

Using a Posthumanist Lens to theorise ‘Making-with’ in Transdisciplinary Creativities: Exploring the value of ‘Temporal Diffraction’ as a form of analysing (co-) authorings

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When artists and scientists focus on the ontological supposition of ‘becoming’ (Braidotti, 2013), how is this captured diffractively in transdisciplinary research? Transdisciplinary practices produce particular ruptures of conventional styles of teaching and doing research featuring material performances that incorporate embodied movements and produce particular intensities of ‘making-with’ (Haraway, 2016, p. 58, further theorised in Murriss & Bozalek, 2019). The artist’s identity drives artistic practices of becoming/embodying art(s), that constitute and are constituted by a diffractive creation process. What then do artists and scientists do that connects and materialises as artistic-scientific? Researchers offer theorisations of artist and scientist engagements with places, people, histories and practices that invite explorations of complex affects. We connect these practices through the practice-concept of ‘*authoring*’ because it does not separate between thinking and doing. We make use of ‘*temporal diffraction*’ as a form of analysis that allows pasts to fold back into presents in unexpected ways, bodies to become other than who they have been, and corporeal forms that change physically and emotionally. It is this plasticity of form, involving the reshaping, remoulding and resetting of materials, ideas and self (as expressed through and with the body), that allows the spontaneity of ‘meetings’ – a multiplicity of engagements – and creates the momentum of artistic practices. This onto-epistemological ‘becoming’ with the moments and momentum of artistic doings, as evidenced in the physicality of performing music, painting or drawing, or making-with materials or language, involves the openness and ‘*response-ability*’ (Haraway, 2016) of a *body-mind* to what is forming. This view of ‘*form*’ – not as a container made by pre-existing, pre-determined constraints abstracted from self – is significantly different from many research forms (as structures, material organisers and ontological ways of being researcher-scholar-artist that we, work in Higher Education, and encounter in our work (Burnard and Colucci-Gray, 2020)). So how should/can we shake this dualism between artistic and scientific research? How do we create spaces to perform transdisciplinary research and transdisciplinary ‘authorings’ within education, troubling existing, methodologically ‘fixed’ forms, and come to see the actualisation of artistic and scientific practice as a meeting-point of multiplicities in research? In this research assemblage we feature projects involving music and science education, mathematics and visual art; disciplines which are all too often linked to separate discourses across all education sectors, where they are traditionally experienced as siloed or territorialised as distinct disciplinary subjects. Together, we put to work transdisciplinary re-seings of artistic-scientific practices. Employing ‘*temporal diffraction*’ as an analytical form of ‘*re-reading*’, creating the conditions for a pluralistic, multidirectional ‘*propagating outward*’ (Barad, 2003) beyond disciplinary boundaries, we move towards a recasting of disciplinary knowledge and argue for an ‘*ontology of difference*’. We argue that ‘temporal diffraction’ is the element that is often missing from understandings of sustainability: by pushing the problems into the future we forget that we as humans are co-entangled with it and intra-acting at all times. The link between transdisciplinary creativity and sustainability will be worked out/through in relation to the current dominant techno-STEAM-narratives and reform of teacher education.

Keywords: performing transdisciplinary creativity; ontology of difference, sustainability, practice, temporal diffraction, diffractive analysis, teacher education

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