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Ruptures and Wrong-Footings: Destabilizing Disciplinary Cultures

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Abstract

In this transcribed conversation, three artists from the research group *The Cultural Negotiation of Science* (UK) consult each other on the different generational perspectives they bring to the contested field of arts-science research. Traversing territories between art-practice, physics, genetics and critical theory, their practice-based strategies actively destabilize the binary nature of cross-disciplinary dialogue in productive ways, allowing the spaces between artistic and scientific modes of enquiry to become sites of learning, both within and beyond academic institutions.

Article text

There was a time when the expanded field of contemporary art was not thought of as a cross-disciplinary venture, nor necessarily a matter of dialogue. This was a time of interventionary possibilities. Science was an interesting option and, paraphrasing Rosalind Krauss [1], many surprising things were being called art. Consequently, artists could intervene in sites of scientific enquiry without necessarily describing this as a dialogic negotiation of different cultural values and technical practices. By the time *The Cultural Negotiation of Science* (CNoS) [2] was founded in 2013, the history of artists' engaging with biomedicine, genetics, and fundamental science had been widely assimilated, and these developments were increasingly premised on the joint production of knowledge rather than the relocation of

experimental art. Once established, artists joined the group who were initiating cross-disciplinary work with scientists and technologists within the frame of ‘practice as research’ -- a recalibration of artistic experimentation that has driven the development of practice-based PhDs in art schools. The following dialogue, which took place across several months during the UK COVID 19 lockdown, is between three CNoS researchers representing different generational perspectives. The exchange does not set out to recount the histories of art-science collaboration; instead, within the transcript there is an emphasis on the personal and situated character of knowledge when it is produced through ‘doing’ as well as a challenge to the instrumentalization of art practices that can often occur in transactional models of arts-science exchange.

[Chris Dorsett 28.03.20] An image comes to mind. That photograph of us travelling together on a train shows a sealed interior outside of which the world passes by as a blur. I borrowed a motif from Bruno Latour when I wrote about this in an essay for Christine’s recent book [3]. It would take, Latour says, a mechanical breakdown, or a terrible accident, to reunite the technologically privileged passengers with their non-technological environment [4]. Arts-science wouldn’t necessarily seek to puncture the sealed bubble. I suppose I was hoping that *trainslidingtalk*, the title of my project, would. Shouldn’t artworks try to be devastatingly porous? Anything technological can seem so impermeable.



Curated conversation (2014) following ‘trainslidingtalk’ (2013), *Extraordinary Renditions: the cultural negotiation of science*, BALTIC Centre for Contemporary Art. Credit: Matthew Harle (© C. Dorsett)

[Louise Mackenzie 21.05.20] Thinking about this further, Chris, perhaps this idea of technological impermeability --- set against porosity in art --- has something to do with perception and also technique. Scientists have a familiarity with some of the techniques of art in their daily work. They draw and sculpt as a vital part of their practice: albeit that the drawings and sculptures of science are often diagrams and apparatus. I recall that in your many shared train journeys with Volker Straub [5], his drawings sometimes formed part of the conversation. Further, analyzing images (and increasingly sound) are also commonplace scientific activities. Morten Søndergaard discusses this in the context of sound as evidence suggesting that, rather than drawing a distinction between art and science, it is perhaps more appropriate to consider that there exists both ‘an aesthetic and a scientific mode of inquiry’ [6].

[CD 17.06.20] Louise, it seems right to signal that the distinction resurrects aesthetic issues [7]. If scientists see aesthetics as a vehicle of public engagement, then art is ripe for instrumental assimilation. Even when art became a social practice[8], the issue of instrumentalization didn’t disappear. To be a facilitator of, say, an out-of-gallery project made it worse. For me, a veteran interventionist, Latour’s train crash symbolizes how subversive interventionism has often had to be out there in the expanded field. It would be a shame, I think, if the journeys I shared with Volker were only interesting when reported back to departments of science and their specialist journals. When I spoke of devastating porosity I meant that aesthetic bubbles are there to be punctured, not proliferated.

[LM 06.04.20] Fiona, in our discussion last week, you talked about how the work that we share acts in the world. We were discussing the philosophical and theoretical perspectives that register so clearly with much of our research and how what we do as artists, whilst drawing from these orbiting spheres of influence, is not an illustration of theory, but an enactment through practice, resulting in some form of cultural reality?

[Fiona Crisp 09.04.20] Yes, although even the term ‘enactment’ suggests a process of translation that, in itself, creates an asymmetry that can be problematic. Instead, I feel that we should be recognizing the simultaneity by which philosophers, critical theorists and artists can reach the same territory by different means. The histories of Western art-school pedagogies and research cultures have evolved and encouraged these asymmetries, where critical theory is perceived of as an indispensable scaffold for creative practice, rather than a

co-existent dialogical partner. When such habituated structures are carried into cross-disciplinary spheres, art can be seen as servicing or translating other expert cultures. This is especially the case when artists' dialogues with scientists are co-opted as a means of public outreach; within this paradigm, the science is too often understood as 'complete' with the role of artist reduced to facilitating public accessibility. Of course, this is not always the case --- a great deal of our time is spent identifying and nurturing relationships with scientists who embrace a form of porous dialogical exchange --- but there are systemic issues in the *cultures* of both art and science, particularly in relation to funding research, that can encourage this form of transactional exchange. This is why establishing *confidence* in practice-based knowledge production (knowledge produced through 'doing') is so important.

[LM, 26.02.20] When working at the Institute of Genetic Medicine at Newcastle University I often found that my interactions in the lab with geneticist colleagues punctured their daily routine in surprising ways. I have been finding ways to give voice to this moment of rupture -- not only through questions and discussions but also actions and spontaneous moments. For example, during *Transformation --- Thinking Through Making with Life* [9], a participatory genetic modification workshop that I developed, ambiguous (and indeed porous) consequences arose from the simple placement of the scientist or social scientist in a private and anonymous space (see Fig. 3), and the asking of speculative questions that allowed them to transform into a new, imaginary role --- someone other than 'scientist representing an institution'. This shift opened up a new form of relation between the scientist and their subject as well as between scientist and public and led to the making of the short film, *Zone of Inhibition* (Fig. 2) [10].



Fig. 2. Louise Mackenzie *Zone of Inhibition* (2019). Single channel video 14:13. (© L. Mackenzie)

[LM, 06.04.20] The word transformation is interesting. It is used in a scientific context to explain what happens when the body of an organism is rendered porous enough to allow the uptake of new biological information (DNA). As artists we can set the ground for cultural transformations.

[FC 05.05.20] And sometimes these acts of transformation can also be acts of transgression - especially when the ethos of collective intelligence within the culture of science is threatened through an act of individuation. I hadn't considered how culturally transgressive it was for a scientist to write in the first person until, when co-editing a book of essays [11], we made this request of the physicists we were working with. This is a great example of a type of productive 'wrong-footing' (or purposeful dislocation as we have referred to elsewhere) that allows the physicists to re-position themselves in relation to their own, habituated cultures of practice where the use of the first person militates against protocols of objectivity. Effectively, we were asking the book's contributors to move towards Barad's definition of knowledge-making practices as "social-material enactments that contribute to, and are part of, the phenomena we describe" [12]; in this respect artist, scientist and publics are placed inside of, and indivisible from, the knowledge-making process itself: a fundamental re-positioning with potentially profound implications.

[CD 18.03.20] We must also recognize that CNoS comprises members across different generations. I'm alert to the possibility that older arts-science researchers, from whatever discipline or profession, might have habituated their sense of lived time very differently from younger ones. It's true, isn't it, that one's idea of what constitutes a threat or a transgression changes.

[LM, 18.03.20] It's interesting that you bring up the concept of lived time. I'm thinking about how this relates to intra-action, space, time, and matter in the work of Barad and situatedness in the work of Haraway [13]. There is a sense of an accumulation of knowledge through our situatedness (in the institution for example) that perhaps begins to calcify across generations. Visually, I am picturing lived time as a form of calcification. It also makes me think of a tree that has grown into the wind on an exposed hillside --- the way that a structure forms in relation to its environment.

[CD 18.03.20] Someone with a lot of artistic experience might simply move through everyday lived time differently from someone with lots of scientific knowledge. I'm not picturing this as calcification. If I went to work on a train differently to the scientists I travelled with, this doesn't mean our dialogues became 'cross-disciplinary' in any fixed, formal sense. During the journey our expertise was dislocated by the particular, technology-based, consumption of time and space we call commuting. It's paradoxical, *trainslidingtalk* occurred because our disciplinary affiliations had been 'de-situated' --- we weren't yet at work.

[LM, 18.03.20] Yes, the sense of a kind of agency that moves between habit-forming practices, freeing them up. I realize that I am equating discipline-based perceptions to habit-forming practices. Is this fair? My own lived time has often been characterized by forms of negotiation between disciplines (prior to my work as an artist, I studied as a psychologist and worked as a management consultant). I have spent much time considering and negotiating changes in different forms of (often calcified) practices. Ironically, this now makes me question whether calcification or habit is problematic, unavoidable, or perhaps necessary?

[FC 27.03.20] These thoughts also relate to questions currently being asked about how empirical data can be reconciled with lived experience. Recent shifts in critical theory --- within the realm of New Materialism for example --- break down the rigid dichotomy of

nature and culture. Within this new paradigm, all fields are relational and contingent - but how do we negotiate this new landscape? The work of Karen Barad and Donna Haraway have been hugely important to the potential breakdown of these unhelpful dichotomies - not least that of 'science' and 'art'. In my sphere of working with fundamental scientists I am looking at how earlier ideas relate to New Materialist thinking, such as Niels Bohr's conclusion (paraphrased by Barad) that "we are part of that nature which we seek to understand" [14] or the philosophical pragmatism of John Dewey in his seminal book *Art as Experience* [15]. But I am also interested in how these ideas might play out in practice. To this end I have been thinking about how radical new forms of 'residency' might be evolved that experiment-with and make-manifest the themes of time, permeability, and ambiguity that we have been discussing, through creative strategies such as 'wrong-footing'. Chris, you mentioned that this maps across to the device of 'purposeful dislocation' in anthropology?

[CD 14.04.20] The term comes from a book about anthropological fieldwork by Akhil Gupta and James Ferguson [16]. You mention ambiguity. It's related. During the *trainslidingtalk* journeys, one 'talker' (me) was going to a university art school, the other (Volker) to a university department of genetic science. We were travelling towards different vocational destinations, neither of us was, as yet, located in our respective disciplinary silos.

Consequently, we could tolerate the differences that lay ahead of us, especially those associated with the different values that art and science place on ambiguity. Toleration is a factor within purposeful dislocation. According to Michael Gordin [17], the daily walk that Albert Einstein took across the Palacký Bridge when he was working in Prague prompted him to align the concept of gravitation with the theory of relativity. His decision-making seems to have extended, extra-cranially, into the urban space around him. But he hated the city. He thought the air was full of soot and the water life-threatening. Tolerating this may have allowed him to over-ride his previous theoretical assumptions.



Fig. 3. Louise Mackenzie *Dr Ana Topf enters the Zone of Inhibition* (2017). Video still from documentation of *Transformation --- Thinking Through Making with Life* workshop, ASCUS Lab, Summerhall, Edinburgh. Credit: Gary P. Malkin. (© L. Mackenzie)

[LM 22.04.20] Evelyn Fox Keller discusses this type of dislocation as a form of knowledge production when describing geneticist Barbara McClintock's work on *Neurospora* chromosomes [18]. McClintock tried in vain to view these chromosomes as individual objects under the microscope. This revelation occurred only after purposefully dislocating from the lab --- to 'sit, and meditate, beneath the eucalyptus tree' --- on returning to the lab bench, the organisms became visible to her. Keller describes this in the context of 'vision' but as is clear from the example, this form of vision does not come from engagement with the eye alone, rather it is a form of internal vision or subjectivity. It also reminds me of Charles Darwin's daily walks through the grounds of his home in Kent, a route that became known as the Sandwalk, during which he spent time formulating ideas that would ultimately lead to, 'On the Origin of Species'. This form of distance from the task at hand: Einstein's, McClintock's, Darwin's is, I think, a related but different form of dislocation to wrong-footing which is perhaps a more spontaneous time-based event, caused through art's negotiation with other disciplines. I can imagine that during the *Transformation* workshop, participants were wrong-footed by the challenging interview scenario, which then allows an ongoing sense of dislocation as a result of this extemporaneous event.



Fig. 4. Fiona Crisp *Boulby* film still from *Material Sight* 2018. HD Single Channel Video. (© F. Crisp)

[FC 06.05.20] I wonder how the experiences or strategies that you are describing here might relate to the concept of ‘phenomenological dissonance’ that I wrote about recently [19]. This idea points to the friction of reconciling the radical remoteness of fundamental science (where scales, speeds, distances, and abstraction challenge our cognitive and imaginative capacities) with the intense physical presence of its environments and apparatus of experimentation. These radically remote spaces are ‘occupied’ by fundamental scientists --- literally by the experimentalists in the underground laboratories but also imaginatively by theoreticians and phenomenologists who ‘situate’ themselves within their work via dark matter simulations or mathematical equations for example [20].

I first encountered this dissonance over a decade ago when visiting Boulby Underground Laboratory [21]. In my film-work *Boulby* (Fig. 4) the camera is embodied by a truck as it moves forward into the continually enveloping darkness of the labyrinthine tunnels stretching out for several kilometers under the seabed. When the film is encountered, the overwhelming sound of the truck’s contained engine situates itself viscerally within the viewer’s body, yet visually the film unfolds in a hypnotic present, suspending our sense of spatial and temporal orientation.

In 2018, *Boulby* was edited together with a fly-through animation of the famous Hubble Deep-Field Image (Fig.5) to become part of the research project and exhibitions *Material Sight* [22]. Produced by the Institute of Computational Cosmology at Durham University, the fly-through simulation animates NASA's 'observed' still image [23], enabling us to travel back through space and time toward the big bang. I think this absurdly paradoxical desire --- of trying to somehow create a sensorium for radical remoteness --- sits at the dialogical core of my work.



Fig. 5. Fiona Crisp / ICC, Durham University. Film still of *Hubble Fly-Through* from *Material Sight* 2018. HD Single Channel Video. (© M. Swinbank & F. Crisp)

[CD 08.05.20] Picking up on Fiona's comment about speed and cognitive capacity. The blur outside the train window (see Fig. 1) was techno-scientific. The camera 'saw' a build-up of freeze-frame moments. Science is, for Gilles Deleuze and Félix Guattari, the 'fantastic slowing down' of speed itself [24]. This thought astounds me. I've always assumed that science facilitates acceleration, but its mechanisms are built on punctuation (e.g. Eadweard Muybridge's motion photography). How perverse! To see my photographic blur as the

absence of motion --- that change in perception would indeed burst a few aesthetic bubbles, not just in the arts.

References and Notes

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20. See Richard Bower, Fiona Crisp, and Mark Swinbank, "Visualisations in Cosmology" (film), *Material Sight*, 2017, <materialsight.wordpress.com/2017/03/13/visualisations-in-cosmology/> or Fiona Crisp and Massimo Mannarelli, "The Blackboard" (film), *Material Sight*, 2017, <materialsight.wordpress.com/2017/09/18/the-blackboard/>.
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Bibliographical Information

Fiona Crisp is a founder member of *Cultural Negotiation of Science* and is a Professor of Fine Art at Northumbria University, Newcastle, UK. Her most recent project, collaborating with three world-leading facilities for fundamental science can be accessed at www.materialsight.wordpress.com. Crisp's work is represented by Matt's Gallery, London.

Chris Dorsett is an artist-curator whose career helped pioneer the contemporary interface between experimental art practices and the museum sector. He has undertaken many interventionist projects within collection-based institutions concerned with scientific knowledge. Dorsett's personal archive has recently been accessioned by the Pitt Rivers Museum, where he is currently a research affiliate.

Louise Mackenzie PhD is an independent artist and researcher in the UK. She is a member of the Cultural Negotiation of Science research group. Her current research, in collaboration with Newcastle University's Department of Mechanical Engineering, explores relationships between making practices across arts and 3D bio-engineering.