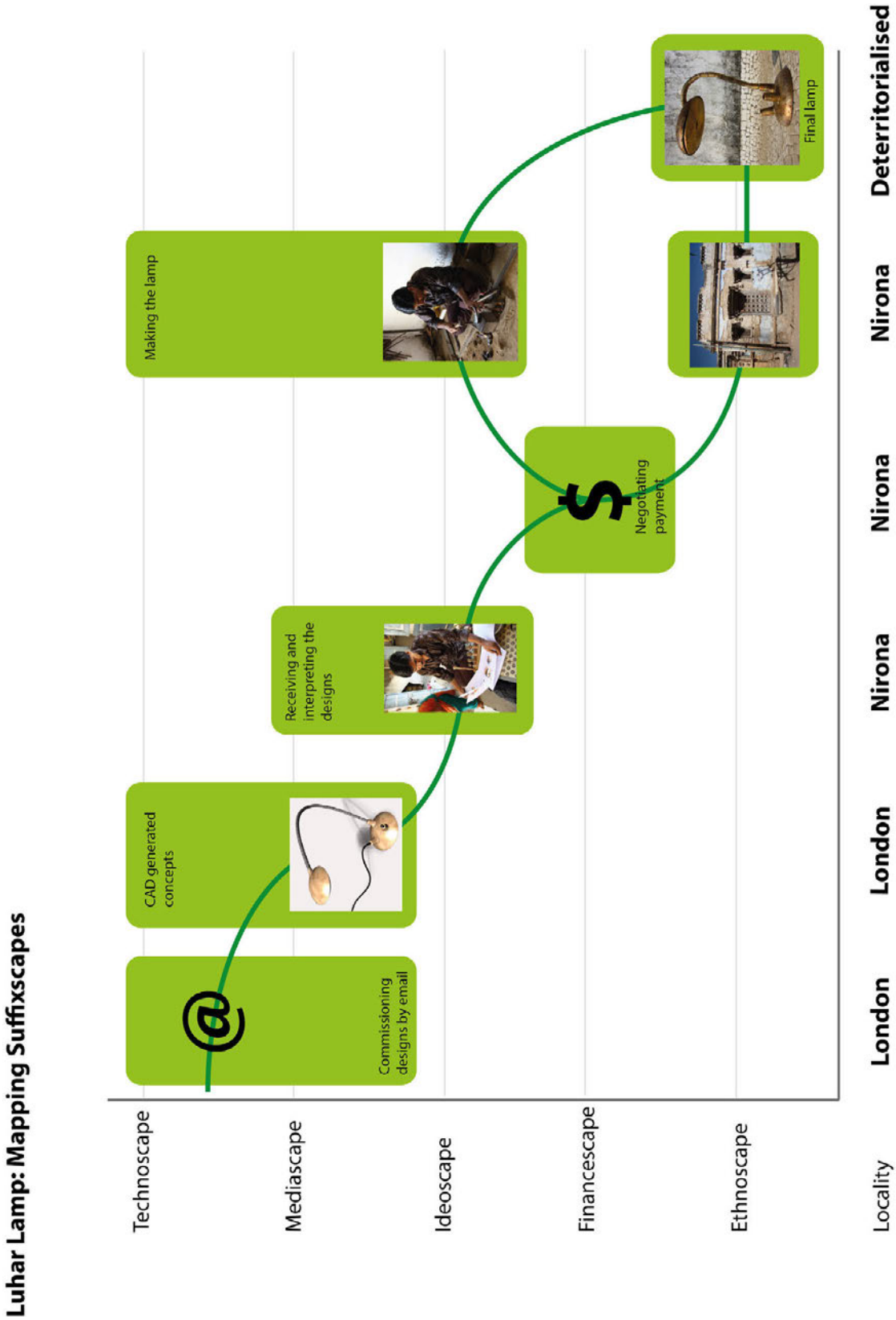
If you would like to talk to someone who is not connected with the research, you may contact the Research Ethics Officer on 02 9514 9772, and quote this number UTS HREC 2012-344

Appendix M – Mapping suffixscapes

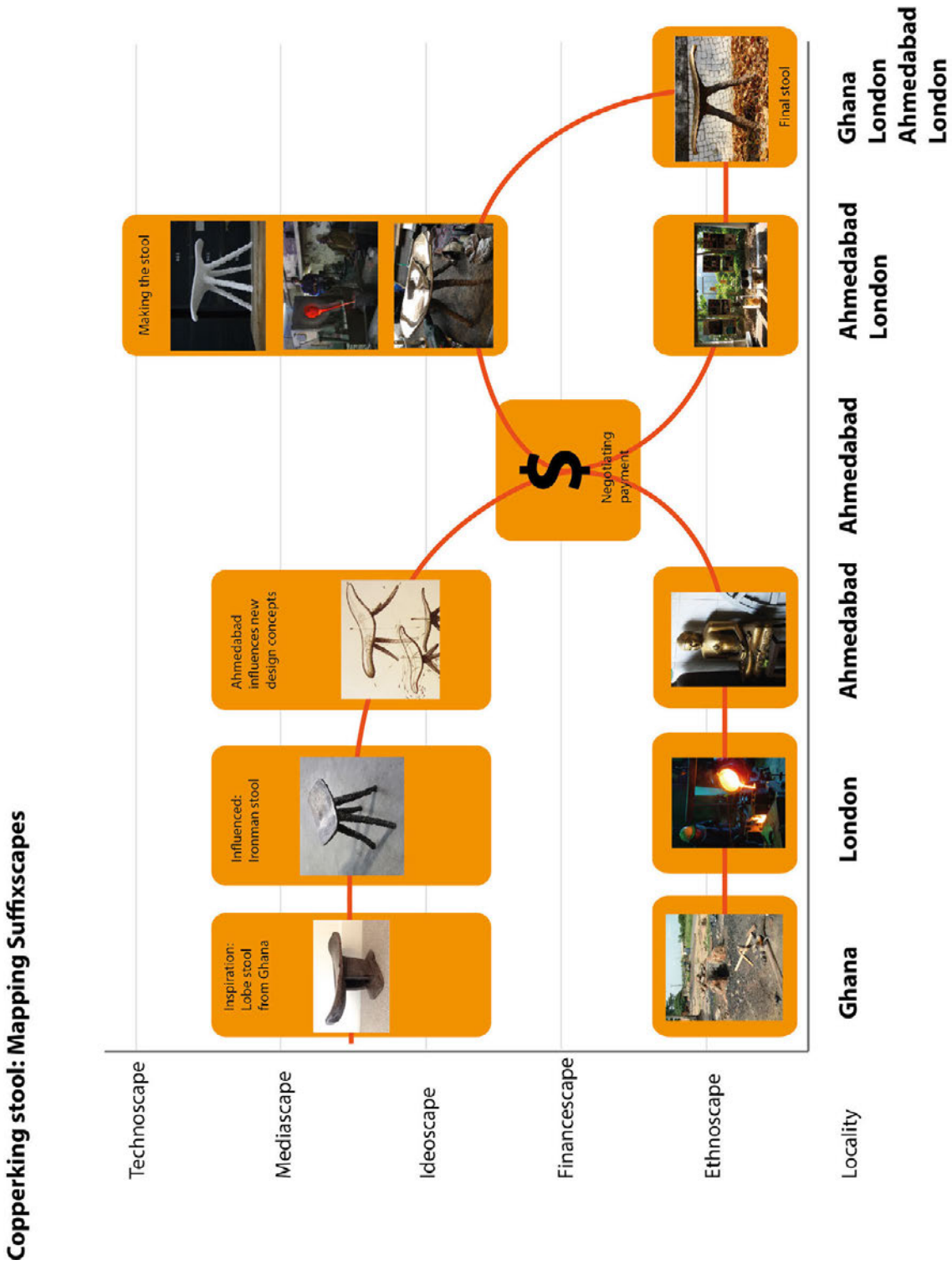
M1 – Nirona stool suffixscape



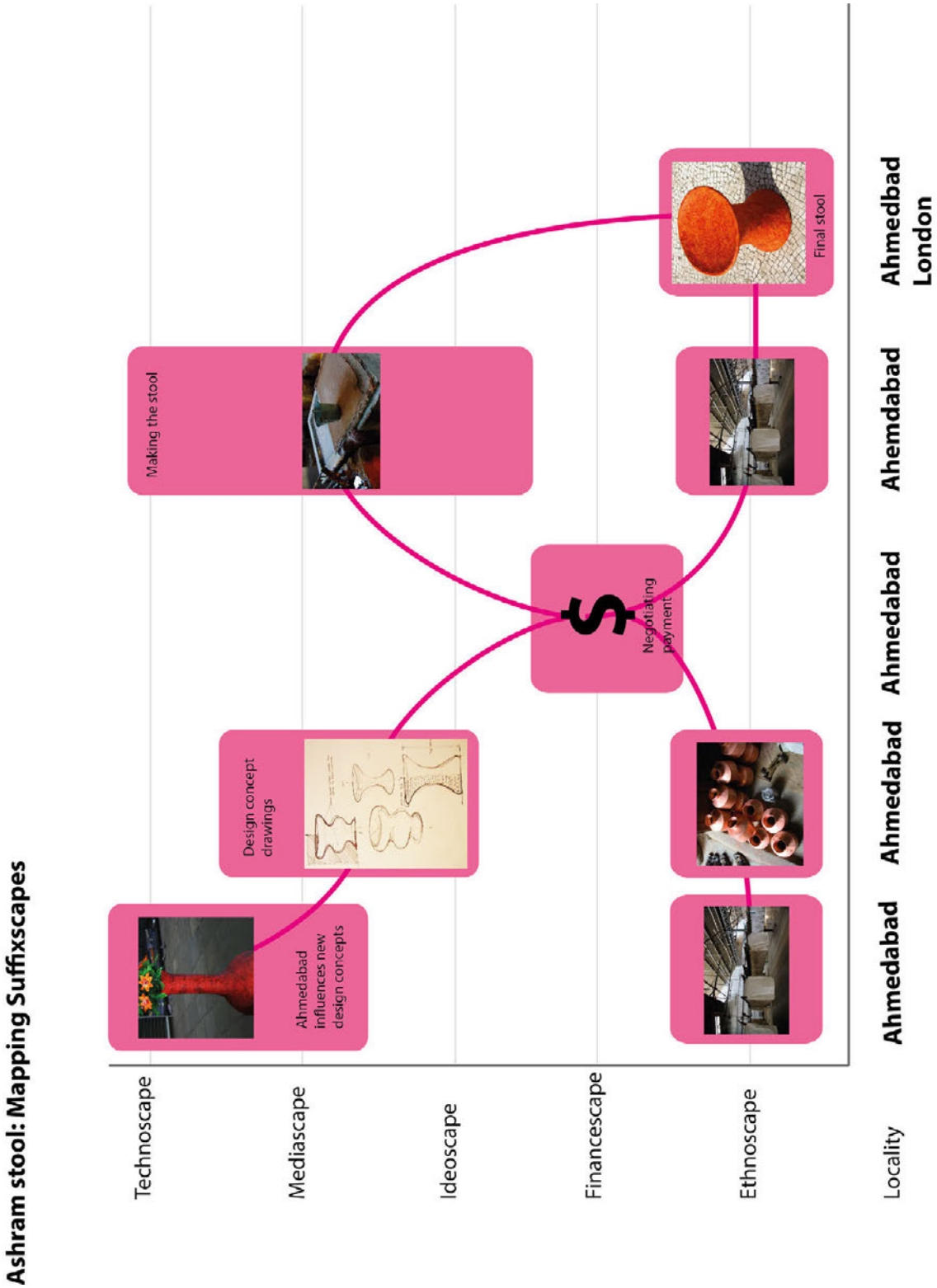
M2 – Luhar lamp suffixscape



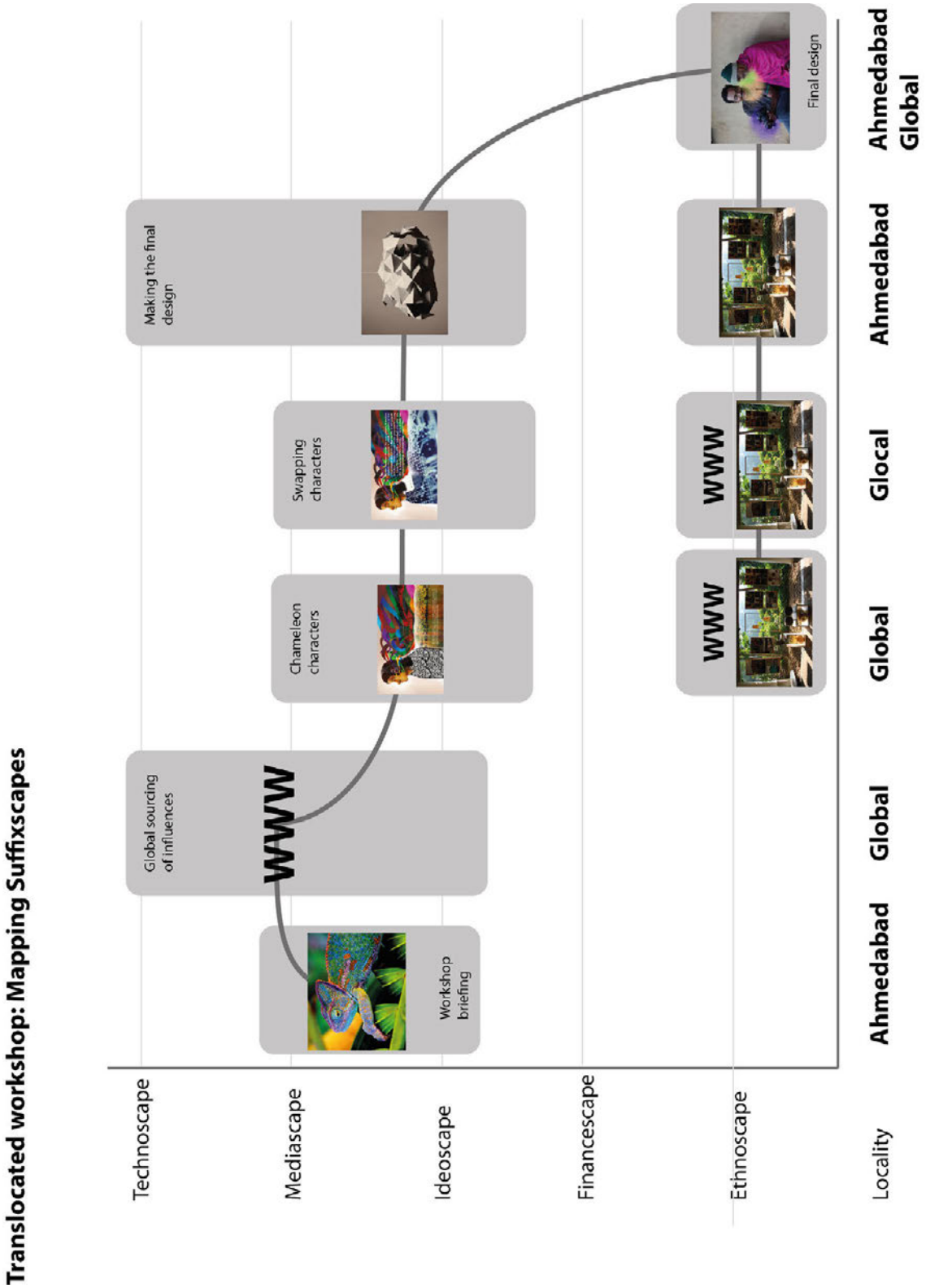
M3 – Copperking stool suffixscape



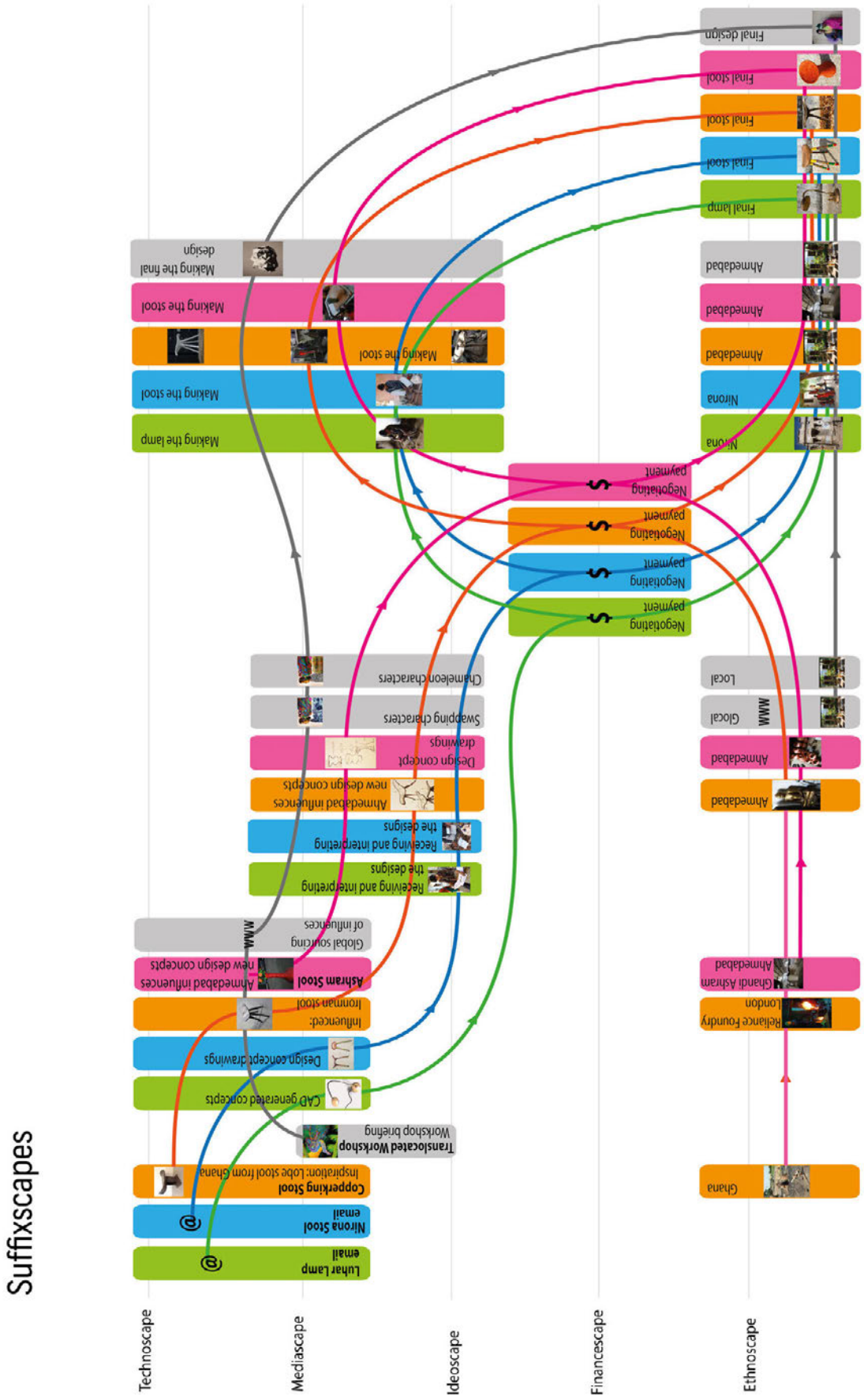
M4 – Ashram stool suffixscape



M5 – Translocated workshop suffixscape



M6- Combined suffixscapes metamap

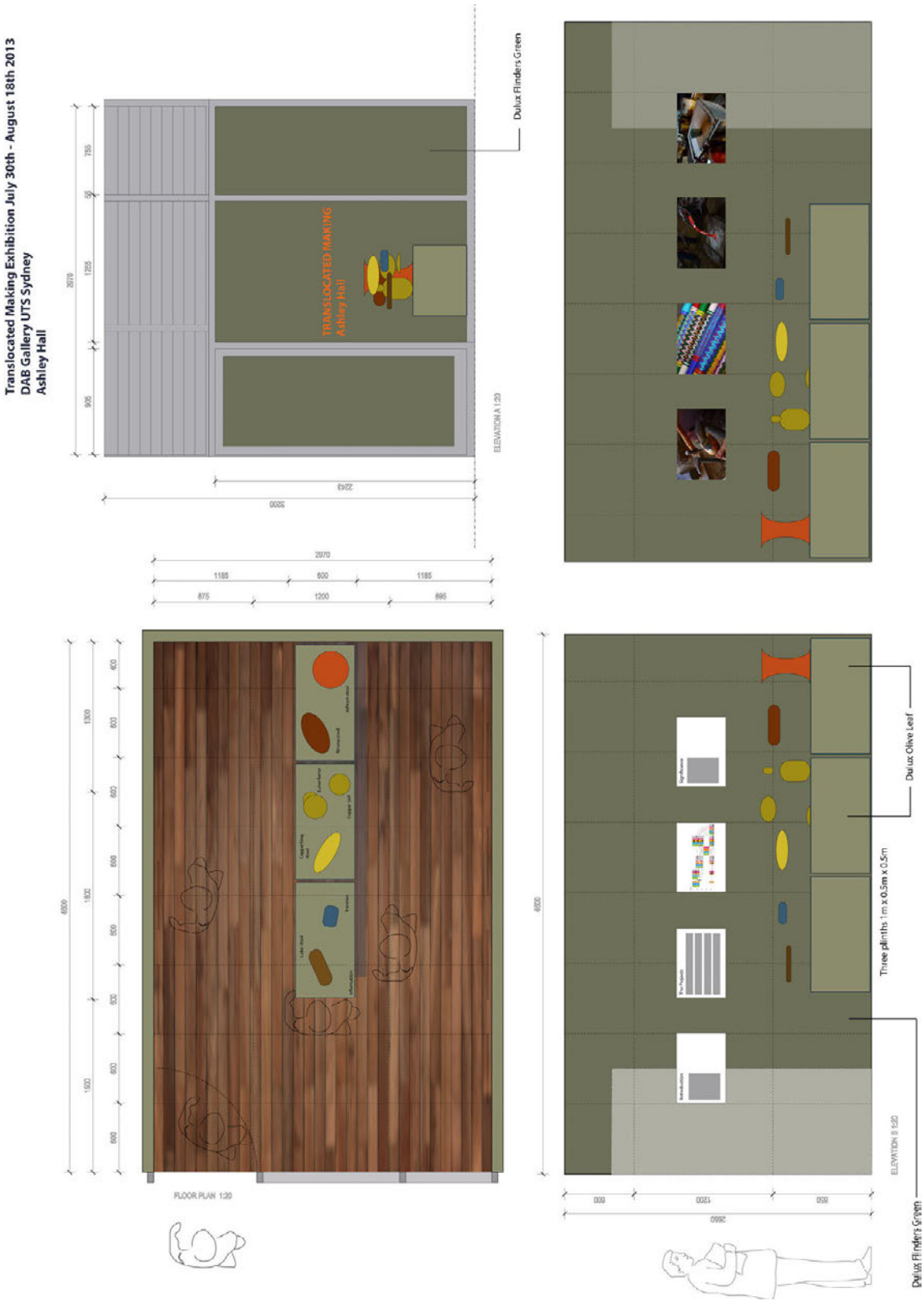


Appendix N – Translocated exhibition

N1 – Translocated exhibition at the UTS DAB research gallery

Exhibition and examination of the physical material at the UTS DAB research gallery coinciding with Sydney design week July 31st to August 18th 2013.

N1.1 Exhibition plans and elevations



N1.2 Front window

N1.2

N1.3

N1.4

N1.5

N1.6 Nirona stool on the back of a Sydney bus advertising design week (top left)