Disciplinarity and peripheries.

FREMANTLE, C.

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Disciplinarity and Peripheries

Gray's Research Conference 2019

Last year I talked about the work of Helen Mayer Harrison (1927-2018) and Newton Harrison (b.1932) in relation to 'spatiality' last year. They are also key examples of artists working with other disciplines across the ecological sciences.

> "Our work begins when we perceive an anomaly in the environment that is the result of opposing beliefs or contradictory metaphors. Moments when reality no longer appears seamless and the cost of belief has become outrageous offer the opportunity to create new spaces - first in the mind and thereafter in everyday life." Harrisons 2003

Today I'm going to explore imagining that disciplines are a form of centres, and working across or between disciplines is a form of operating on peripheries. **Everyone says interdisciplinarity is important**. By everyone I mean UK Research and Innovation, as well as individual research councils. RGU recognises this importance and even has a **Professor of Transdisciplinary** and Technology Enhanced Learning – Lesley Diack in the School of Nursing and Midwifery.

There are a cluster of words that get used somewhat interchangeably, including **interdisciplinary, cross- or multi-disciplinary, transdisciplinary.**

But there is also **collaboration, participation and co-production (co-creativity, co-design**)

In her Professorial Lecture (having been appointed as Professor of Transdisciplinary and Technology Enhanced Learning, Diack says **defines the issue in terms of collaboration**,

> "Collaborative practice happens when multiple health workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care. It allows health workers to engage any individual whose skills can help achieve local health goals."

My interests can be defined by the three words, **interdisciplinarity, participation and collaboration**. I choose these three words precisely because they are used in slippery ways and mean different things to different people.

I've been working on this for a long time, as a researcher and as a producer

A few publications:

Reflections on Collaboration for a-n

Delivering training on collaboration for a-n

Presenting at British Academy Future Earth event

Chapter for LAGI

Some projects:

LAGI project in Glasgow – engineers, architects, landscape designers,

Nil by Mouth – artists, soil, farming and human nutrition academics

In this work what has struck me is the **continuing process of learning involved**. It means that people who do this sort of work end up with expertise in a number of domains, some of it at the same level as professors – what is different is that it is expertise nested in their discipline, rather than expertise

nested in the original discipline – over time the accumulation can result in very sophisticated bodies of understanding which don't conform to conventional disciplinary frameworks.

The purpose of this presentation is to attempt some clarification.

Basarab Nicolescu focuses on four words:

Multi-disciplinary
"Multidisciplinarity concerns studying a research topic not in only one discipline, but in several simultaneously. Blending the perspectives of several disciplines will ultimately enrich the topic in question. Multidisciplinarity brings a plus to the discipline in question, but this 'plus' is always in the exclusive service of the home discipline."
Examples
"For example, a painting by Giotto can be studied not only within art history but also within history of religions, European history, and geometry. Similarly, Marxist philosophy can be studied with a view to blending philosophy with physics, economics, psychoanalysis or literature."
Interdisciplinarity
"It concerns the transfer of methods from one discipline to another.   a) A degree of application. For example, when the methods of nuclear physics are transferred to medicine it leads to the appearance of new treatments for cancer.   b) An epistemological degree. For example, transferring methods of formal logic to the area of general law generates some interesting analyses of the epistemology of law.   c) A degree of the generation of new disciplines."

Transdisciplinarity

"transdisciplinarity concerns that which is at once between the disciplines,

…across the different disciplines,

…and beyond all discipline.

Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge.

Disciplinary research concerns, at most, one and the same level of Reality. Moreover, in most cases, it only concerns fragments of one level of Reality. On the contrary, transdisciplinarity concerns the dynamics engendered by the simultaneous action of several levels of Reality."

All quotes from Nicolescu 1993/1997

These are **not a list of increasingly good things** – they are each different configurations with different outcomes.

Collectively they represent some possibilities:

The **synthesis of knowledge** – that there is some total knowledge that can be arrived at (ie that the story of the Tower of Babel is relevant here, and that there is some original language/knowledge that has been fractured, or is fractured, and that some totality can be achieved).

or

That the issue is the professionalisation of knowledge and **what is required is an opening out** to involve more people because that will produce the most useful results (as is exemplified by Diack's position)

or

That we need ways to think about the intersection of **multiple, incommensurable realities**, eg between the spiritual and the scientific, or

between the quantum and the everyday, or between indigenous ways of knowing the environment and scientific ways of knowing the environment

Going back to the word disciplinary and **thinking about it in spatial terms** Disciplines appear to be forms of 'centre' and work across disciplines involves focusing on edges. Some people conceptualise disciplines to have 'near' and 'far' relations i.e. visual art is 'near' art history and 'far' from environmental modelling. **Gavin Little, Professor of Environmental and Public Law** talks about 'radical' and 'moderate',

"The radical variant involves scholars working across major discipline boundaries—such as theatre and environmental science—while the moderate one takes place between scholars in intellectually cognate disciplines such as law and policy, philosophy and religious studies, politics and history, or visual arts and media." (Little 2017, 6).

Murdo Macdonald, Professor Emeritus of Art History, quotes **George Davie the great historian of Scottish Education in** *The Crisis of the Democratic Intellect* highlighting the importance of **the meeting of disciplines**,

"…the most important side of any department of knowledge is the side on which it comes into contact with every other department. To insist on this is the true function of humanism." (Macdonald nd, np)

Nicolescu goes further and argues that the 'space' between disciplines is full with an **"information flux"** (much as geographical peripheries are full). (Nicolescu 1993, 6)
He is a quantum physicist – and quantum physics has demonstrated that what we thought was the **empty space between objects isn't empty**. Just as our

spatial thinking prioritises the urban and thinks of the space between cities as empty.

Turning back to thinking about disciplines, another way to think about the value of interdisciplinarity and collaboration is because **every discipline has inherent limitations**. Murdo Macdonald, following George Davie, talks about disciplines 'blindspots',

> "But it also creates blindspots, eddies of ignorance in epistemological space, which can only be perceived from another perspective. This is interesting from our perspective here because it shifts the emphasis of interdisciplinarity from the purloining of other disciplines' methods in the hope that you can apply them within your own discipline, to illuminating, by the methods of one's own discipline, what those other disciplines may be methodologically unable to access." (Macdonald nd, np

Davie's fundamental argument is that the Scottish tradition puts philosophy in a particular role as an **underpinning**. Philosophy is the love of wisdom and is therefore the **underpinning of all knowledge production.**

Turning back to Gavin Little, he suggests that we need to think about the practice in terms of **'interactional' and 'contributory'**

> …that is, between ideal types of 'interactional' and 'contributory' expertise. The former is a level of expertise which enables participants in an interdisciplinary project to be able to 'interact interestingly with' those from other disciplines and to engage in sociological analysis. The latter, however, is where participants have sufficient expertise to actually 'contribute to the science of the field being analysed'… (Little 2017, p.6)

Again I'd be careful about **assuming that one is better than the other**. Is the value of bringing ecological understanding of watersheds into the cultural sphere less than that of introducing art ways of knowing into the environmental sciences? Who is contributing what to whom?

Turning back to the starting point
We've talked about

- the different configurations as articulated by Nicolescu
- the motivations (synthesis, inclusion, levels of reality)
- the spatial metaphors as articulated by Nicolescu, Davie and Little
- the idea of blindspots
- the sorts of contributions

I've referenced too many male voices, and there is a need to question the reasons for that, but in the meantime

I started with the Harrisons talking about **the breakdown of worldviews as a point where learning starts**.
I started with the suggestion that **disciplines are centres and they have peripheries**…

Finally I'd like to offer an example. Jo Hodges and Robbie Coleman were artists on the *Nil by Mouth* project working with Soil Scientist Lorna Dawson. Lorna introduced Jo and Robbie to research into the health benefits of physical contact with soil. See the work here
https://www.johodges.co.uk/gallery_697419.html

Specifically Lorna talked about research into Mycobacterium Vaccae and how it has antidepressant effects because it stimulates the release of serotonin and norepinephrine in the brain.

Jo and Robbie imagined how this might be translated into a therapy, and created an installation imagining the therapy suite. This ironic piece proposes that as a therapy rather than simply getting out and gardening, getting your hands dirty, you'll enter a therapy suite and be exposed to the treatment by breathing in the active ingredient whilst listening to soothing sounds.

In the terms I've been discussing, this piece is interactional rather than contributory, but it also comes from a deep philosophical engagement with the issues, thinking about the value of different sorts of human experience. It was possible because we created a space where artists and scientists spent extended time together exchanging ways of working and aspects of their disciplines. The artists' shone a side light onto the soil science, opening up a different way of understanding not only the science, but also the way that science becomes everyday experience.

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Disciplinarity and Periphery

Chris Fremantle

"Our work begins when we perceive an anomaly in the environment that is the result of opposing beliefs or contradictory metaphors. Moments when reality no longer appears seamless and the cost of belief has become outrageous offer the opportunity to create new spaces - first in the mind and thereafter in everyday life."

Harrison, H.M. and Harrison, N. 2003

Prof Lesley Diack

"Collaborative practice happens when multiple health workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care. It allows health workers to engage any individual whose skills can help achieve local health goals."

Involvement

Publications:

Reflections on Collaboration for a-n (the Artists Information Company)

Delivering training on collaboration for a-n

Presenting (e.g. at British Academy 'Future Earth' event

'Working Together' Chapter for *New Energies*

Involvement cont.

Producer on collaborative projects – examples:

On The Deep Wealth of this Nation, Scotland (2017-)

Land Art Generator Initiative Glasgow: using renewables at the heart of place-making (2014-16)

Nil by Mouth: an art science collaboration on food and sustainability (2013-14)

Greenhouse Britain: Losing Ground, Gaining Wisdom (2006-09)

Basarab Nicolescu

- Multi-disciplinarity
- Interdisciplinarity
- Transdisciplinarity

- Cross-disciplinary
- Un-disciplinary
- A-disciplinary
- Extra-disciplinary
- Post-disciplinary
- Pre-disciplinary
- Hyper-disciplinary
- Auto-disciplinary

Multi-disciplinary

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Examples

For example, a painting by Giotto can be studied not only within art history but also within history of religions, European history, and geometry.

Similarly, Marxist philosophy can be studied with a view to blending philosophy with physics, economics, psychoanalysis or literature.

Interdisciplinary

It concerns the **transfer of methods** from one discipline to another.

a) A degree of application. For example, when the methods of nuclear physics are transferred to medicine it leads to the appearance of new treatments for cancer.

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Proximity and distance

"The **radical** variant involves scholars working across major discipline boundaries—such as theatre and environmental science—while the **moderate** one takes place between scholars in intellectually cognate disciplines such as law and policy, philosophy and religious studies, politics and history, or visual arts and media."

(Little 2017, 6).

"…the most important side of any department of knowledge is the side on which it comes into contact with every other department. To insist on this is the true function of humanism."

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Little 2017, p.6)

References

Diack

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