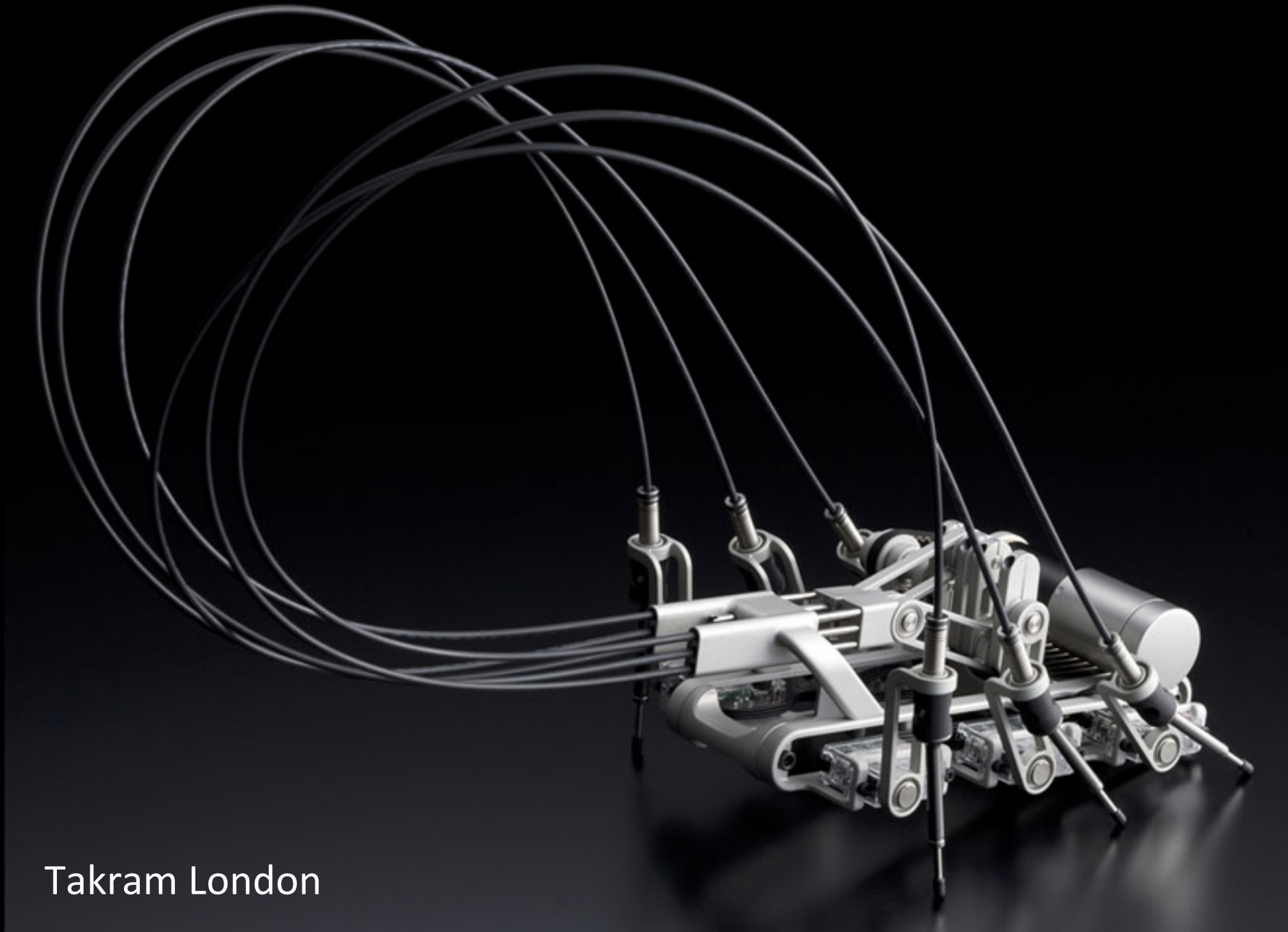
Royal College of Art

Postgraduate Art & Design

KAIST – DESIGN 3.0 FORUM

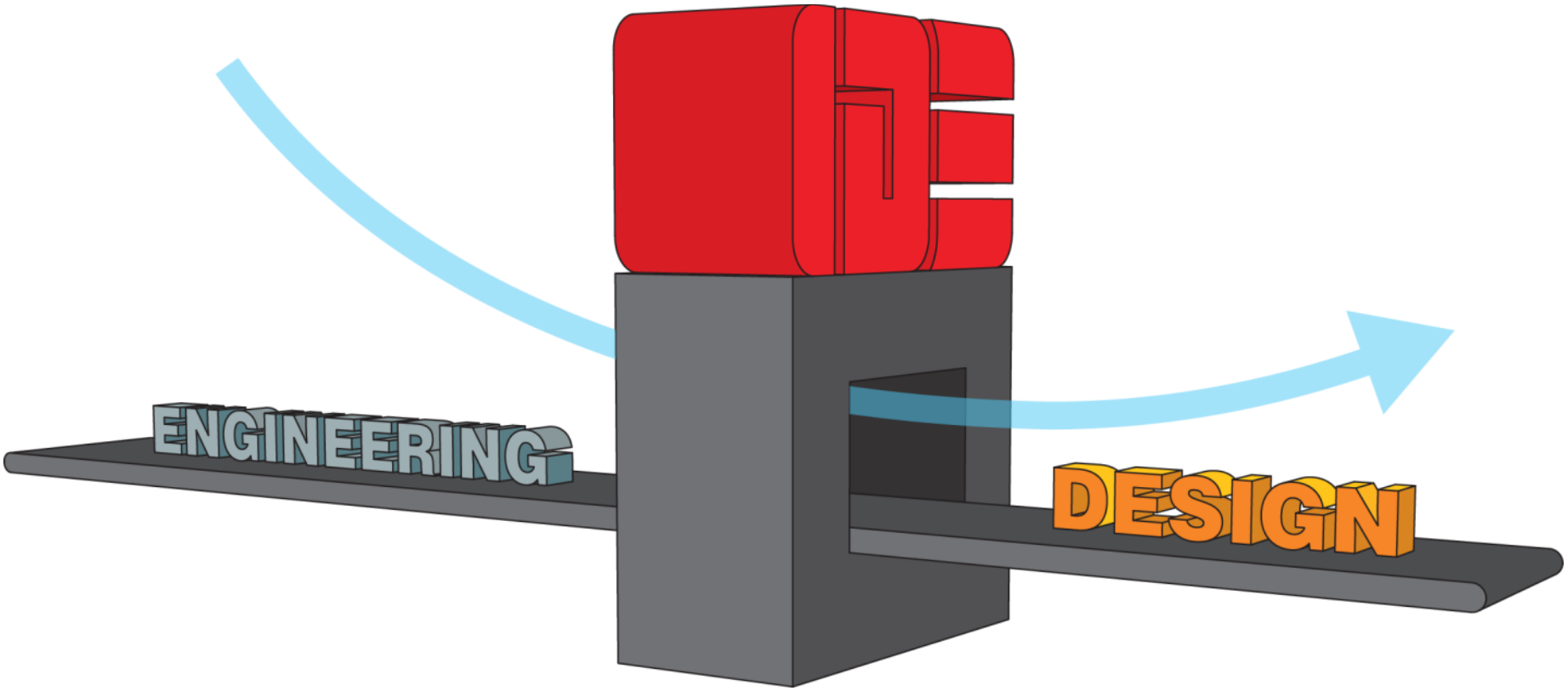
Miles Pennington


Takram London

IDE
INNOVATION DESIGN ENGINEERING

Royal College of Art
Postgraduate Art and Design

Imperial College London



IDE Circa 1980

IDE 2016 – Diverse cohort

Educational challenge:

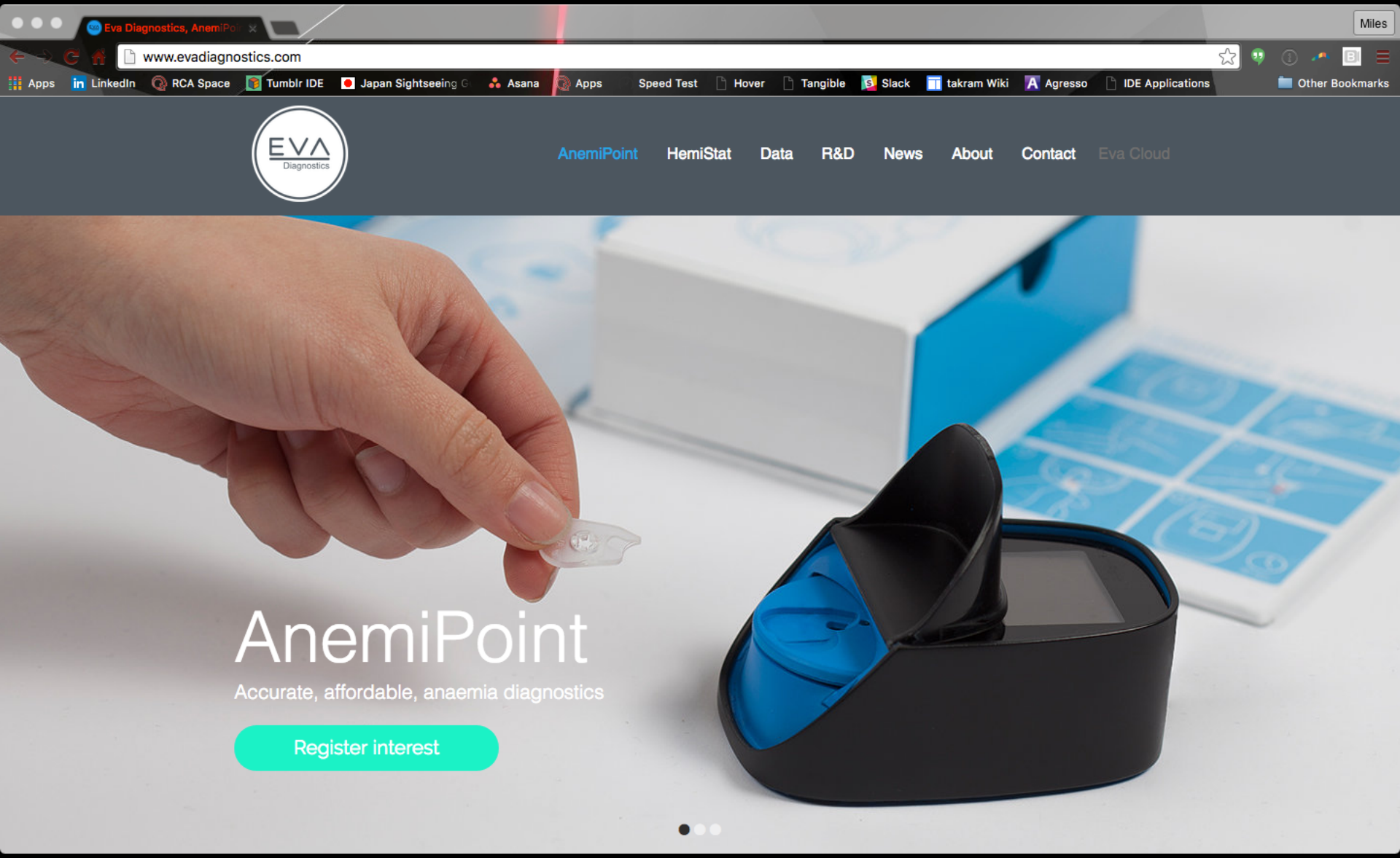
“Since we live in an age of innovation, a practical education must prepare a person for work that does not yet exist and cannot yet be clearly defined.”

Peter F. Drucker

Educational challenge:

- No overally defined course narrative
- No standardized methodology
- Avoidance of simplified problem solving techniques
- Contrast of contexts and scales for individual development
- Group working / interdisciplinarity for divergent thinking

- No book of spells but there is magic



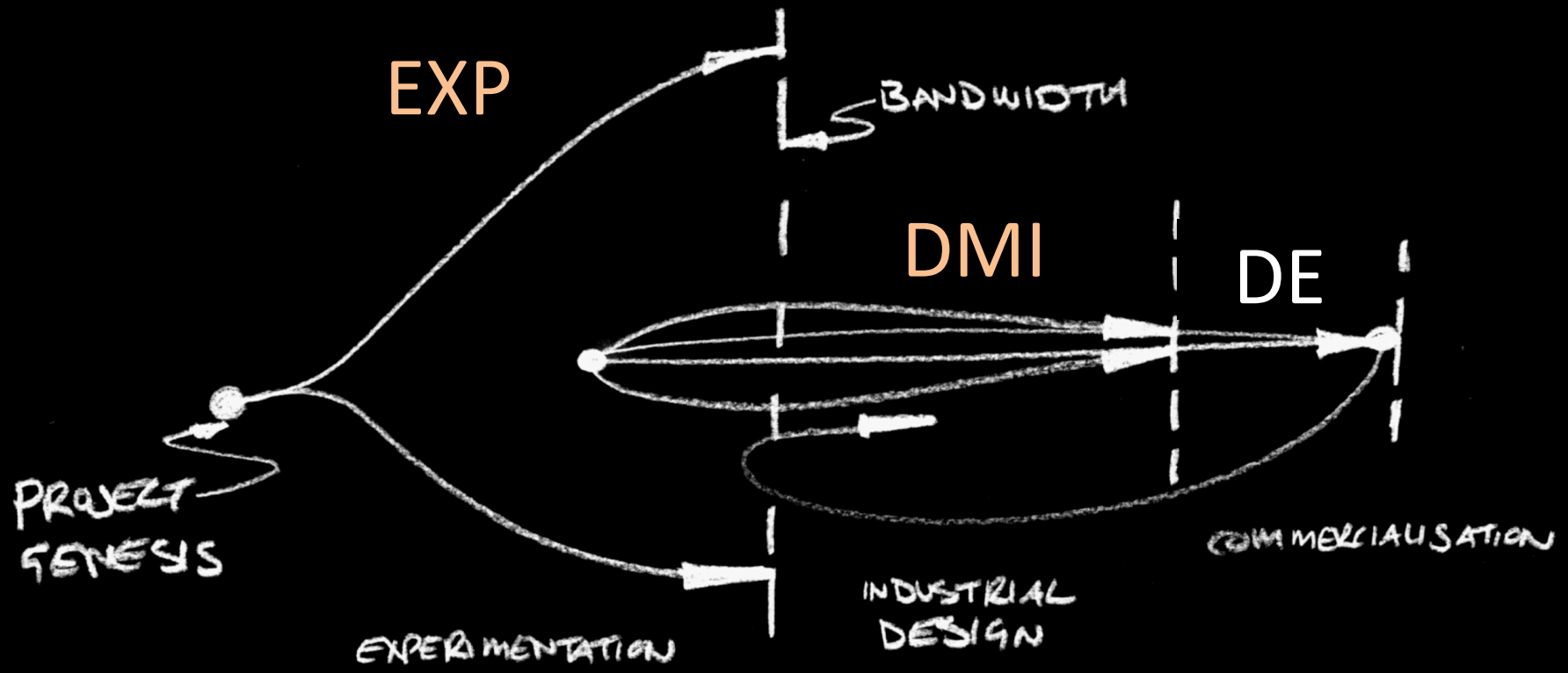
Millie Clive Smith – IDE 2013 (EVA Diagnostics)

Mohammed Daud – IDE 2011 (Stephoe)

Suggestions:

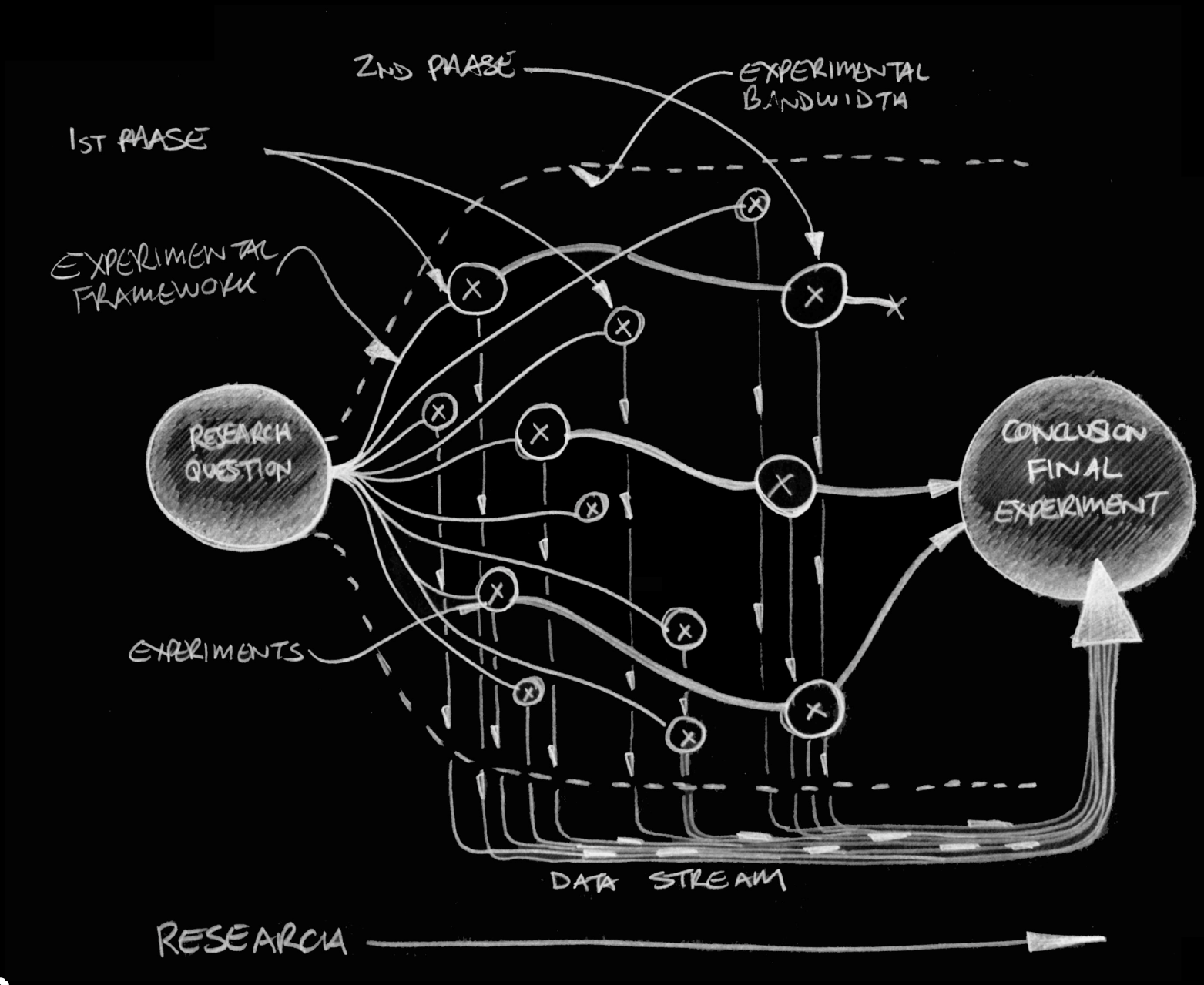
- Dissolving the disciplines

Diagram: Innovation Directions (Copyright: Professor Ashley Hall)



Innovation Directions

Diagram: EXP Process (Copyright: Professor Ashley Hall)



EXP

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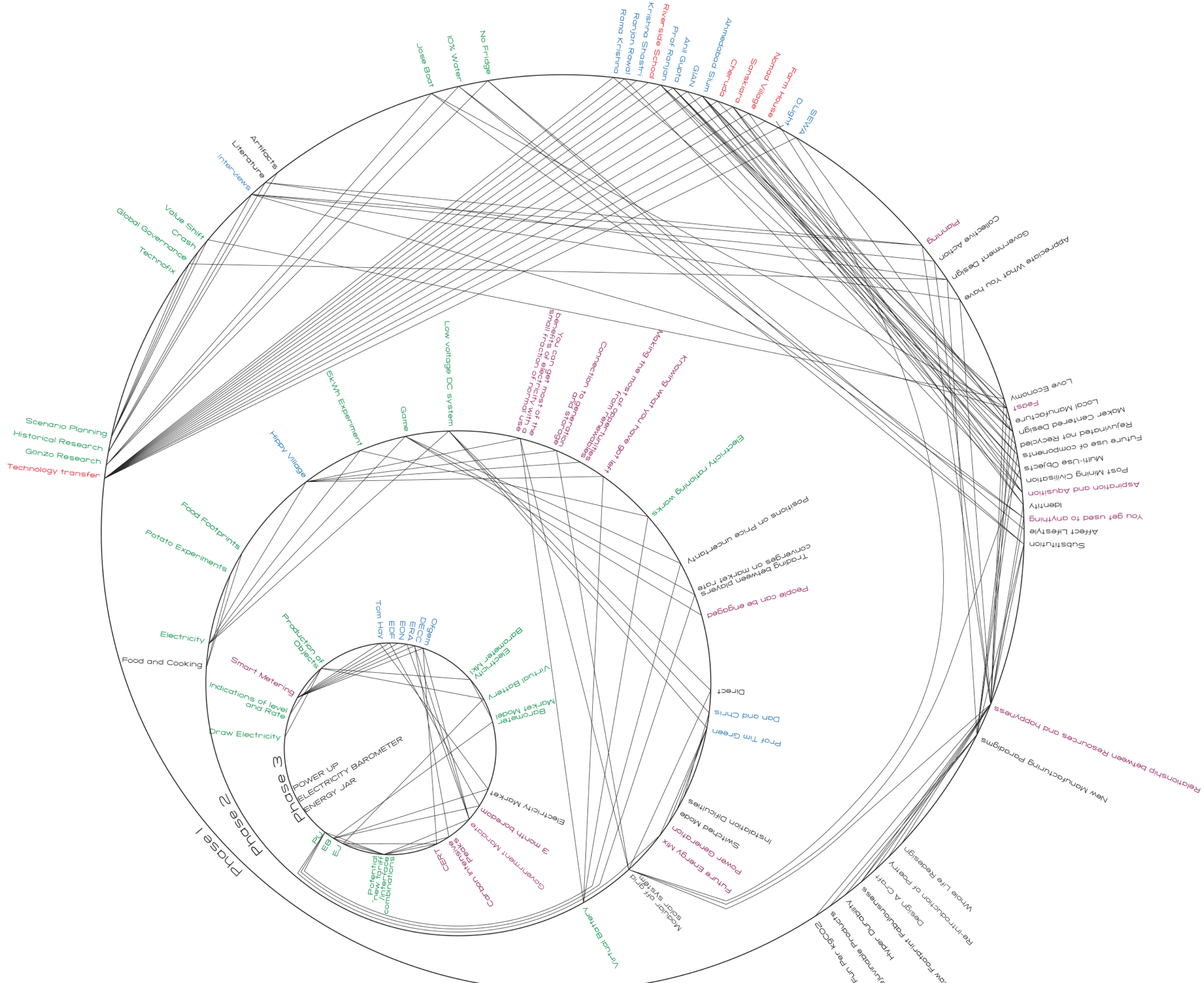

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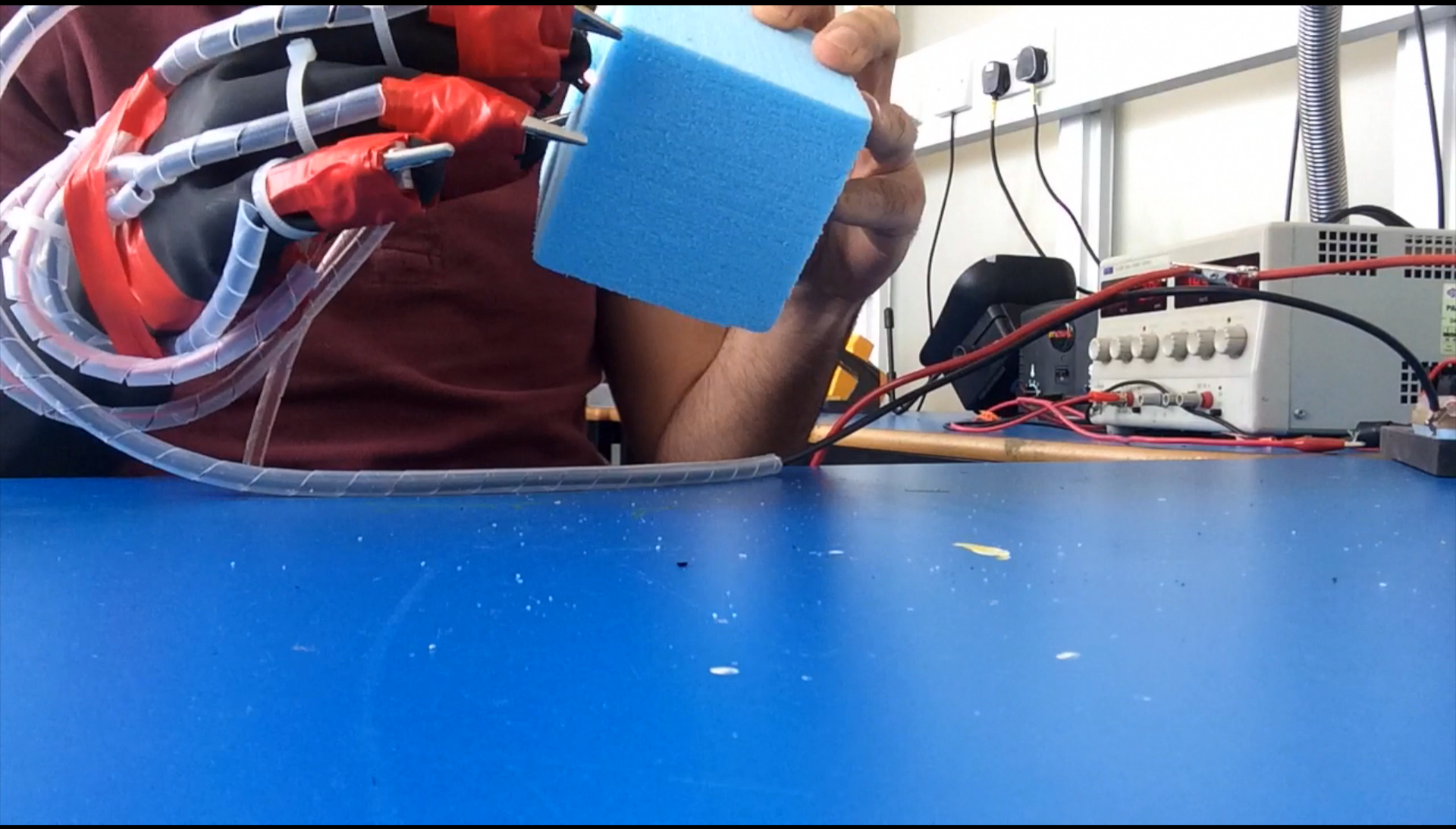
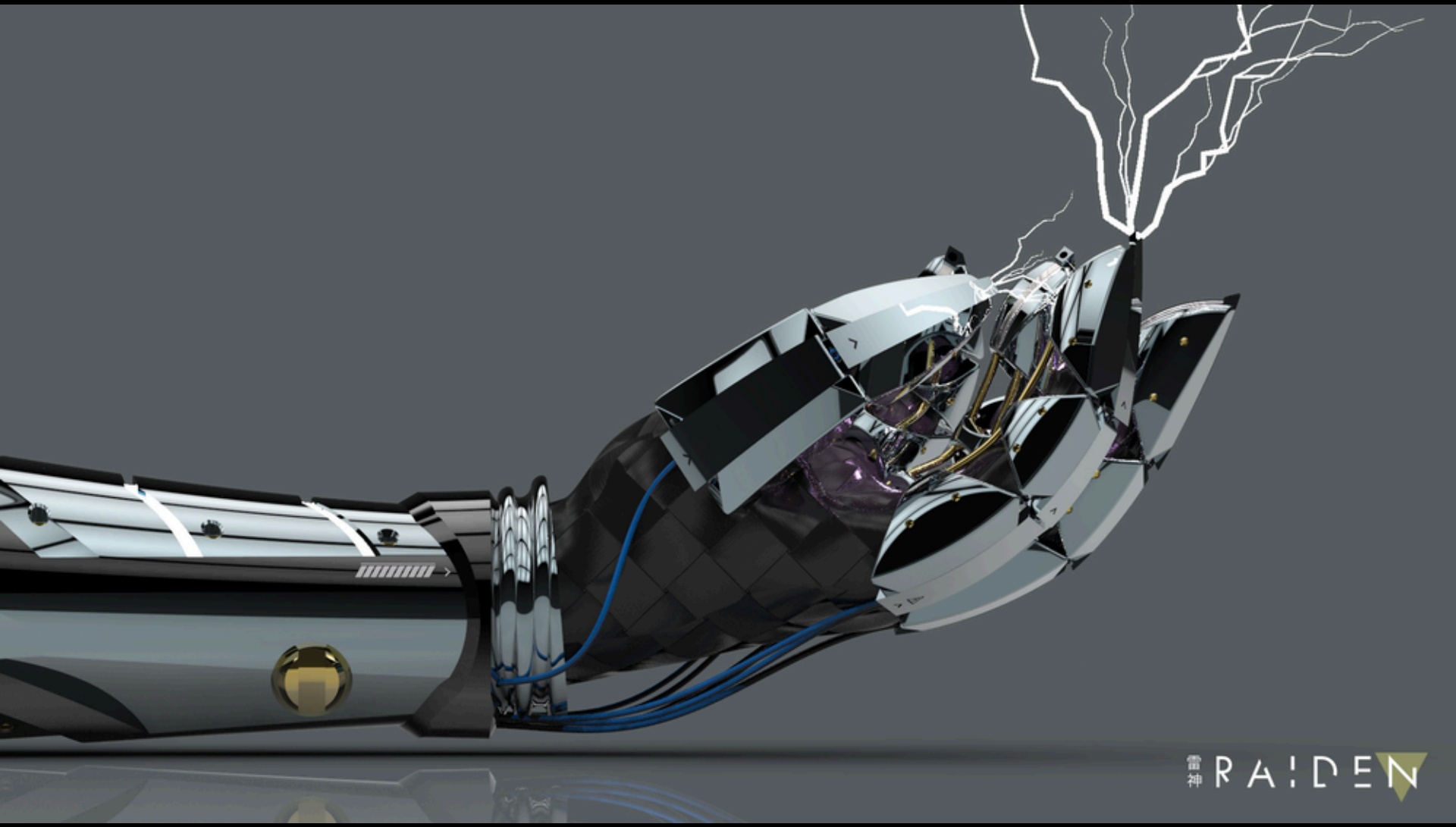


EXP – Kourosh Atefipour – Raiden



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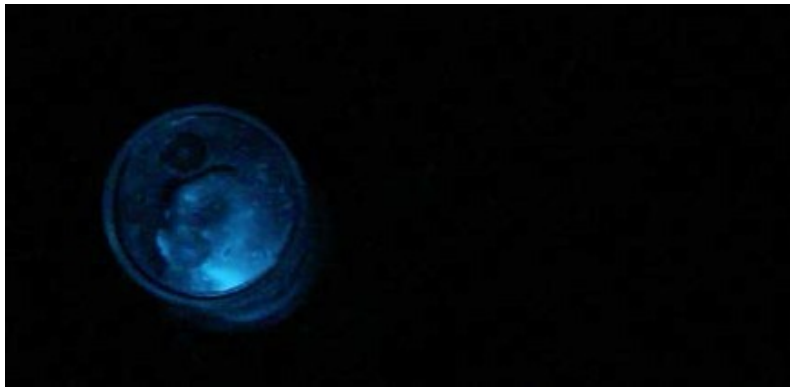
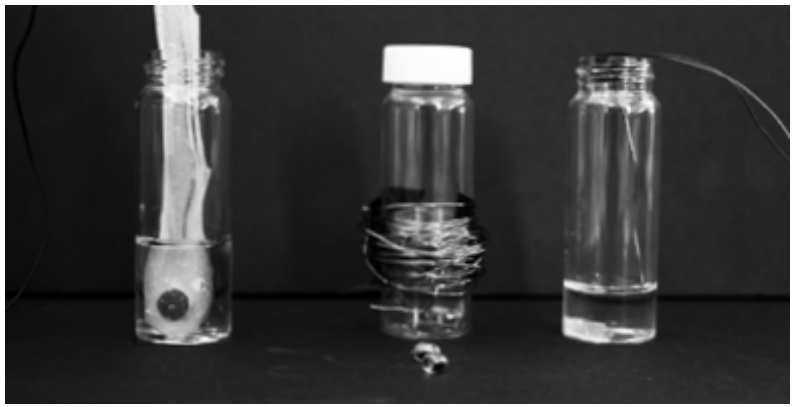
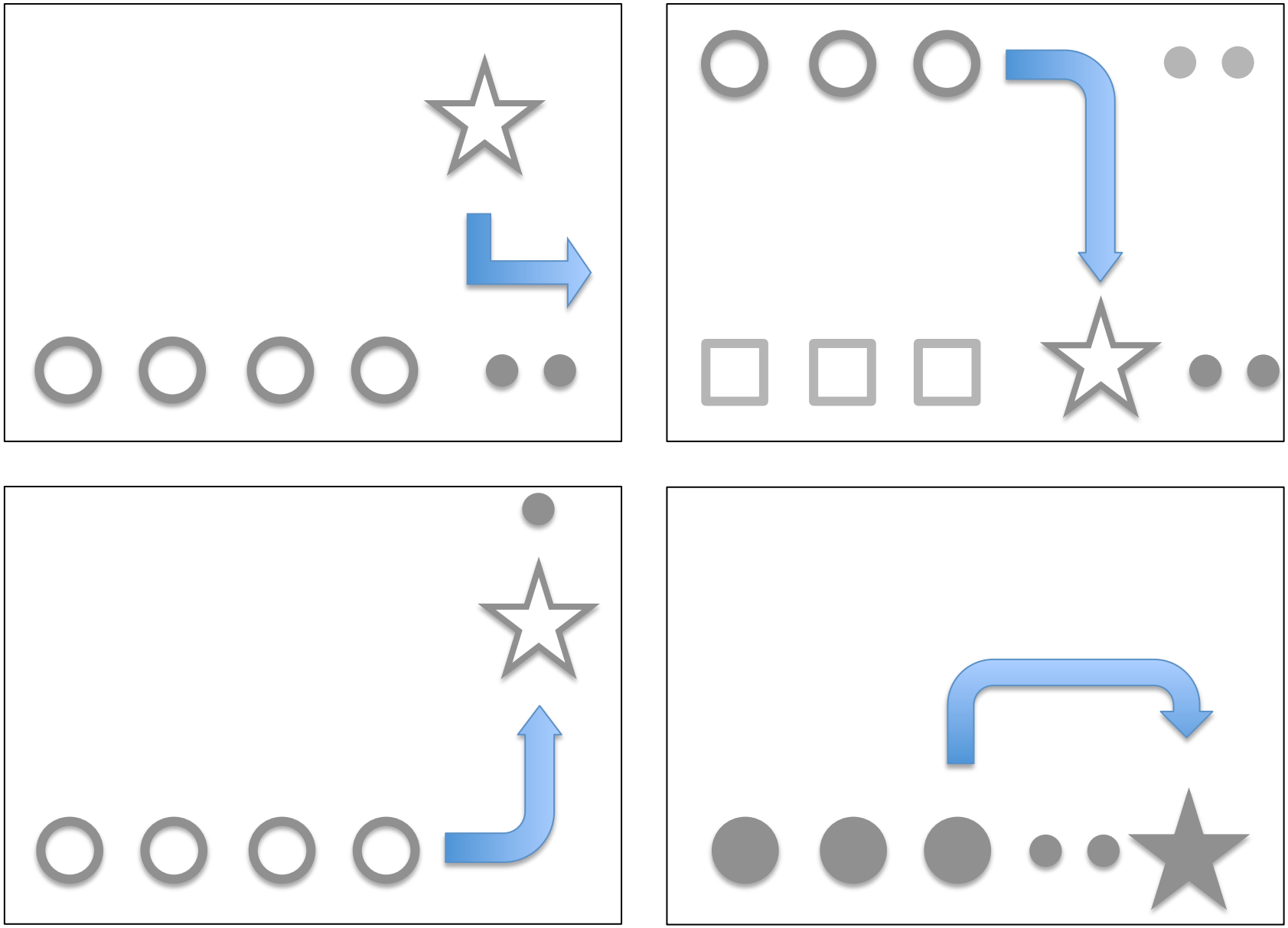
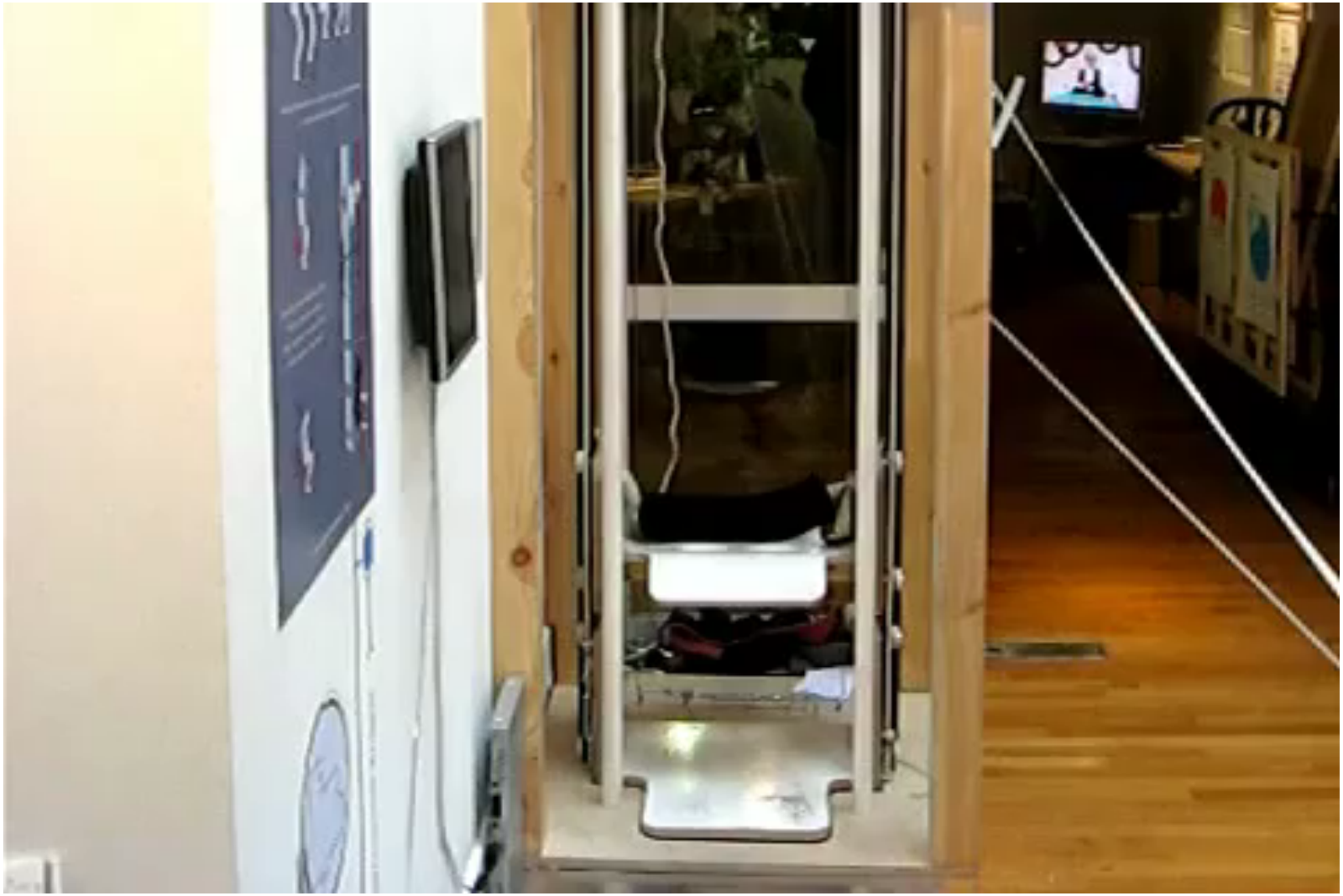




EXP - Charlotte Furet (Bio Display)



Disruptive Market Innovation - Directions



DMI SOLO PROJECT: “FLUPPER” (by R. Frieling)

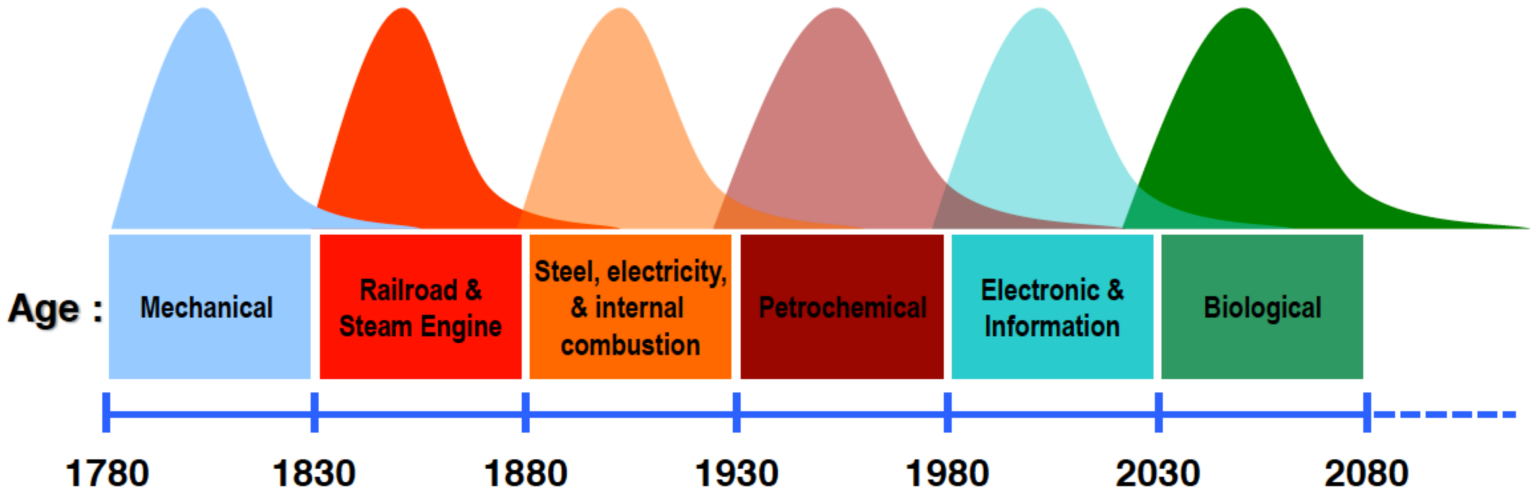
DMI GROUP PROJECT: “TINI” (Spirulina algae as a food)

Suggestions:

- Dissolve the disciplines
- Approaches over skills

Ambient intelligence, Artificial brain, Artificial intelligence, Atomtronics, Augmented Reality, Brain-computer interface, Counterparty (technology), Cryptocurrency, Cybermethodology, Internet of Things, Emerging memory technologies, Racetrack memory, Machine augmented cognition, exocortices Machine translation, Machine vision, Mobile collaboration, Optical computing, Quantum computing, Quantum cryptography, Radio-frequency identification, Semantic Web or answer machine, Software-defined radio, Speech recognition, Three-dimensional integrated circuit, Virtual Reality, Wearable computer, Aerogel, Amorphous metal, Conductive Polymers, Femtotechnology, Picotechnology, Fullerene, Graphene, High-temperature superconductivity, High-temperature superfluidity, LiTraCon, Metamaterials, Metal foam, Multi-function structures, Nanomaterials: carbon nanotubes, Programmable matter, Quantum dots, Silicene, Superalloy, Synthetic diamond

Diagram: X,Y Module Intro by Professor Anthony Bull (Imperial College)



- Technology changes driving industrial growth have a phase lag ~50 years

Technology Led Innovation

Suggestions:

- Dissolve the disciplines
- Approaches over skills
- Get ready for new ages!

Suggestions:

- Dissolve the disciplines
- Approaches over skills
- Get ready for new ages!
- Connecting

Or to put them another way:

- Who cares about the labels – drop them
- Catapult learning into uncomfortable spaces
- Bio is coming - be like a virus, infect everything
- Find the scary edge and jump

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