



Beyond the Human: Emergent Theories of Synthetics in Art Psychotherapy Research Pedagogies

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Art psychotherapy training programmes traditionally emphasise evidence-based practices focused on interpersonal and psychological change, often sidelining socio-political dimensions and critical research pedagogies. To address this gap, this paper presents a posthuman feminist approach to research pedagogies in art psychotherapy. This approach leverages arts-based practices and digital technologies as critical tools for examining complex entanglements between human, nature, and technology (techne) rendering insights into data collection and analysis beyond conventional paradigms.

This pedagogical theorisation draws on examples from collective arts-based workshops rendering posthuman theoretical concepts into practical, tangible learning experiences. The workshops presented in this paper utilise artistic processes as both methodological and critical vehicles, inviting students to explore a research workshop through the lens of two Deleuzian concepts, those being the situated material assemblage and the Body Without Organs (BWO). The key rationale is to develop critical reflexivity through using conceptual tools that that disrupt normative hegemonies in art psychotherapy data analysis by positioning data as a co-constructed material-semiotic inscription shaped by intersecting human and non-human forces.

The outcomes of this posthuman pedagogical framework, employing digital and arts-based diffractive methodologies and ethological assemblage in enacted data analyses, were a facilitated non-hierarchical synthesis in data relations between human, nonhuman and digital bodies and the stimulation of a more inclusive transdisciplinary inquiry, generating insights into systemic issues in healthcare beyond a patriarchal logic and purely anthropocentric reach. The approach positions students as active agents in co-producing knowledge that challenges dominant socio-economic structures in health research.



Introduction

Art Psychotherapy is a psychological therapy that uses artistic processes to facilitate change within a therapeutic relationship. The translation of clinical process into quantifiable change to health conditions is required to support funding for Art Psychotherapy services in healthcare. Providing research results to support evidence-based practice remains a priority for the professional bodies overseeing the development of the profession. However, discourse on the multi-faceted digital factors influencing the development of the profession have been under researched. For example, the recent proliferation of Large Language Models, such as Chat GTP, and concurrent debates on the implications for higher education, alongside the legacy of the Covid 19 pandemic, rendering many therapeutic relationships on-screen, have intensified the need for inquiry into the interplay between human and digital forces in the training of future researchers and capacities to critique the production of data within healthcare paradigms. The global crisis of late capitalism also compounds this issue, prompting broader questions for Art Psychotherapy training programmes for modelling sustainable practice for future practitioners and researchers in the field. To address these issues of the changing social terrain of clinical practices mediated through digital media, this paper presents a posthuman feminist approach to pedagogy in the Research Methodology module of an Art Psychotherapy Training Programme and develops a theoretical model of data analysis and data synthesis employing posthuman methodologies. The affordances of digital technologies at the intersections of pedagogy and arts-based research are described through workshop examples as enacted empirical explorations.

In the first section of this paper, we will provide an overview of recent literature that uses a posthuman model of pedagogies, the rationale and context of the theorisation. The second section will take a closer look at the relevance of feminist theory within a posthuman paradigm, before offering examples of arts-based practices in posthuman pedagogies. Finally, theorisation anchored in materials produced as part of a research seminar in art psychotherapy will offer insights into the relevance and applicability of the theorisation.

The introduction of the Teaching Excellence and Student Outcomes Framework (TEF) published under the 2016 to 2019 Conservative government (Great Britain. Department for Education 2017) and the broader schematics of the Research Excellence Framework (2024) prioritising 'accountability for public investment' and 'reputational yardsticks' ultimately intensify the relationship between individual and public investment, public image and the performance of teaching practices in terms of impact and measurability (Bayley 2016: 44). Within this economic, educators and students sit together with ethical tensions between the duty to transmit and to receive information increasingly optimised and streamlined towards

a culture of achieving individual grade points, targets and securement of employment, and broader questions of a collective social bond, environmental sustainability and unknowable or unimaginable futures (Bayley 2016: 44). All of this makes for productive and cultured citizens supported by societal regulation and policy.

Whilst the productive, optimised individual in essence sounds like an ethical agenda towards improving society and its benefits, this paper will address some of the tensions with the margins, where collective broadening of possibilities can be nurtured through a posthuman critical pedagogy lens, offering a radical inclusive ethics based on nuanced inquiry and transdisciplinarity. A posthuman critical theorisation emphasises an ethics of encounter (Lemieux 2021; Lock 2019) between the material-discursive conditions of teaching and learning (Lemieux 2021), human/animal relations (Lock 2019) and within posthuman digital spaces (Taylor and Bayley 2019). Radical education employs strategies of resistance to Eurocentric territorialisation inspired by posthuman pedagogical models. For example, through Taylor and Pacini-Ketchabaw's (2018) common worlds framework, which addresses issues of interspecies and intergenerational environmental justice, and Lenz-Taguchi and Hultman's (2010) relational materialist approach, which considers the child as emerging in a relational field with non-human forces, the dynamisms of craft are invoked, illuminating the phenomena at play rather than regulated static outcomes (Lemieux 2021: 1). In this context, given the emphasis on opening up possibilities, arts and performance pedagogies can become centrifugal forces in enabling knowledge-making practices that produce new knowledge from the margins rather than reconstituting knowns. This is not a disruptive reaction, but can bring an engaged anticipation and excitement for the unexpected. For example, Postma (2016: 320) describes a pedagogy of joyful participation and mobilisation of minoritarian powers based on their own desire-production, cultivating a posthuman subject orientated less towards individual freedom, autonomy and emancipation, and rather an openness to experience and the capacity to be affected and to affect others.

This paper builds on the philosophies of Deleuze and Guattari (1977) to reconceptualise art psychotherapy research pedagogy as a form of ecological encounter. By adopting an ecological perspective, it engages with Guattari's notion of an ethical futurity (Colebrook 2020), a continually evolving vision realised through interdisciplinary entanglements that span techne, subject, sciences, humanities and arts. Within this framework, the paper examines how posthuman feminist pedagogies can transform participatory research seminars acting as examples of practice from Brunel University's Art Psychotherapy MA Programme, cultivating a broader and more integrative understanding of learning and knowledge creation.

The first author is a lecturer on the MA Art Psychotherapy at Brunel. The second author is a Professor of Practice and Consultant in Arts Therapies and led on the original

design of the MA programme. Both authors are art psychotherapists from a healthcare background and co-designed the research module.

This paper was produced from a discourse between the authors, between the fields of research, art psychotherapy practice and pedagogies fostering emergent conceptual structures at the intersections of social and disciplinary dialogues. One aim was to bridge the subject-object divide within the discourse to explore conceptual apparatuses shaped by shared purposes, roles, tasks, and future-oriented visions. This type of discourse making has been, conceptualised by Deleuze and Guattari (1977: 11) as establishing a virtual 'recording surface' constituting ontological congruence across researcher, data, technology and artefact bodies, with the aim of deterritorialising elements to form a cohesive relational whole as process led rather than having a desired outcome beyond discovery itself. The idea of the 'recording surface' was originally posited by Freud as a language evolving from the experience of the skin, famously stating that the ego is fundamentally a body ego. From this, organ relations evolve, constellated through human familial relations producing irreducible objects in relation to one another (Klein 1952). In retheorising the concept of internal objects in the context of schizophrenia, Deleuze and Guattari (1977) argue the notion of a symbolic order created through familial relations is itself a form of social colonisation and that to produce new ways of becoming in the world requires flattening familial power structures into surfaces constituting a body without organs (BWO). Following the theories of Artaud, Deleuze and Guattari (1977) define the BWO as present and interactive, resituating and reterritorialising social hierarchies that broaden out our relations beyond the family, and beyond the human. In the context of art psychotherapy pedagogy, the art takes a particularly relevant role in deterritorialising ways of conceptualising human development. Genosko writes:

Being carried beyond familiar territories into alterities of all sorts permits the emergence of new valorisations, new social practices, new subjectivities. Artists can provide the means for these creative forward flights, these breakaways.

(Genosko 2009: 111)

In an art psychotherapy pedagogical context of learning about research, the area of study intends to produce new insights. Artistic practices can be central to this process, functioning both as methodological tools and critical mediums for exploring the entanglements of human-nature-techné to generate ethical impact on the social. Therefore, this paper proposes that the use of arts at the intersections of known-unknown forms the basis of an iterative model for investigating complex, situated problems, for example, power differentials and social inclusion, enabling researchers to investigate the affective, relational, and material dimensions of the subject.

Posthuman Feminist Pedagogies in Participatory Research Pedagogies

Research methodologies in arts and humanities have been affected by multiple waves of feminist thought, each providing important contributions for research pedagogies (Ropers-Huilman and Winters 2011: 672). The first wave focused on women's suffrage and legal inequalities, producing a stronger social positionality, while the second wave addressed broader issues of sexuality, family and workplace rights (Tong 2014). The third wave emphasised diversity and intersectionality, acknowledging the differences among women's experiences based on race, class, and sexual orientation (Gilligan 2015). Whilst identity politics is a central tenet of today's feminist politic, a deep-rooted subversive and politically *enfolded* approach to challenging normative hegemonies has recently been well theorised. In terms of teaching practices, differing from the idea that the lecturer has a neutral positionality, Barad (2007: 383) refers to an enfolded approach as a co-constituted event rather than the lecturer taking a 'view from nowhere' (Latour 2007: 145).

Art psychotherapy is often aligned with health paradigms and professional accreditation for the student learning falls under the Health and Care Professions Council. However feminist ideologies, introduced through the arts, incur a tension with typical clinical methods. Unlike the dominant hegemonies in medicalised practices, arts-based methods offer a potent avenue to engage with the materialities and the embodied experiences of individuals (Leavy 2020: 21) that extend beyond sanitised, idealised universal archetypes of the pristine carer calmly offering a guiding light for the wounded to heal. Appliances, tools and affects are all embedded in procedures that still position women at the margins as objects done to within a category of passive otherness. The privileging of the laboratory environment as a neutral instrument rather than entangled co-creative event reduces bodies to objects *done to*.¹

Conversely, posthuman feminism respects differences of situatedness in relation to the environment and the political, affective entanglements that produce markedly different versions of what it means to be a woman. Therefore, such an ecological framing argues for inclusion of actors that traditionally remain beyond the anthropocentric reach, essentially the agentic intra-activity of non-human entities (Barad 2007: 214). In Barad's conceptualisation intra-active refers to the bi-directional relations between humans and their environment, an acknowledged affective quality that moves throughout the actions of an event altering the actor's intended results.

Incorporating posthuman feminist methodologies into arts-based research requires recognising the material and affective dimensions of artistic practices. Art becomes a site of intra-action where human and non-human forces coalesce, facilitating the production of new situated knowledges (Haraway 1991).

Practicing Posthuman Pedagogy

The authors organised research workshops as part of the MA Art Psychotherapy Research Methodologies module. As part of this module, critical thinking is actively fostered within a posthuman framework, challenging students to reconsider conventional notions of human-centric research by engaging with the interconnectedness of human and non-human actors.

This pedagogical approach prioritises embodied, situated learning, encouraging students to critically engage with complex healthcare systems and their ethical, socio-political, and material dimensions.

Examples of Posthuman Pedagogical Arts Practices

Artistic practices are central to both the conceptual framework and practical application of posthuman feminist pedagogies. Below are examples of how arts psychotherapies practices are integrated into seminars, facilitating learning through situated, interactive workshops:

1. Participatory arts workshops

Collective art-making activities, including collaborative performance (Fenge 2022), sculpture (Hughes 2009) and digital arts, encourage participants to co-create artworks that symbolise their interpretations of healthcare research data. For instance, participants might construct large-scale installations or engage in performance art that reimagines healthcare artefacts as active agents in healthcare systems.

2. Art as diffractive apparatus

Following Barad's (2007) concept of diffraction, artistic practice, such as sculpture and visual mapping, are framed as methodological tools for generating patterns of difference and to analyse the entanglements of bodies, healthcare products, and environments. These diffractive methods reveal the intra-actions shaping healthcare systems, challenging dominant anthropocentric paradigms and fostering alternative ways of understanding.

3. Affective embodiment in arts practices

Embodied arts-based practices, such as movement, sculpture or somatic arts, engage participants in a physical exploration of data. These practices allow participants to experience and represent the affective entanglements of organisational systems through their own bodies, offering nuanced insights into somatic and technological relationships.

4. Integration of digital arts

Digital recording software and immersive digital environments are employed to simulate healthcare settings and visualise the complex entanglements of human and non-human actors. Interactive digital installations enable participants to explore the intersections between organisational environments, human bodies and material artefacts, fostering an understanding of the technological dimensions of healthcare.

5. Artefacts as aesthetic productions

Healthcare products are reimagined as aesthetic objects within this framework. Participants engage in creative reinterpretations of healthcare artefacts through sculpture, crafts, or material assemblages, emphasising their socio-political and ethical implications. This approach highlights the materiality of healthcare products and examines their roles in perpetuating or mitigating social inequalities.

Emergent Critical Social Theory and Discourse Structures

Ethological approaches to analysis emphasise the importance of intra-action, materiality and affect (Guattari 2005). In this context, the arts serve both as tools for analysis and as mediums for representation. The arts-based methodologies proposed here utilise a diffractive approach (Barad 2007) in which artistic practices such as sculpture, collage, performance and digital arts are employed to render visible the affective and material entanglements of healthcare systems.

Ethological approaches to analysis require productions of knowledge that oscillate between scales of intra-action, from the social to the micro. Where deductive research investigates known relations and their appearance in the specific and inductive research looks at the specific and their relations to the general, abductive research allows for the generation of new insights and hypotheses based on iterative process led research, whereby the scales of influence are navigated as a dialogical inclusive practice (Timmerman and Tavory 2012: 180). In arts-based research, where the focus is on emergent and often unpredictable phenomena, an abductive approach offers capacities for new relations to be developed and the inclusion of materiality that recognises more-than-human ontologies means that reconfiguring socio-political environments becomes an ethical inclusive approach.

If human interactive relations have generally been the focus of social sciences, psychology and health-based research, new materialism expands disciplinary parameters to research dynamic events. Therefore, classical models of thematisation

can be adapted not only to be bi-directional (in terms of specific – general discourse) according to an abductive approach, but also to follow lines of affects, relations, and capacities, providing a framework for understanding how these phenomena intra-act and influence one another (Fox and Alldred 2015). The arts within this model of analysis provide the instruments through which events are reconstituted, remembered and enacted through material reconstructions, producing a rich assemblage of participant – researcher discourses emphasising the materiality of all entities and their capacity to influence one another (Coole and Frost 2010).

Posthuman Pedagogy Example One: Diffractive Data Analysis

Playing with arte-fact and carnal empiricism

A workshop was designed to explore the material-semiotic entanglements of healthcare data through collective art-making and performance. A methodology that attends to material-semiotic entanglements considers how the qualities of arts materials produce new meanings in data analysis, whilst also considering how language-based interpretations are driven into the art materials, producing a reciprocal process.

Prior to the workshop, students were introduced to Cannon's (2022) posthuman knowledge-making apparatus. Cannon (2022: 5) emphasises the importance of accountancy and attendance to specific material arrangements in knowledge production, conceptualising Barad's (2007) diffractive methodology as the ongoing co-constitution of data in intra-action with researcher body, theories, theorists, methods, room, materials, texts, time and space. Within a diffractive apparatus, data events are accounted for as material-synthetic productions in arte-fact. A diffractive apparatus methodology thus considers the combination of all arts-making processes in revealing patterns and making cuts into the fabric of knowledge production.

Students were provided with healthcare artefacts (blue scrub suits) and a variety of craft materials, including sewing and cross-stitch. Students had brought qualitative and quantitative data collected in experimental research simulations in previous workshops. At the beginning of the workshop, students were instructed to consider the two-hour data analysis workshop as a 'live happening' and 'in the moment'. Following Barad (2007), students were also informed the workshop would be 'reflection-free', meaning there would be no formal reflective discussion at the end of the workshop. This pedagogical scaffold framed production as event or entanglement, an *enabling constraint* (Clark-Fookes 2023), critiquing the mirror optics of reflection as a device for thinking data analysis.²

Students engaged in collaborative performances and 3D sculpture, which served as diffractive apparatuses for analysing the complex intra-actions of bodies, healthcare

artefacts and environments (Figures 1 and 2). For example, a depicted iris in an eye motif, taped to a blue scrub suit, was constricted as if responding to bright illumination, appearing to intra-act with the material-semiotic conditions, the artificially-lighted environment of its production. Through the props and bindings of 3D sculpture, the reflect-ability of world is rendered mute and metonymised, displaced along the chains of tangible intra-actions between bodies. It is in this sense that the *arte-fact* functions less as an expression of the significance of data, but rather as a synthesis via inscription or superposition of all the productive forces that in themselves determine a *quasi*-cause independent of time linear human manipulations in experimental research.

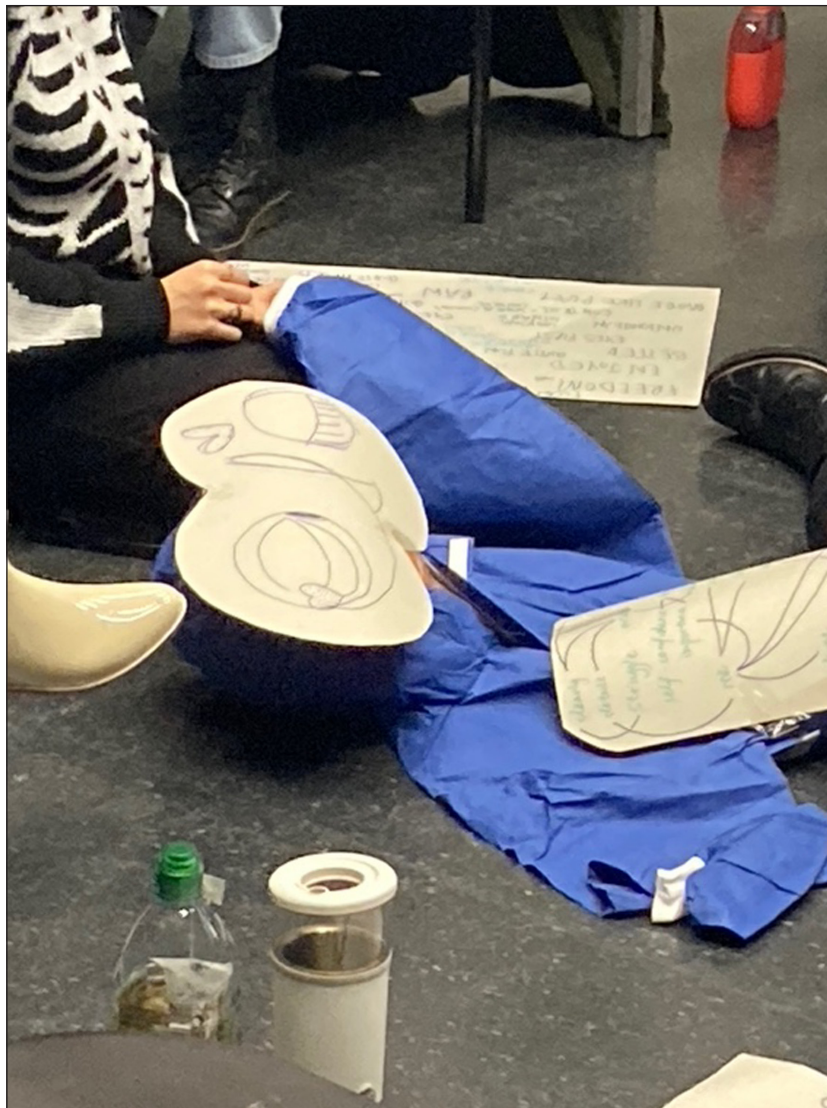


Figure 1: Diffractive data analysis workshop. Photograph by Alice Myles 2023.



Figure 2: Diffractive data analysis workshop. Photograph by Alice Myles 2023.

The outcomes of a posthuman pedagogy in research methodology, described in this section, are a new relationality between data and researcher, an embodied encounter inscribed within the arte-fact itself. The authors propose that such encounters develop non-hierarchical data relations, the embodied position of the posthuman subject and new ways of navigating knowledge production or indeed an antiproduction, which we discuss in the final workshop example.

The digital immersive environment and collective co-poiesis

Something is produced: the effects of a machine, not mere metaphors.
(Deleuze and Guattari 1977: 2)

Barabara Bolt's (2019) stunning empirical investigation on the risks and paradoxes of analogue and digital watercolour, highlights the affordances of digital material mutability through its nature of infinite iterability and transmission. As part of the research workshop exploring material-semiotic entanglements of healthcare data, the first author designed high octane maximalist slide compositions, integrating information transmission with aesthetic production (Figure 3). Through the integration of a large projection screen playing slides on loop over the workshop held in the department theatre space (see also Figure 5) and independent of educator narrative, conventional *PowerPoint* presentations are reconfigured in a new productive capacity as a digital immersive environment, disrupting traditional linguistic-representational pedagogical practices.

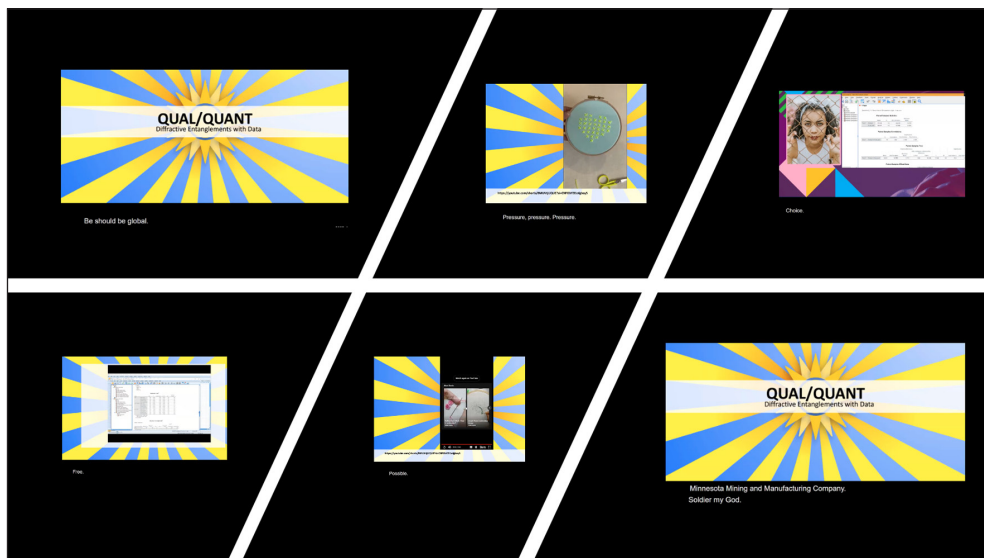


Figure 3: Screenshots of live slide show recording.

Automatic real-time translation software synthesises live sonographic registration of human speech with YouTube videos of cross stitch and statistical analyses. Human-techne intra-actions are diffractively entangled resembling Deleuze and Guattari's (1977) conceptualisation of the BWO as an enchanted recording or inscribing surface:

But the essential thing is the establishment of an enchanted recording or inscribing surface that arrogates to itself all the productive forces and all the organs of production, and that acts as a quasi-cause by communicating the apparent movement (the fetish) to them

(Deleuze & Guattari 1977: 11)

In Uprichard and Dawney's (2019) challenge to data integration in mixed methods research, diffraction can both splinter and disrupt the object of study, empirically capturing the mess and complexity intrinsic to the ontology of the social entity being studied. In the above slide set, sense making is polyphonic and proliferating, producing something of the order of human-techne co-poiesis:

Be should be global.

Pressure, pressure. Pressure.

Choice.

Free.

Possible.

Minnesota Mining Company. Soldier my God.

In **Figure 4**, the anomalous words were taken from the automatic translation. The text translation software occasionally mis/re-interpreted spoken words or misconstrued those words based on the acoustics in the space such as volume and sound interference. Consequently, there were techne disruptions to the intended meaning according to the dynamic research assemblage that resulted in unpredictable meanings associated with the workshop.

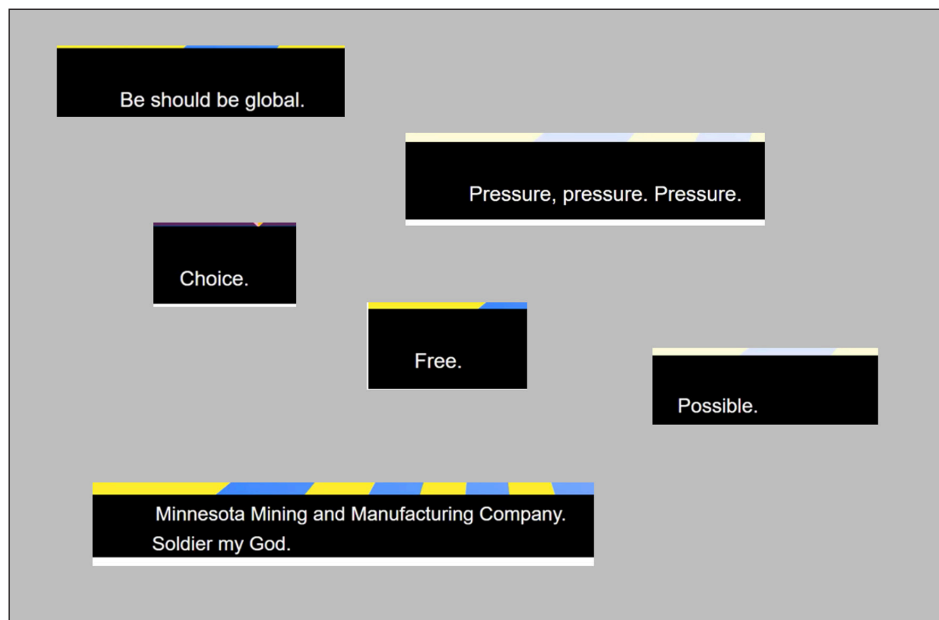


Figure 4: Screenshot of text translation detail.

In Braidotti's (2021) posthuman feminist gender methodology, the eco-technologically mediated universe announced by Deleuze and Guattari, combines organic auto-poiesis with machinic self-organising powers. Minozza (2024) finds in poetry its capacity to attune to cosmic vibration, the order of chaos, or that which lies beyond the logic of patriarchy in the surplus or excess to that which can be inscribed by the phallic signifier. Through the integration of digital arts as more-than-human actors in data analysis, a form of collective human-technological poetry is performed live, beyond the purely semiotic capture of traditional linguistic models of qualitative data analysis.

'Minnesota Mining Company. Soldier My God.' inscribes a moment near the end of the workshop where students were engaged in an exploration via a digital search engine of the material history of the fabric scrub suits employed in 3D sculpture. SMS (Spunbond Meltblown Spunbond) is a fiber production process involving the conversion of polymers (PE, PET, Nylon) into bonded non-woven fabric through a melt blowing process. The melt blowing of thermoplastic was developed in Naval research laboratories in the 1950s interested in developing fibers to collect radioactive particles from the atmosphere to monitor worldwide nuclear weapon testing (McCulloch 1999). Compared with woven and knitted fibers, the superior capacities of microfiber nonwoven prepared by spun-bonded technology, such as randomly oriented fiber structure, high tear strength, good thermal properties, permeability, and abrasive resistance find its current use in fields, such as construction, medical and health care (Su, Chao, Hengxue and Meifang 2023).

In the material-affective context of becoming healthcare researcher-practitioners, arts-based research stimulates a critical examination of the micro and macropolitical affects of healthcare production. In the above example, digital technology, when actively engaged as agent through a posthuman methodology, inscribes within data analysis a level of insight beyond the capacities of a purely anthropocentric reflective process.

Digital arts as diffractive apparatus for arts psychotherapy research pedagogies thus accounts for an arts materiality, whilst at once considering, but also moving beyond its full import in the human imaginary. This is to say that a digital processing of material arts processes occurring in the workshop and transmitted via the intermediary of human speech and its' (disrupted) recording illuminated patterns of difference. Such processing, afforded by digital tools, retains a level of independence from human intentionality, and which we propose, from a posthuman perspective, supports the status of digital technology as agent.

Within this diffractive apparatus, categories such as space and time are understood as more-than-human empirical structures through which play out some of the dilemmas and paradoxes of theoretical physics. Barad (2007) transfers insights from quantum optics on the indeterminacy of matter to new possibilities in the human imaginary, thought-matter and ultimately how we develop ethical pedagogies. Exploring the interface between optical phenomena and thought, Barad notes reflection is a well-worn metaphor for thinking, forming a kind of gold standard, not only for qualitative study, but also for quantitative measures which aim at precise depictions of a given research object or reality (Barad, 2007: 86). Diffraction as counterpoint, rather than concerning itself with mirroring and sameness, attends to patterns of difference, essentially training a more subtle vision.

The key findings, generated by the diffraction patterns of digital mutability to workshop materials, a non-hierarchical synthesis in data relations between human and digital bodies, and the further transdisciplinary avenues of inquiry it stimulated, were for example the revealed material history of fabrics employed in healthcare products and the potential for a critical examination of micro and macropolitical affects described above. The authors further propose a theoretical conceptualisation of collective co-poiesis (Figure 4) as a BWO model for data synthesis in posthuman data analysis.

These outcomes intersect with contemporary research in critical pedagogy and digital arts practice. For example, Clark-Fookes' (2023) research, employing full-scale gallery digital immersive interactive environments in arts learning, found *enabling constraints* redressed balance in knowledges and that technology synthesises with other fields of meaning creating new knowledges. May and Baker (2011) propose collective enquiry in shared digital rhizomean curricular landscapes, resists cultural and textual authority, highlighting in particular how *remix* culture challenges the aura and authority of the original. Campbell's (2016) technoparticipation research finds a similar positive disruptive nature in technology's capacity to punctuate learning environments, actively incorporating technological qualities such as reverb and glitches into performance theatre immersive learning sessions.

In the above workshop, inscribed in the digital tapestry of human-techne entanglements, the micro and macro political affects and capacities of healthcare artefacts are reimagined as active agents in healthcare settings. Participatory arts and the immersive digital environment stimulate an iterative process in data analysis. Through an abductive process (Patakorpi 2009), technological bodies *act back* diffracting time as a linear function in human manipulation as pure a priori cause (Seltin 2009).

Nonhuman bodies and the plane of immanence

Deleuze and Guattari's (1988) concept of Assemblage as a methodological resource for experimentation in research pedagogy describes a sensibility of orientating to assembling, which accounts for more-than human worlds as agents in research processes (McLeod 2014). The first author examined digital video recordings of the workshop attending specifically to nonhuman bodies in the research assemblage and instances of data glow (Cannon 2022) or vibrant matter (Bennett 2020). For example, a short video, taken during the final moments of the workshop, captured cellular tube lighting on the ceiling of the theatre space and the movements of a fly, which appeared blue in the digital recording. This example is taken to illustrate a posthuman research methodology and transdisciplinary approach to data analysis in this section.

Adult flies are attracted by fermenting and decomposing substances, blood and wounds (Mendonca et al 2013) and to illumination events (Hogsette 2019). The iridescent properties of a fly are both structural and optical. Reflection intensity is affected by modulations at different angles of incidence, such as green, blue and violet with elements of the fly's structural makeup: one-dimensional photonic crystals, composed of a photonic band gap between the polymer chitin and air multilayer (Bihi et al 2024).

In the participatory arts-based performance, the fly appears blue in the diffractive entanglement and dynamic affects of human-nonhuman-morethanhuman bodies which make up the fly's capacity for blue incandescence. In an ethological apparatus, the nonhuman becomes with arts-based data analysis in a common plane of immanence. The vibrancy of matter (Bennett 2020), such as the intra-action of polymers in the blue scrub suits (described earlier) and the fly with human process are inscribed in the digital aesthetic productions (video recordings) of arts-based research, intensifying material-semiotic affects and relations to broader issues of social and environmental justice.

Luminous lighting media, such as the neon sign in contemporary art, instantiate the material-semiotic as aesthetic phenomenon. The eye is bathed in a glow exceeding the delineations of the sign, the aura and its concept. Glenn Ligon's neon sign installation sculpture *A Small Band* (2015), exhibited above the façade of the Central Pavilion at the 2015 Venice Biennale, and comprising just the three detached words 'blues, blood, bruise', selectively taken from a recorded interview with Daniel Hamm, one of the *Harlem Six*, conducts a charged history through the aesthetic manipulations of radical fragmentation and decontextualization rendering the *Audible Past*, or reviving the pains of political struggle of the *Harlem Race Riots* of 1964 (Kraynak 2018: 56). *Blues* references

a tongue slip in Hamm's interview pronunciation of *bruise* resulting, through the neon art, in a semantic shattering or a liminal space of ambiguity, materialising a tension (or superposition) between signal and noise (Kraynak 2018: 61). Kraynak poignantly questions who has the means to inscribe the auditory field and notes the potentialities of reverberation, feedback and technical mediation in preserving and disrupting semiotic content. The superposition of the material-semiotic in Ligon's neon sculpture is an entanglement of spacetime matter bearing the historicity of its semiotic precedents of police brutality during the Harlem Race Riots.

In their paper, *Quantum entanglements and hauntological relations of inheritance: Dis/continuities, spacetime enfoldings, and justice-to-come*, published in *Derrida today*, Barad writes:

Science and justice, matter and meaning, are not separate elements that intersect now and again. They are inextricably fused together, and no event, no matter how energetic, can tear them asunder. They cannot be dissociated, not by chemical processing, or centrifuge, or nuclear blast.

(Barad 2010: 242)

Barad's methodological interventions through the optical metaphor of diffraction extends to a form of political action, erasing any strict boundary lines between the laboratory and the rest of the world. Quoting Donna Haraway:

What we need is to make a difference in material-semiotic apparatuses, to diffract the rays of technoscience so that we get more promising interference patterns on the recording films of our lives and bodies. Diffraction is an optical metaphor for the effort to make a difference in the world

(Haraway 1997 in Barad 2007: 71)

In our development of a diffractive arts-based pedagogical assemblage *our bodies in the world* is taken in a Deleuzian-Spinozist understanding as the sum total of the capacity of a collective of *all bodies* existing in a *common plane of immanence* in their dynamic relations to affect or be affected by one another (Deleuze 1988: 128). A body can be a human body, a plant, an animal or insect, a body of artworks, theoretical texts or indeed a student, political, institutional or organisational body as just some examples.

Deleuze (1988: 128) distinguishes *bodies in a common plane of immanence* from a *plan*, which precludes a hierarchical assumption of depth and its transcendence implicit

in both inductive and deductive supposition of forms. An Ethology of research practice in Deleuze and Guattari's development of the concept of the BWO is thus a synthesis of knowledge production that seeks less to reduce bodies to sets of forms, functions or utilitarian practices, but rather views bodies as compounds of more extensive relations and intensive capacities in a community that stands for the human, nonhuman and more-than-human. Artifice, in a Deleuzian-Spinozist understanding, is indistinct from Nature in the plane of immanence, which makes up the distribution of affects as has been developed in New Materialism's flat ontology or human-nature-techné continuum of posthuman feminist carnal empiricism.

The outcomes of this approach, as this section illustrates, are a data analysis which is more inclusive and transdisciplinary in nature. Digital recording tools, acting as technological bodies in the ethological research apparatus, have the capacity to illuminate nonhuman worlds, affording a means for their inscription in material-semiotic data synthesis or meaning making processes. For example, through a posthuman aesthetic materialism, the structural makeup of a fly assembled with lighting conditions and workshop artefacts renders a semiotic entanglement of melancholic affect with blood and wound in healthcare fabric (Figure 2). A more inclusive empirical exploration is made possible when nonhuman bodies are engaged in research processes, acting back *a posteriori* in data analysis.

Post Human Pedagogy Example 2: Preciado's Postqueer Micropolitics and Installation- Assemblage Data Analysis

The following workshop example was inspired by trans philosopher, writer and curator, Paul Beatrice Preciado's (2013) analysis of gender and material-discursive apparatus of technoscientific bodily production and biopolitics. In *Testo Junkie*, Preciado discusses developments in hormone synthesis since the 1950s in the pharmaceutical industry and the contraceptive pill as the first pharmacological molecule to be produced as a design object. In Preciado's postqueer micropolitical analysis, the Panoptican Pill Box, creates a spatialisation of time producing what Foucault termed 'anatomic-chronological scheme of action' that combines architecture, design and body movement, transforming the user into an efficient (non-) reproducing machine.

A group installation-assemblage was created at the end of a series of workshops employing arts-based research methods to investigate the affects of design of everyday healthcare products (Figure 5). Assemblage was introduced to students both as arts form and methodological tool for a second-stage analysis of data attending to micro and macropolitical relations.



Figure 5: Installation-assemblage. Photograph by Alice Myles 2024.

Cords and bindings, Sellotape, recycled junk materials, a found object (CPR manikin doll) and fabric bought cheap from Walthamstow fabric mile were installed in the theatre teaching space in response to a projected digital model mapping the results of analyses of human and nonhuman affects of everyday healthcare products. The macropolitical architectures of reproductive systems and their micropolitical affects were rendered visible in a matrilineal umbilical cord, a mother crowned guilty. Slumped figures were erased, subjected-to and not subject within the installation space and assemblage design. The body appeared dispossessed of its organs, the contents of the womb.

Deleuze and Guattari (1977) reject any form of triangulation in epistemic production as imposed by the regulatory schema of the Oedipal triangle. Rather the BWO is conceptualised as an antiproduction or an intervention which seeks to reject the Oedipal imposition of paternal authority in a vertical hierarchical language-based connective synthesis of world. *Numen* as divine truth is distributed where disjunctions are established independent of human-imaginary-symbolic devices of projection (Deleuze and Guattari 1977: 13).

An arts-based approach to data analysis thus makes visible a new synthetic beyond the lines of a patriarchal logic to data analysis, disrupting normative representations

of the healthcare picture and producing a more nuanced understanding of how micro and macropolitical relations contribute to global inequalities. Ultimately an ethological posthuman feminist arts-based approach to teaching research methodologies activates social justices through co-creating events producing ethical research.

Implications for Art Psychotherapy Pedagogy

The integration of posthuman feminist pedagogies into art psychotherapy training has profound implications for how future practitioners are educated. By reconceptualising pedagogy as an ecological encounter, educators move beyond traditional, human-centred approaches that focus solely on individual psychological change. Instead, this framework emphasizes the complex entanglements between humans, non-human entities, and technology (techne), fostering a more holistic understanding of subjectivity as fluid and interconnected. This shift challenges the compartmentalisation inherent in traditional university structures and encourages transdisciplinary learning, aligning with Deleuze and Guattari's (1977) concept of the BWO as a dynamic, non-hierarchical plane of knowledge production.

Implementing arts-based practices and digital technology as critical tools within this pedagogical model allows students to engage actively with the material and affective dimensions of research. Workshops that utilize participatory artmaking and view data as material-semiotic inscriptions enable students to experience firsthand the relational processes that shape knowledge creation. This approach disrupts normative hegemonies in health data analysis by positioning students as co-producers of knowledge rather than passive recipients. It encourages them to consider data not just as abstract information but as dynamic artefacts emerging from the assemblage of humans, nature, and technology. Consequently, students develop critical thinking skills and a deeper awareness of socio-political and environmental contexts, preparing them to address systemic issues in healthcare. By fostering an ethics of encounter and emphasising the interconnectedness of all entities, this pedagogical shift equips future art psychotherapists to contribute meaningfully to social justice and navigate the complexities of a rapidly changing world.

Conclusion

This proposal of a posthuman, arts-based research pedagogy offers a transformative framework for art psychotherapy training, broadening the scope of research to include socio-political and ecological contexts. Through participatory arts workshops, embodied arts practices and digital arts, the proposed methodology allows for a deeper

exploration of the material and affective entanglements of healthcare. By emphasising horizontal, non-hierarchical data relations, this approach encourages students to develop critical research skills that address both personal and systemic change. As such, this pedagogical model provides a vital foundation for art psychotherapy education to respond to the global socio-economic and environmental crises of contemporary society.

Notes

- ¹ As an illustration of this point, it is worth noting the ways that products are sold and what social purpose they serve. For example, it is likely that many vaginal cleansing products may cause harm to the vaginal microbiome and, as Jenkins et al (2018) state, the overwhelming affect is that this product 'capitalizes on cultural messages that women's bodies are problematic, unclean, inadequate, and require intervention through the use of cosmetic products to improve their bodies' (ibid: 267), ultimately serving the purposes of stratifying a sanitised disembodied version of woman.
- ² According to Barad, such reflective practices reproduce heteronormative power relations and structures associated with the apparatuses of the Western male patriarchal gaze and its focal points.

Ethics and consent

This is a theoretical paper exploring the author's teaching practice and as such ethical approval and consent procedures weren't required. All images and descriptions within the paper are about the authors teaching practices rather than student experience. However, in line with good teaching practice consent has been given by all participants for the taking of images and the publication of those images thereafter.

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Competing Interests

The authors have no competing interests to declare.

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