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Critical physiotherapy

A ten-year retrospective

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Critical physiotherapy: a ten-year retrospective

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ABSTRACT

Critical physiotherapy has been a rapidly expanding field over the last decade and could now justifiably be called a professional sub-discipline. In this paper we define three different but somewhat interconnected critical positions that have emerged over the last decade that share a critique of physiotherapy's historical approach to health and illness, while also diverging in the possibilities for new forms of practice and thinking. These three positions broadly align with three distinctive philosophies: approaches that emphasize lived experience, social theory, and a range of philosophies increasingly referred to as the "posts". In this paper we discuss the origins of these approaches, exploring the ways they critique contemporary physiotherapy thinking and practice. We offer an overview of the key principles of each approach and, for each in turn, suggest readings from key authors. We conclude each section by discussing the limits of these various approaches, but also indicate ways in which they might inform future thinking and practice. We end the paper by arguing that the various approaches that now fall under the rubric of critical physiotherapy represent some of the most exciting and opportune ways we might (re)think the future for the physiotherapy profession and the physical therapies more generally.

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Introduction

Critical physiotherapy has been a rapidly expanding field over the last decade and could now justifiably be called a professional sub-discipline. Seeds were sown in the 1980s by a handful of physiotherapy academics who moved into new university programs that gave them greater scope for thinking beyond the technical requirements of traditional physiotherapy training; people like Bergitta Bergman, Gunn Engelsrud, Sally French, Antje Hüter-Becker, John Ovretveit, Anne Parry, Gertrud Roxendahl, Eline Thornquist, and Julius Sim. Some of these went on to supplement their physiotherapy training with studies in anthropology, the arts, economics, education, cultural and gender studies, history, humanities, philosophy, political sciences and sociology, returning with new inspiration, new concepts and questions. Despite these varied interests, what united these proto-critical physiotherapists was their resistance to the profession's largely un-theorized alliance with Western biomedicine.

Since its inception in the late 19th and early 20th centuries, physiotherapy has been loyally aligned with the theoretical principles underpinning Western biomedicine. For a detailed discussion of this see, among many others (Annadale, 2014; Collyer, 2015; Lupton, 2012)., Western biomedicine asserts that illness resides within the body, and that the body and disease are mind-independent realities that manifest in visible signs and symptoms. The task for Western medicine then is to see "through" these surface appearances to locate the specific cause (etiology) of the illness and eradicate it. All entities (i.e. bodies, bodily structures and tissues, pathogens, and environmental elements like oxygen) are particulate (i.e. made of atomic and sub-atomic particles) that can be manipulated if their structures are known and mapped. Objective, value-neutral, experimental science is the only tool adequate for this task, and clinical practice should be modeled as closely as possible upon it meaning that a detached interest in the body is the ideal demeanor for practitioners. The complexity of

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the body can be managed reductively, by breaking the whole into several interconnected parts to form discrete sub-systems (i.e. musculoskeletal, endocrine, and cardio-respiratory). Disease is defined by a deviation from the norm determined epidemiologically and statistically, and this normalization is used to determine politically such things as who is suitable for medical and surgical care, treatment, therapy, or rehabilitation. In recent years clinical decision-making has been increasingly tied to published evidence which has formed the basis for wide-ranging national and international guidelines and best-practice standards that reinforce principles of objective cause and effect relationships (Greenhalgh and Russell, 2009; Greenhalgh et al., 2014). These principles have played a fundamental role in shaping the way physiotherapists are trained to understand the reality of health and illness (i.e. its ontology) and the knowledge it holds to be valid and justifiable (i.e. its epistemology). Western biomedicine is the reason why physiotherapy students are taught so much anatomy, physiology and pathology, and why these subjects are often taught first and considered "core" components of their training. It is the primary reason biomechanics, diagnosis and objective measurement are key professional competencies, and why we learn that our role as therapists places us on one side of a series of binary states, with our patients and clients on the other. It is why we treat the abnormal (not "normal" people), rehabilitate the disabled (not the able-bodied), and attempt to cure the ill and diseased.

The body-as-machine provides the conceptual ground for physiotherapy practice, as well as shaping our relationship with the client, justifying the physiotherapist's special position as an expert or specialist. It shapes the organization of the clinical encounter (i.e. its pace and focus), the questions we ask in our assessments, even the design of our clinic spaces and equipment (Nicholls and Gibson, 2010). It forms the basis for our modes of research (i.e. evidence-based knowledge ideally underpinned by objective, value-neutral clinical trials) and the way physiotherapists promote themselves to others as vibrant, active, kinetic, young, often fit and able, with energetic, normative bodies. Maintaining this image takes work and years of training to socialize students into representing physiotherapy as the model of a legitimate and orthodox modern Western biomedical profession.

This is the image of physiotherapy that critical physiotherapists have increasingly turned their attention toward over the last 10 years.[1] In late 2014, the newly formed Critical Physiotherapy Network (CPN) an international group of a thousand physiotherapy and non-physiotherapy members drawn from more than 50 countries attempted to do this by codifying what critical physiotherapy meant in eight objectives that remain unaltered today. The objectives stated that The Critical Physiotherapy Network will strive to challenge contemporary theory and practice by: 1) Actively exploring the world beyond the current boundaries of physiotherapy practice and thought; 2) Challenging physiotherapy to critically examine its position on alterity and otherness, abnormality, deviance, difference and disability; 3) Recognizing and problematizing power asymmetries inherent in physiotherapy practice, particularly where they marginalize some groups at the expense of others; 4) Developing a culture and appreciation for the exploration of all views that deviate from conventional thought and practice in physiotherapy; 5) Actively embracing ideas that promote thinking against the grain/challenging in physiotherapy; 6) Being open to a plurality of ideas, practices, objects, systems and structures that challenge contemporary physiotherapy practice and thought; 7) Promoting critically informed thinking, encouraging ideas from diverse disciplines uncommon in mainstream physiotherapy, including anthropology, the arts, cultural studies, critical theory, education, geography, historiography, quantum physics, humanities, linguistics, philosophy, politics, sociology and others; and 8) Providing a space for ideas that promote a more positive, diverse and inclusive future for the profession (https://criticalphysio.net/cpn-constitution/).

Notably, these objectives talk of physiotherapists traveling out beyond traditional physiotherapy subject domains into areas like history, sociology and philosophy, to then return with challenges to the profession's taken-for-granted assumptions. The CPN would be an inclusive, safe space where people could celebrate diversity and critique many of the powers that had driven physiotherapy in the past. Some people have asked if the goal of the CPN was really to "destroy" physiotherapy, but as the last objective makes clear, this completely misunderstands the group's intentions. Rather, the CPN has always been a place where diverse voices can be a positive force for an "otherwise" profession.

But to what end? Why should this matter? Given physiotherapy's relative social and cultural "prosperity," is there any basis for critiquing the profession? Should not the fact that physiotherapy is one of the world's largest healthcare professions; that it is respected by the medical community and by the public; that its training and practices are subsidized in many countries; that many of its practitioners have privileged access to public

health care; and that its training courses are often heavily over-subscribed, be reason to celebrate the profession's achievements rather than challenging them?

Critical physiotherapists acknowledge that in many ways physiotherapy's traditional approach to theory and practice has been key to its success, but as many physiotherapy scholars have argued in the last decade this is no longer enough (Ahlsen, Ottessen, and Askheim, 2020; Barradell, 2021; Halák and Kříž, 2022; Maric and Nicholls, 2020; Mescouto et al., 2022; Nicholls, 2022a; Rajala, 2021; Walton, 2020a, 2020b, 2020c). There are two basic concerns: 1) the profession's traditional approach is now too restrictive; and 2) the world of healthcare is fundamentally different to the one that had shaped the profession in the past. So while Western biomedicine may have brought a great deal of social capital and prestige to physiotherapy it has created a curriculum that is too narrow, a practice that is too mechanical, a therapeutic context that is too binary, and an approach to thinking that is too abstract and instrumental.

What critical physiotherapy argues for, then, is a plurality of ontologies, epistemologies and ensuing physical therapies. But critical physiotherapy does not, at the same time, embrace any and all philosophies. In fact, there are some important characteristics of critical physiotherapy that set it apart from those who advocate uncritically for more alternative, holistic, person-centered, bio-psycho-social and psychologically informed approaches.

In September 2022, a group of 15 European CPN members met in Sommarøy, Norway for a three-day colloquium to share ideas about the current state of critical physiotherapy and to talk about ways forward. At that meeting, three different but somewhat interconnected critical positions emerged that shared a critique of physiotherapy's historical approach to health and illness, while also diverging in the possibilities for new forms of practice and thinking. In this paper we have attempted to organize these positions around three broadly distinctive philosophies to which they largely correspond: 1) approaches that emphasize lived experience; 2) social theory; and 3) a range of philosophies often referred to as the "posts".

Lived experience

In the early years of the 20th century, as biomedicine began to be codified and formally established in the developing economies of Europe and North America, other philosophical currents developed that could have informed physiotherapy, but ultimately did not. For example, the phenomenology of Brentano, Husserl and Merleau-Ponty, along with the hermeneutics of Heidegger, Gadamer and Ricoeur challenged Enlightenment ideas of the objective nature of truth. These built on Kant's earlier assertion that our knowledge of the world was always mediated by our senses, so we could never have direct access to reality (i.e. noumena – meaning the thing itself) because all "truth" was perception (phenomenal). At the same time, Freud theorized the unconscious forces governing our beliefs and desires. de Saussure argued that language was a social phenomenon that is shifting through history, and Einstein showed that time was relative to the observer. In art, Dadaism and Surrealism mocked human hubris, and radical innovations in musical composition, literary form, dance and cinema followed. In recent years, many of these ideas have, in fact, provided inspiration for a significant number of physiotherapists looking to develop alternatives to Western biomedical physiotherapy.

To provide a broad summary, critical physiotherapists drawing on the philosophies of lived experience, argue that biomedicine reduces living, breathing people (i.e. patients and therapists) to mere body systems, objects, numbers, automatons, polluting variables and cogs in the body/healthcare machine. Biomedicine objectifies people, stripping them of their humanity, personality, identity and sense of human being such that people become homogenized into "the stroke patient," "the disabled child," "the falls risk," "the physiotherapist" (Gibson, 2019).

Rather than perpetuating the conventional idea of the primacy of the biological body as the source and center of the self, health and illness, from a critical lifeworld perspective identity, health and illness can be viewed as embodied, with a relational inter-dependence between people and the things that constitute their being. Even time and space are experienced by humans from the position of being-in-the-world. Being, not biology, is primary. Beliefs, identities, histories, events and connections shape our existence. And these are embedded in and derived from the person's particular context and developed through the interpretations of individuals in given social circumstances (Coole, 2005).

Critical physiotherapists who draw on the philosophies of lived experience can also be referred to as "interpretivists" because their work centers on the unique interpretations that shape our identity. Interpretivists believe that our beliefs, histories and connections, as well as the events that shape our existence are always in context. We experience the world holistically, through our embodied selves, not as a collection of isolated body parts. Similarly, health and illness are not made up of objective, measurable, fixed and static

"variables" or "factors", like machine components, but qualitative expressions of lived being. They are unique statements of our subjectivity: (inter)subjective, elusory and plastic, maintaining a constant dialogue between our selves and the worlds we inhabit and are inhabited by.

Even fundamental Western Enlightenment concepts like time are seen as too linear, too reductive, and too removed from people's real, lived experience. Instead, these critical physiotherapists view time as fluid; relaxing and contracting as we feel joy and fear, boredom and elation. Our lived experience is natural, unique and personal. Our pre-reflective subjectivity in the world has no standard, no uniformity or predictability. It is the source from which we develop and produce our understanding of the world in relation with other people, nature and things. So, the stories we construct about our lives are dependent on our experiences of the "other;" be it through speech, touch, movement, or thought. Our relationship with the world is always purposeful, or "intentional," and our actions always point toward some thing. A phenomenon like pain then, expresses a person's embodied lived experiences rather than categories of underlying biological derangements or cognitive misinterpretations, thus providing potential explanation as to why many people suffer pain and other illnesses entirely unrelated to putatively "objective" clinical findings.

So, in contrast to forms of physiotherapy based on a traditional Western biomedical view, critical physiotherapists informed by interpretivism make people, rather than the body, the primary source of meaning-making and adapt their approach to practice, sensing and thinking accordingly. In recent years within the physiotherapy literature we have seen a growing interest in applied areas of: phenomenological practice (Abrams, 2014; Bjorbækmo et al., 2018; Halák and Kříž, 2022; Mattingly, 1994; Shaw and Connelly, 2012; Willimczik, Bollert, and Geuter, 2009); bodily "presence" (Engelsrud, Øien, and Nordtug, 2019); cultural humility in practice (Oosman et al., 2019); embodied-enactive and acceptance and commitment therapies (Galea Holmes et al., 2021; Gallagher, 2017; Øberg, Normann, and Gallagher, 2015); clinical decision-making (Ajjawi and Higgs, 2008; Chowdhury and Bjorbækmo, 2017; Hartholt, Vuoskoski, and Hebron, 2020); experiences of clinical instructors (Greenfield et al., 2014); fragility (Mattingly and Lawlor, 2001); neurological injury (Sivertsen and Normann, 2015); pain (Barlow, 2021; Wellman, Murray, Hebron, and Vuoskoski, 2020); person-centered practice (Hammond, Stenner, and Palmer, 2022; Sjöberg and Forsner, 2022); practice ethics (Praestegaard and Gard, 2013); student experiences (Barradell, Peseta, and Barrie, 2021; Hammond, Williams, Walker, and Norris, 2019); therapist-patient interactions (Kostrewa, 2002; Sullivan, Hebron, and Vuoskoski, 2021); environmental bodies and relational anatomies (Richter and Maric, 2022); and touch (Norris and Wainwright, 2022). It should also be said that the growth of qualitative research in physiotherapy and healthcare generally has done a great deal to help academics and clinicians to understand the lived experience and the phenomenological component of the illness experience.

Recently we have seen moves to push physiotherapy beyond the body-as-machine in areas like Psychologically Informed Physical Therapy (PIPT) and bio-psycho-social approaches to practice. The challenge with some of these developments is that they can sometimes lack philosophical depth such that the philosophies they draw on become misappropriated. They also remain largely reductionist and rarely live up to their promise of viewing the person holistically. And so the degree to which they reject a biomedical view of the body and illness is questionable. We see this in person-centered care when people are "empowered" to take responsibility for their health as a proxy for cutting healthcare costs; with qualitative research when it becomes overly systematized and methodological; and with reflective practice when it serves only as a box-ticking exercise. While some authors have aligned themselves with interpretivism and phenomenology in enactivism for instance, the majority still associate phenomena like pain with brain-based dysfunction and biologically-based psychological approaches like behaviorism and cognitive therapy. Some of the more philosophically rigorous forms of interpretivism in the context of healthcare could be argued to be represented in the work of, for example, Kleinman (1988), Bruner (1990), Frank (1997), Flick (1998), Mattingly (1998), Holroyd (2007), Charon (2008), De Jaegher (2021), and Leder (2021).

We are seeing interpretivism having a direct impact on clinical practice, too, most especially in the increased interest in the client's subjective lived experience; in the growing interest in the therapeutic relationship; and the focus on client empowerment, self-care, consumer choice and voice. Therapists with a strong focus on their client's lived experience are focusing less on the patho-anatomical basis of illness and more on the person's interpretation and meaning-making; allowing the individual's unique experiences to influence not only the therapist's approach to assessment and diagnostic testing, but also the range of therapeutic interventions used. Under this approach, the greater interest in active forms of therapy in which the client is a partner in the

process replaces a more passive therapeutic approach in which treatment is done *to* the client. The frontiers of new practice and thinking that are opened through rigorous engagement with interpretivism in physiotherapy are undeniably exciting, giving physiotherapists an opportunity to operate in entirely and radically new ways.

Social theory

Like interpretivism and modern medicine, the origins of an approach grounded in social theories lie in the 18th and 19th centuries, but not with biomedical scientists or phenomenologists, but with critiques of capitalism, early sociology, first wave feminism, women's rights movements and anti-slavery campaigns. Nietzsche critiqued people's conformity to slavish moral value systems, and Comte, Durkheim, Marx and Weber laid the foundations for modern-day sociology. Political revolutions in Europe and North America brought the concept of citizens' rights and responsibilities into view, with Mill, de Tocqueville and Burke raising questions about social hierarchies, the nature of democracy, and the relationship between the individual and the state. First-wave "liberal" feminists like Wolstencraft, Anthony and Taylor, set out to show that "'femininity' is a prison rather than a quality of healthy femaleness" (Whelan, 1995). Urbanization and new affluence brought changing attitudes toward housing and public works, architecture and design, convenience and luxury. The period saw the emergence of affordable public media, contemporary liberal international trade and commerce, and greater leisure time for some. At the same time, precarious living and working conditions, poverty and destitution, and the decline of the rural economy became the focus for widespread philanthropy and social reform.

The physiotherapy profession was born into this context. However, the influence of social theories has remained latent in the profession (Nicholls, 2022a). Despite this, social theories have seen developments in the 20th and 21st centuries that have generated some very influential fields of study such as critical theory, critical race studies, decolonial studies, critical disability studies, and second and third wave feminisms. For a summary of these developments and their relevance to healthcare see (Jones and Bradbury, 2018; Lipscomb, 2017). In recent years, several critical physiotherapists have begun to surface some of these theories and connect them to a broader view of the social function for the profession. Principally, these works share the interpretivists' criticism of Western biomedicine for its focus on the body as the site of health and illness. And they agree that biomedicine has systematically objectified people, and presented health and illness as abstract, linear and reductive concepts. But they depart from interpretivists on the role played by lived experience, arguing that it is not the body or human being that is primary as in biomedicine and interpretivism, respectively, but social structures and forces that determine our identity, health and illness.

In the strand of critical physiotherapy drawing on social theories it is argued that the "human" is not an objective, value-neutral concept based on biological "facts", nor an expression of individual human subjectivity, but one that is deeply political: humanity is embedded in history, shaped by it and myriad social forces, and conditioned by relations of power in which some are able to assert their status and privilege at the expense of others. In their application to health and medicine, social theories argue that biomedicine's ability to claim its own objectivity is deeply ironic, because it depends on medicine's vehement investment in some ways of thinking about health, normality, and people, at the expense of others (Lupton, 2003, 2012).

The Western medical tradition has engaged in centuries of work designed to assert that disease and illness reside within the objectively ascertainable physical body and not in the incorporeal mind, God, society, or elsewhere, and that only specially trained and heavily regulated practitioners should be given privileged access to the sick (Porter, 1997). Such a claim is only sustainable if medicine holds enough social capital to go largely unquestioned, and to achieve this it must constantly work to assert the validity of its own values while marginalizing others including critical voices within medicine through its control of the language, tools and the methods used to validate it (Cheek, 1997). Some social theorists, therefore, question the belief that health professionals are driven by altruism and public-spiritedness, or that they are underpinned by an ideology of objectivity and detachment. Rather, they argue that health professionals actively construct ways of thinking about health and illness that favor their professional status claims (Freidson, 1986; Johnson, 1972; Larson, 1977).

These social theorists also see health and illness as an effect or "achievement" of underlying social discourses, rather than as an expression of underlying biomedical pathology. Social theorists pay particular attention to discourse as a way to interrogate our beliefs about bodies; what we mean by health and illness; our historical focus on normalization, ability and disability; our bodily practices and those of our clients/patients; labels and taxonomies; as well as our institutions, systems and structures. For instance, healthcare and medicine might be analyzed through the lenses of neoliberalism and

marketization (Praestegaard, Gard, and Glasdam, 2015; Zechner et al., 2022) or gendered and racialized hierarchies in the global labor market (Yeates, 2012).

Critical physiotherapists engaging with social theories acknowledge that health is hierarchical, with zones of privilege and deprivation. Here, the best services, opportunities and experiences are predominately afforded to people living in high-income countries, and to a minority of affluent, non-racialized, able-bodied, able-minded and hetero-normative people. Recent work in critical physiotherapy has focused strongly in this area, critiquing the power that sustains health inequities, challenging established truths about the reality of health, illness and disability, bringing attention to those marginalized by contemporary healthcare, and disrupting the traditional binaries and norms that create and sustain the idea of the subaltern "other" (Spivak, 1998).

Although there are tendencies toward social theories in the mainstream physiotherapy literature in the psycho*social* factors incorporated into the biopsychosocial approach, and in some public health and health promotion initiatives directed at under-served populations they are more fully realized in the growing body of work examining the social and historical forces shaping the physiotherapy profession (Daluiso-King and Hebron, 2022; Hammond, Cross, and Moore, 2016; Mescouto et al., 2022; Nicholls, 2017, 2020, 2022a; Nicholls, Groven, Kinsella, and Anjum, 2020; Oliveira and Nunes, 2015; Praestegaard, 2014; Schiller, 2021; Sullivan, Hebron, and Vuoskoski, 2021; Thornquist and Kalman, 2017); professional and political ethics (Barradell, 2021; Rajala, 2021); gender (Stenberg et al., 2022); disability (Abbott et al., 2019; Gibson et al., 2014); embodiment (Sudmann, 2009); in physiotherapy education (Dahl-Michelsen, 2015; Dahl-Michelsen and Solbrække, 2014; Hammond, 2013; Strömbäck, Wiklund, Salander Renberg, and Malmgren-Olsson, 2016); and the body and femininity in physiotherapy (Wiklund, Öhman, Bengs, and Malmgren-Olsson, 2015).

There are critical studies exploring shame and stigma and their role in the marginalization of: otherness (Jóhannsdóttir, Egilson, and Gibson, 2021; Setchell, 2017, 2018); aging and aged care (Hay, Connelly, and Kinsella, 2016; Nicholls, 2020); rehabilitation and barriers to patients' activity participation (Ahlsen, Mengshoel, and Engebretsen, 2023; Gibson, 2016; Gibson et al., 2017; Jachyra, and Gibson, 2016); politics of normalization (Gibson, 2014, 2019); critical disability studies (Gibson and Teachman, 2012; Yoshida, 2018); and cultural humility and equity (Cleaver, Carvajal, and Sheppard, 2016; Cleaver, Deslauriers, and Hudon, 2019; Nixon et al., 2016). There are also studies looking at: social and environmental determinants of health (Maric and Nicholls, 2020); micropolitics of care (Gibson et al., 2020); belonging for students of color (Hammond, Williams, Walker, and Norris, 2019); and the link between poverty and disability (Pinilla-Roncancio, 2018).

Although practicing physiotherapists have never seen themselves as agents of social change, preferring to focus their practice on individual or small group interventions, social theory is beginning to play a role in everyday practice. Physiotherapists informed by this approach are increasingly taking their practices into communities of need and targeting "upstream" structural conditions. In some ways physiotherapy has always been concerned with social health problems (i.e. in post-polio infantile paralysis work, war injury rehabilitation, workplace low back pain prevention, and sports injury research). But in recent years this has extended to work at a societal level with attention given to reducing the incidence of falls, traumatic brain-injury and concussion, for instance; in the political lobbying through universal design and disability advocacy; in support for marginalized communities, such as gender affirming therapy; and community-led therapies with substance users, refugees and migrants.

For much of the physiotherapy profession's history, social forces have been restricted to a person's living conditions and social supports: "factors" that mediate people's experience of health and illness, as for example in the International Classification of Functioning, Disability and Health (ICF) model (World Health Organization WHO, 2001). By limiting social forces to factors affecting individual function, activity and participation, and treating them as categorizable variables in the person's otherwise biological process of illness and recovery, approaches such as the ICF have remained much closer to biomedical and interpretive understandings of health than social theories. In contrast, critical physiotherapists are analyzing social forces in a manner that lies closer to their philosophical intent and, in doing so, revealing new ways to think about physiotherapy via the systems and structures it is part of.

The 'posts'

A radically new approach to critical physiotherapy has emerged over the last five years, reflecting the broader non-human "turn" in continental philosophy. This has its origins in the work of Nietzsche and Bergson but has been built on half-a-century of postmodern and post-structural thinking from the likes of Butler, Deleuze, Derrida, Foucault, Grosz, Irigaray, and Lyotard. It

accelerated rapidly in the last 20 years, though, with growing concerns about an unfolding ecological catastrophe, the global political and social repercussions of the COVID-19 pandemic, and the broad failure of progressive "critical" politics to halt the rise of totalitarianism and neo-fascism. The new approach might be best summarized as a turn toward a number of "posts": most notably post-humanism, post-modernism, post-professionalism and post-qualitative research, whose influence now extends throughout the arts and humanities, mathematics and physics, public policy and government studies, philosophy and sociology. Some have even argued that the "posts" represent the most significant movement in Western thought since the Renaissance (McHale, 2015; Sim and Sim, 2012).

What makes these various posts so radical is their rejection of many of the philosophical premises upon which biomedicine, interpretivism and social theory are based. They reject the Enlightenment idea that the human is autonomous and sovereign, and that humans sit above animals, plants and "things" in a hierarchy of beings. They see Western philosophy as being deeply problematic because of its inherent anthropocentrism (human-centeredness) that they further identify as the direct cause of many of the problems now besetting the planet and its diverse inhabitants: climate change and species extinction; genocide and war; discrimination and competition; and abuse and neglect.

Human exceptionalism underpins the belief that the world has been made by and for humans. This is highly questionable, however, not least because the "human" is a very indistinct category, made up almost entirely of inorganic compounds that "we" continually exchange with other entities. 60% of our body mass is made up of oxygen yet we have no idea when an oxygen molecule actually becomes part of "us". Similarly, our bodies can be made up of the same inorganic compounds in death, so what is it that gives vitality to entities and confers "life" (Bennett, 2009). Post-humanists speculate that the same processes that animate humans also animate all other entities. And so, while we often think of concepts like creativity, movement, touch and therapy as distinctly human faculties, they are, post-humanists would argue, widely distributed throughout the universe. To paraphrase Tim Morton (2017) there's a lot less of "me" in the human than Western philosophy would have me believe.

Many of the post philosophers have taken this as the basis to develop radically new approaches that de-center the human and reject the idea that philosophy should begin and end with "us". Instead, their work looks to uncover processes that mediate the creation, endurance and change of all things leading to the emergence of a wide range of philosophies from new vitalism (Bennett, 2009) and the post-structural feminism of new materialism (Barad, 2007; Braidotti, 2019a, 2019b; Dolphijn and van der Tuin, 2012; Fox and Alldred, 2016; Grosz, 2020; Haraway, 1991; van der Tuin and Dolphijn, 2010) to object oriented ontology and speculative realism (Bogost, 2012; DeLanda and Harman, 2017; Garcia, 2014; Harman, 2018; Meillassoux, Brassier, Badiou, and Bloomsbury, 2017); new ecophilosophy (Castro, 2015; Irigaray and Marder, 2016; Mackenbach, 2021; Malm, 2018; Morton, 2013; Nealon, 2016); and libertarian and democratic transhumanism (Manzocco, 2019; More and Vita-More, 2013).

Calling these approaches "posts" does not suggest that they can or should be conflated with one another. However, they do broadly agree on a number of core principles. For example, they share a rejection of human exceptionalism, seeing humans, instead, as one part of a vast universe of peoples, animals, plants, material objects, concepts and forces. They also share a focus on processes and relations not identities, movement not stasis, becoming not being, as well as opening out traditionally human concepts like movement, touch, care and therapy to all things as a part of the universe's irrepressible creativity. They focus on immanence rather than transcendence. Here, transcendence describes the belief that "our" world is governed by another "superior" realm, for instance the belief that natural laws exist "out there" waiting to be discovered, or that God(s) reign over us. By comparison, immanence refers to the unfolding of reality "within itself" without reference to any transcendence or external intervention. They share new approaches to concepts of time and space, the virtual and the real, as well as considerations of new modes of inter-professional and collaborative practice. And, as Rosi Braidotti (2019b) suggested, they resist the "endangered human" narrative, to aim instead "at the production of joyful or affirmative values and projects".

Given how deeply socialized into humanism health professionals like physiotherapists are, it is perhaps surprising that some critical physiotherapists are now exploring these new radical fields. But there is a growing body of studies on new materialism, particularly drawing on the work of Karen Barad (Dahl-Michelsen and Groven, 2018; Nicholls, 2018; Setchell, Nicholls, and Gibson, 2018; Setchell, Abrams, McAdam, and; Gibson, 2019; Setchell, Barlott, and Torres, 2021); studies in object oriented ontology (Nicholls, 2019, 2020); and the works of Deleuze and Guattari (Gard, Dewberry, and Setchell, 2020; Nicholls, 2022a, 2022b); assemblage theory (Abrams et al., 2019; Fadyl et al., 2020; Gibson et al., 2020); posthumanism (Gibson

et al., 2021; Reivonen, Sim, and Bulley, 2020; Thille, Abrams, and Gibson, 2020; Waterworth, Nicholls, Burrows, and Gaffney, 2020); and ecophilosophy (Banerjee and Maric, 2023; Maric and Nicholls, 2020, 2022; Richter and Maric, 2022).

At the moment, post-physiotherapy is very much a theoretical project, and there are few examples of it in clinical practice. Where we do see the posts at work are in cutting edge practice developments where clinicians take their work into the forests, the school yard, or onto urban streets; where they re-design their clinic spaces to be warm and comforting rather than cold and clinical; where they ally with architects, artists, designers, robots, and other unconventional practitioners to extend their therapy into new spaces; and where they deliberately disrupt and perturb conventional ways of "doing" physiotherapy to open a space to practice in unfamiliar and exploratory ways.

Perhaps one of the most fertile openings the posts offer is the way in which they allow us to see the physical therapies as literally everywhere, and that we do a disservice to them if we only focus on therapies by us, for us. Post-physiotherapists suggest that there is something in the nature of physical therapy that vastly exceeds our present understanding of it. Be it a latent function of the relation between things (i.e. when does one entity "treat" another as opposed to merely interacting with it?), an effect of forces that lie outside the entity itself (i.e. how much do entities "choose" to be therapeutic?), or an expression of pure difference and creativity (i.e. is therapy restorative or generative?). Because the posts depart so radically from the approach taken by physiotherapists toward the body, movement, touch, health and therapy, they open up the possibility for entirely new ways of engaging with the physical therapies.

Discussion

Physiotherapists have labored under biomedicine for over a century now. There have been small-scale acts of renegade therapy, but these boundary breaches never amounted to a fundamental change in the profession because to do so would require a wholesale revision of the profession's ontological and epistemological presuppositions. And having committed so wholeheartedly to biomedicine, the profession has, until recently, largely accepted the wisdom of its role in treating the body-as-machine unquestioningly.

Over the last decade, however, physiotherapy has had to confront the fact that the ideologies it prospered under may now be limiting its capacity to change and adapt to a world that is entirely different to the one into which the profession was initiated (Nicholls, 2017). Enter critical physiotherapy, which has sought to critique many of the founding assumptions of the profession's traditions, to open a space for new concepts, ideas, theories and practices.

We have endeavored to present some of these ideas here, though we are well aware that we have only been able to offer cursory categorization and summaries of some of the philosophies now informing critical physiotherapy, at the cost of the nuanced subtlety of their fundamental ideas and the implications these have for critically informed practice and thinking. We are also aware of the limitations of condensing these various approaches that are rich in content, and do not represent a harmonious or homogenous whole, into a relatively short text. We have not been able to illustrate their distinctions and contradictions, nor their indebtedness to each other. Attentive readers will find many variations and nuances to these ideas in the literature, and a resulting rich world of thoughts and arguments worthy of consideration in the context of physiotherapy. Nor have we undertaken to say anything about the relevance of the different perspectives and theories to clinical practice. This notwithstanding, we have sought to review some of the broad central developments in critical physiotherapy over the last decade and argue that these provide a strong theoretical support for thinking and practicing physiotherapy otherwise.

Even in view of the present characterization, however, interpretivism, social theory, and the "posts" have much to offer in our search for physical therapy in an expanded field. What is opened here are entirely new frontiers for the profession and its related practices. Yet, while we explore these new possibilities, we should also be very careful of accepting them without critical reflection, for that would be contrary to what it means to be "critical". We should be careful not to replace one hegemonic and dogmatic image of thought (biomedicine) with another; neither should we think that criticism should aim at destroying or replacing the "uncritical" with something supposedly "better" (Rajala, 2021). Equally, we should not try to collapse the profundity of new physical therapies into a holistic model like the biopsychosocial model, for instance. Such models only ever remain "superficial, lacking the capacity to overcome the deep ontological differences between their different domains (the biological only sits comfortably next to the psycho and the social in a Venn diagram)" (Nicholls, 2023).

Critical physiotherapy advocates for pluralism, in which some practitioners can be devout biomechanists, adjusting their practice philosophies accordingly. Others may choose to be committed interpretivists, or

social activists. Others still might become new materialists, or post-structural feminists. Critical physiotherapists argue that there should be 1,000 physiotherapies tomorrow, not the search for a singular, uniform professional image, and each practitioner should be embedded in their vernacular context (Nicholls, 2022a). The key will be how their practices, concepts and ideas develop as a reflection of their underlying philosophy, and it is the clarification, concretization and multiplication of these underpinnings and their practical implications that critical physiotherapy has been about from its very inception. To continue improving the soil for these seeds, we will need physiotherapists to engage in an even broader range of philosophies and theories, many of which will completely undermine the ways of thinking that have become axiomatic to physiotherapy over the last 100 years. But this joyous opening and unfolding could and should be embraced if we truly believe in the power and therapeutic intensity of the physical therapies.

It is clear now that physiotherapy's historical affinity with the body-as-machine is insufficient as a model for twenty-first century practice. Physiotherapy thinking and practice are opening to the possibility of a radically expanded field in which the way we all engage in healthcare, the language we use, the people we engage with, and the systems and structures that healthcare exists within, are all radically different to those that the profession was born into a century ago. Western biomedicine will still have a crucial role to play in some physiotherapists' thinking and practice but, increasingly, other ontologies and epistemologies will take its place. Physiotherapy has been somewhat slow to embrace some of these developments perhaps lacking the confidence, training, and vocabulary to appreciate them, but that is beginning to change and critical physiotherapy is one voice of reform among many. We are on the cusp of perhaps the greatest reform period in the history of the profession, and so the better informed we are about the possibilities now open to us as clinicians, educators, regulators, researchers and students, the better.

Note

1. The word "critical" in the context of critical physiotherapy sometimes causes confusion. It does not refer to cardiorespiratory critical care nor to the process of critically reviewing the literature. Rather it refers to forms of social theory that challenge taken-for-granted assumptions and expose entrenched, asymmetrical forms of power. Sometimes this is done to advocate for a particular marginalized group (i.e. women, disabled, and indigenous), but it is primarily used in critical physiotherapy to create space for new forms of thinking and practice (e.g. challenging the primacy of the body-as-machine in physiotherapy).

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