

## **Design practice into healthcare**

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# Design Practice in Healthcare

Joe Langley

*Lab4Living | Sheffield Hallam University*

- *Carlos Peralta, Alex Driver, James Moultrie: 'Design in Science: Exploring How Industrial Designers Can Contribute to Scientific Research' (2012)*
- *Arts@CERN*
- *Sir Paul Nurse, Richard Dimbleby Lecture; 'The New Enlightenment' (2012)*

**"IMAGINATION IS  
MORE IMPORTANT  
THAN KNOWLEDGE."**

- ALBERT EINSTEIN -

# Design Practice in Healthcare

Joe Langley

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**"IMAGINATION IS  
MORE IMPORTANT  
THAN KNOWLEDGE."**

- ALBERT EINSTEIN -

**“For knowledge is limited to all we now know and understand. Whilst imagination embraces the entire world and all there ever will be to know and understand.”**

- Me
- Design
- Participatory Design

## Knowledge



Eliciting / Harvesting  
Translating  
Mobilising  
Evolving  
Adapting  
Synthesising  
Applying  
Exchanging  
Utilising  
Implementing  
Creating

## Change



Technology innovation  
Service innovation  
System innovation  
Social innovation  
Cultural innovation  
  
Incremental  
Radical / Disruptive

- **Me**
- Design
- Participatory Design

## Knowledge



Eliciting / Harvesting  
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## Change



Technology innovation  
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# Me

Mechanical Engineer (MEng)

Glass Technologist

Mechanical Engineer (PhD)

**Design Engineer**

**Design Researcher**

**Microsystems Service Improvement Coach (STH)**

**NIHR Knowledge Mobilisation Research Fellow**

**Honorary Research Fellow at STH NHS FT**

**Honorary Research and Innovation Fellow at SCH NHS FT**

- The University of Sheffield
- Glass Technology Services
- The University of Sheffield
- **Sheffield Hallam University**
- **Lab4Living**
- **STH NHS FT**
- **NIHR CLAHRC YH**
- **NIHR Devices for Dignity HTC**
- **TITCH**
- **SCR LEP Med Tech Group**

# Me

- Head-Up - a customisable neck support for people with neck weakness (NIHR i4i)
  - Design for Rehabilitation - 'Design Thinking' to improve self-efficacy (Health Foundation SHINE)
  - Support4all - dignity bra for breast cancer to aid set-up and reproducibility of radiotherapy (NIHR i4i)
  - Personalised NIV - 3D printing customised interfaces for children to optimise NIV therapy (NIHR i4i)
  - TITCH - Technology and Innovation Transforming Child Health (NIHR paediatrics HTC themes)
  - NIHR Knowledge Mobilisation Research Fellowship
  - 1st dip cleanable nurse call hand unit (Meidplan), a 'pop-up' male urinal (Vernacare)...etc...
- 
- Embedded designers for service innovation (Health Foundation Innovating for Improvement application)
  - Virtuality Reality as training preparation for prosthetic arms (NIHR i4i application)
  - Personalised inhalers for children - linking usage to Tamagotchi games (GlaxoSmithKline application)
  - Virtuality Reality games rehab for toddlers with hand burns - 'popping balloons' (NIHR i4i application)
  - 'Print your pain'; chronic pain therapy based on externalisation (NIHR i4i application)
  - Female Urinal development (NIHR i4i application)

# Me

**NIHR Knowledge Mobilisation Research Fellow**

**- what can participatory design practice offer to knowledge mobilisation?**

- generating ideas
- making 'things' tangible



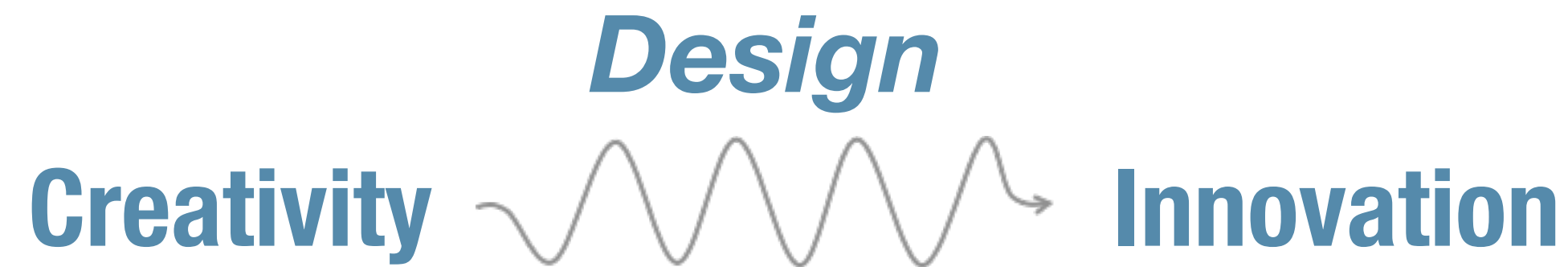
- Me
- **Design**
- Participatory Design

# Design

“**Creativity**” is the generation of new ideas.

“**Innovation**” is the successful exploitation of new ideas.

“**Design**” is what links creativity and innovation. It shapes ideas to become practical and attractive propositions to users and customers. Design may be described as creativity deployed to a specific end”



"IMAGINATION IS  
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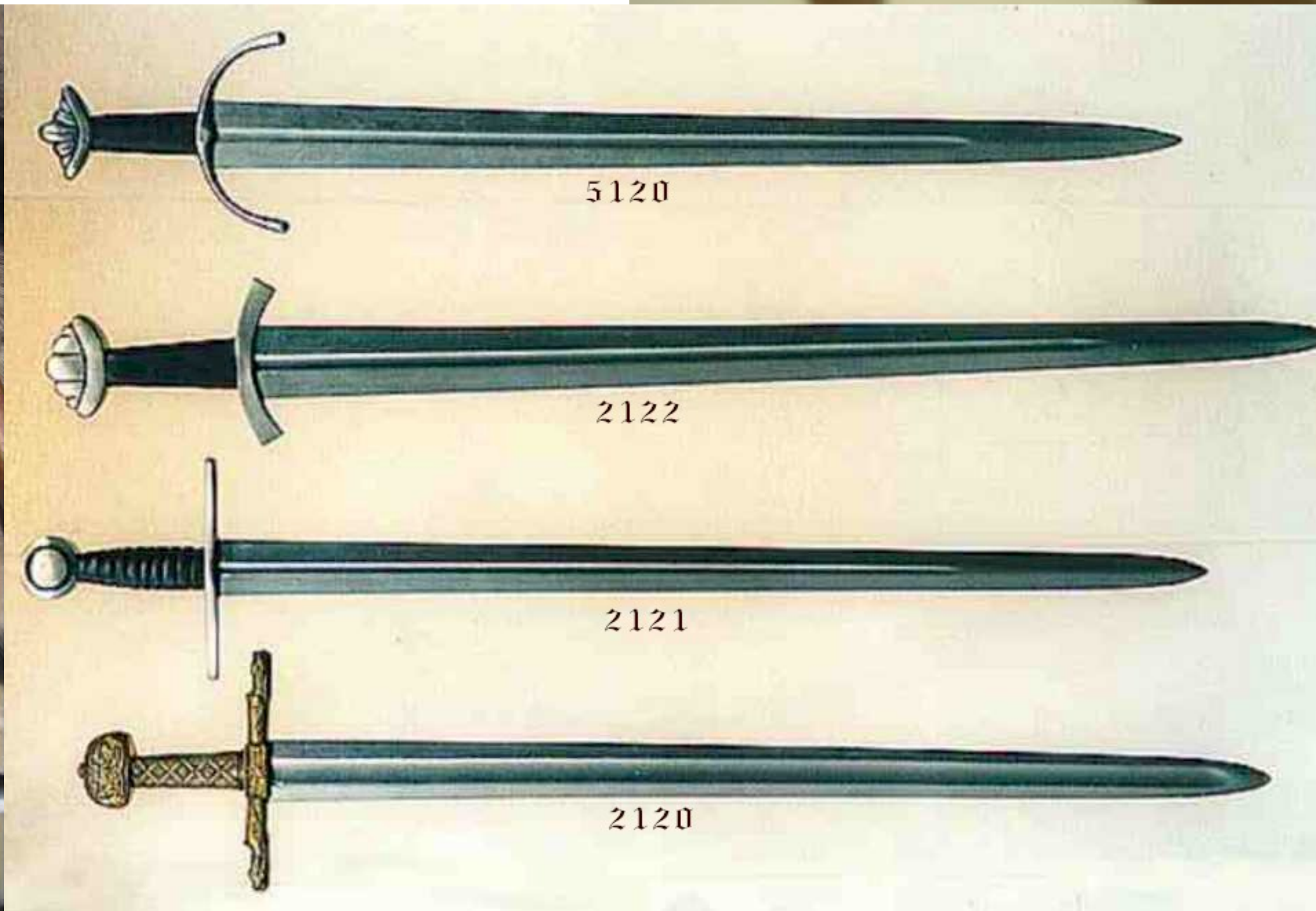
- ALBERT EINSTEIN -

“A designer is an emerging synthesis of artist, inventor, mechanic, objective economist and evolutionary strategist.”

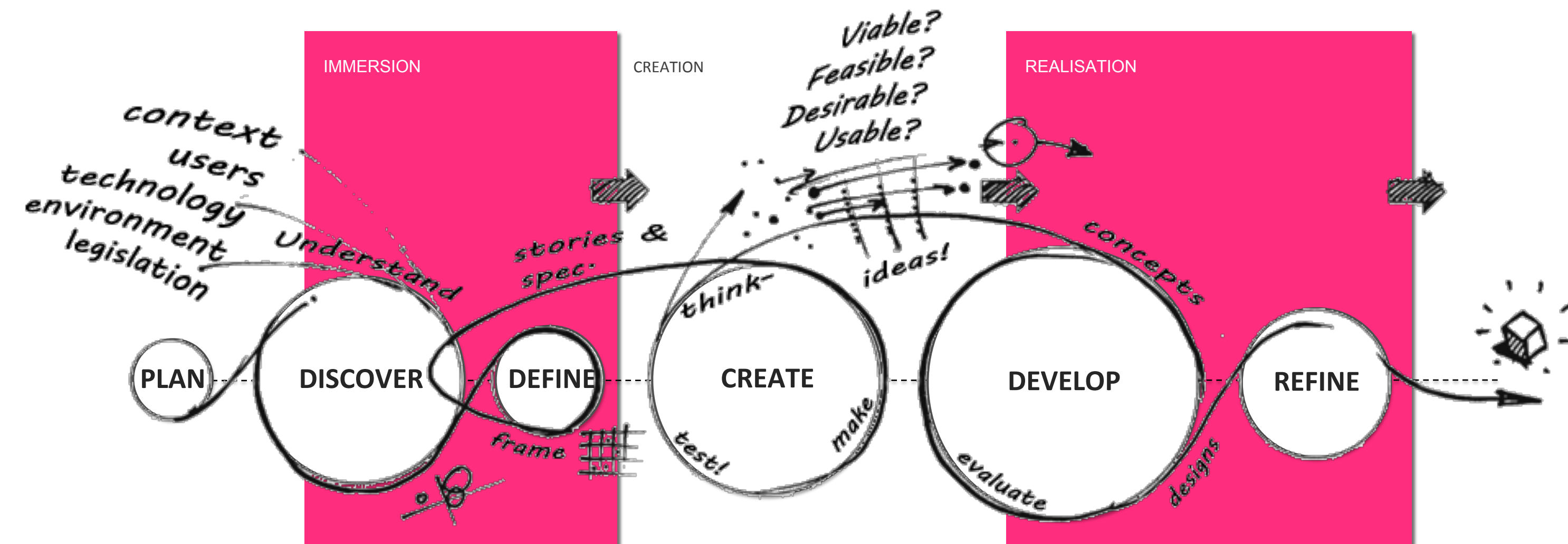
- Buckminster Fuller



# Design



# Design

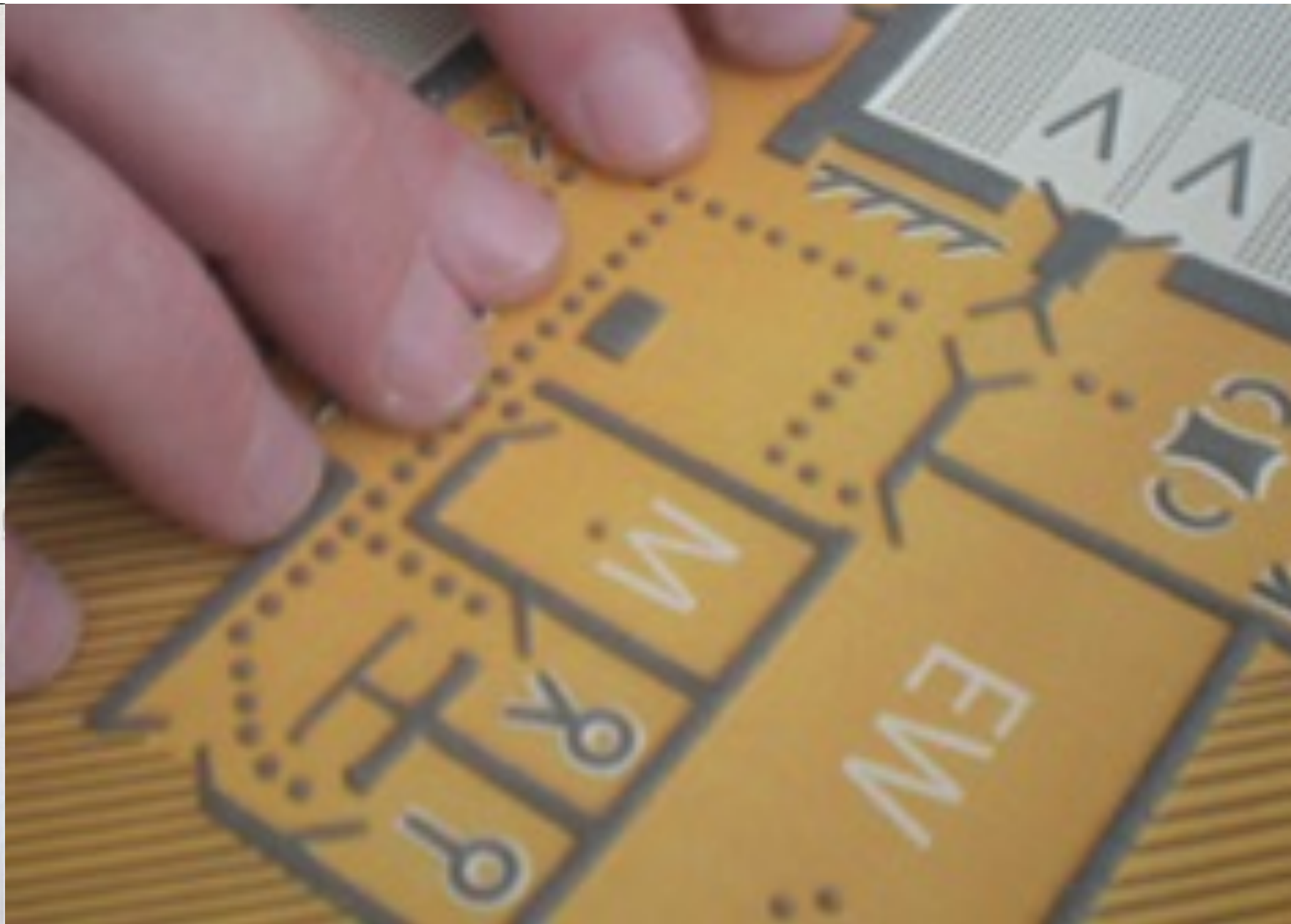
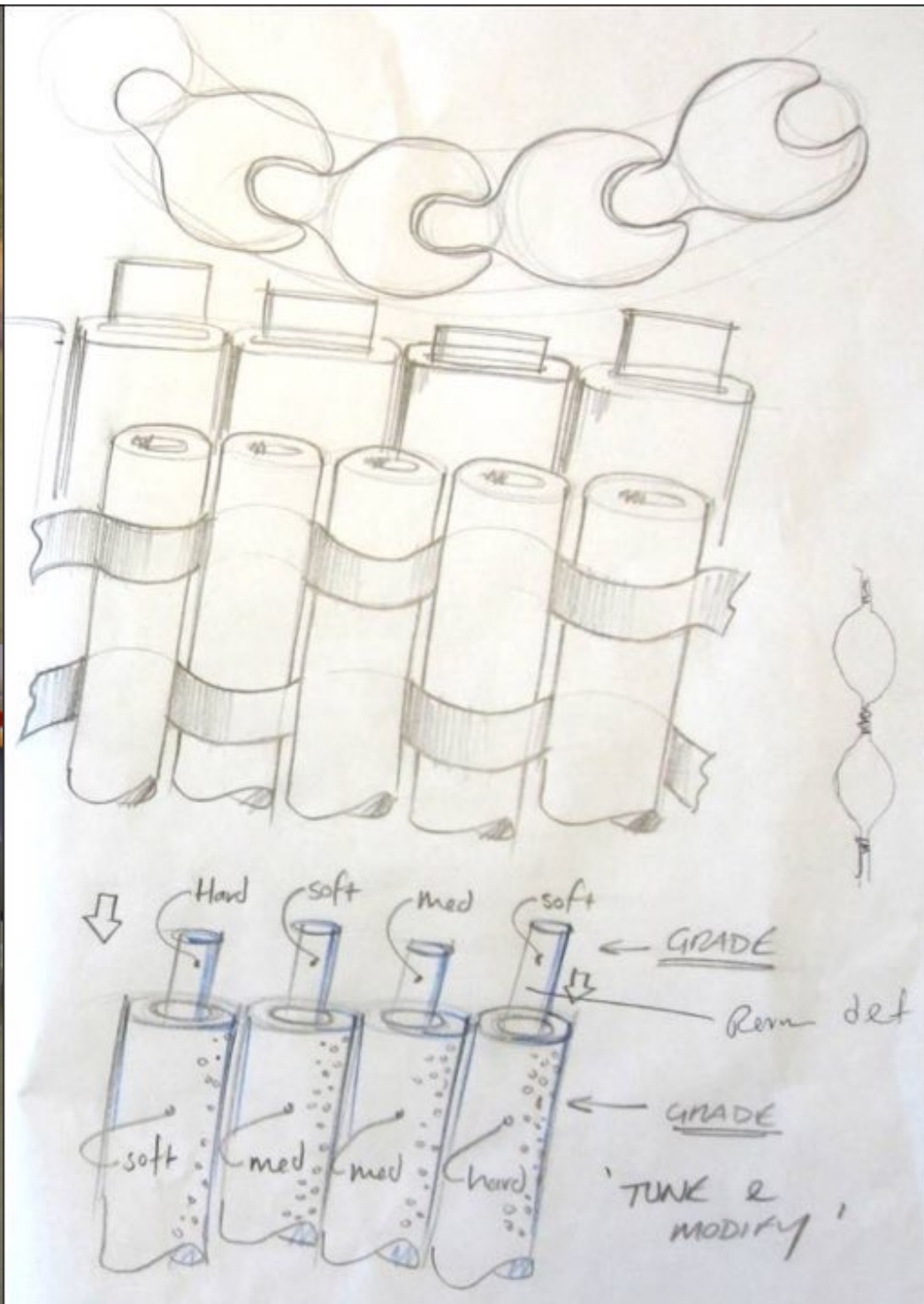
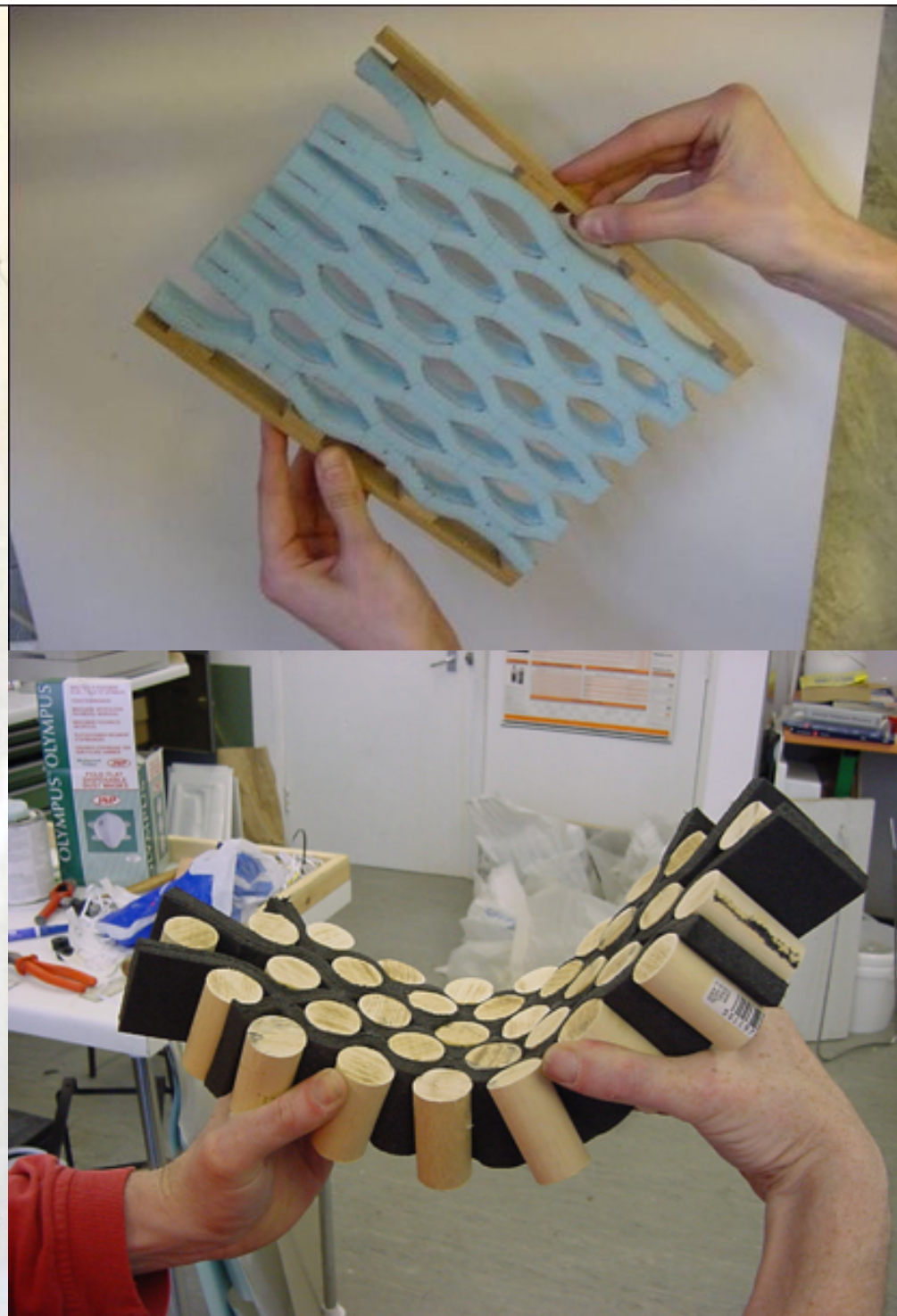
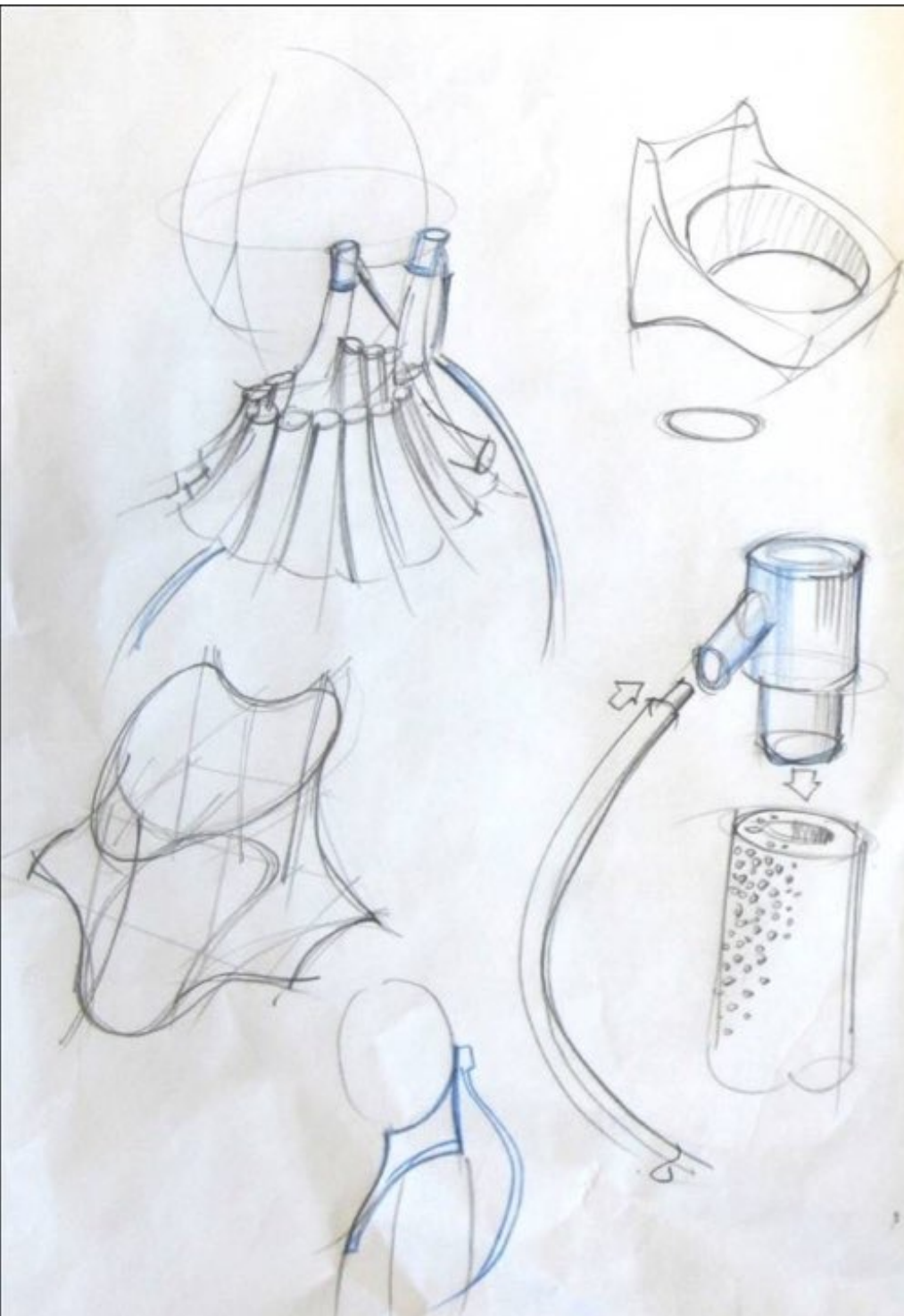


# Design

**Design** is not a science at all – and nor, incidentally, is it an art. Design is a ***practice*** – specifically, an uncertain, paradox-laden, judgement-dependent, science-using, technology-supported practice, catalysed and driven by creativity and the imagination.



# Design



- Me
- Design
- **Participatory Design**

# Participatory Design



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- ALBERT EINSTEIN -

**"If you have an apple and I have an apple and we exchange apples then you and I still have one apple. But if you have an idea and I have an idea and we exchange ideas, then each of us will have two ideas."**

- George Bernard Shaw



# Participatory Design

***think***

***WITH YOUR HANDS***

The concept of '*Cognitive Interaction*'  
- from '**How designers work**' by Henrik Gedenryd

# Participatory Design

Deduction

What + How = ??

Induction

What + ?? = Result

Abduction 1

?? + How = Result

Abduction 2

?? + ?? = Result

# Summary

- Participatory Design Practice supports knowledge mobilisation through:
  - the generation of ideas
  - a culture of 'making':
    - ➔ making ideas tangible
    - ➔ real time synthesis synthesis
    - ➔ testing and validation of different stakeholder priorities
    - ➔ graphical and physical language for culturally meaningful communication

# Summary

I am looking for case studies that I can actively engage with to test these ideas...case studies from amongst the CLAHRC YH network of researchers...

# Thank you



## 3rd European Conference 13th - 16th July 2015 Sheffield UK

Lab4Living is pleased to announce the 3rd European conference on Design4Health. Our third biennial conference brings together designers and creative practitioners with researchers, clinicians, policy makers and service users to discuss, disseminate and test their approaches and methods. Our events provide an opportunity to reflect on how the disciplines of design and health might develop new ways of thinking and working, and how we might impact positively and sustainably on the social, economic and cultural factors within our communities and beyond.



[www.lab4living.org.uk](http://www.lab4living.org.uk)

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