ECOHEALTH THROUGH AN ABILITY STUDIES AND DISABILITY STUDIES LENS

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ABSTRACT

Purpose – The goal of this chapter is to cultivate interest in the societal dynamic of ability expectations and ableism, a dynamic first thematized by the disabled people rights movement but which is also broadly applicable to the study of the relationship between humans, animals, and environments. Another aim of this chapter is to think about disabled people within ecosystem approaches to health through the ableism framework and to show that insights gained from disability studies are applicable to a broader study of health within contexts of environmental degradation. Building from this approach, the reader is invited to consider the utility of the conceptual framework of eco-ability ‘‘expectations’’ and eco-ableism as a way to understand health within coupled social- ecological systems.

Methodology/approach – This chapter uses an ability expectation and ableism lens and a disability studies and ability studies approach to analyze the relationship between humans, animals, and environments.

Findings – Certain ability expectations and ableism are responsible for (a) the invisibility of disabled people in ecological health discourses; (b) the standoff between anthropocentric and biocentric/ecocentric approaches to health; and (c) the application of scientific and technological advancements to address problems arising out of current relationships between humans, animals, and environments.

Originality/value of chapter – The reader is introduced to the concepts of ableism and eco-ableism, which have not yet been used in EcoHealth discourses and flags the need for further engagement with disability issues within the field.

Keywords: Ableism; eco-ableism; disabled people; ecology of health; ability studies; disability studies

INTRODUCTION

The linkages between humans, animals, and nature within and outside the health[1] arena have been discussed for some time as has the importance of developing an integrated approach to health research and practice (e.g., at the United Nations Conference on Environment and Development (UNCED), Rio de Janeiro). Two recent notable developments emerging from these health discourses are the ''One Health'' framework, which focuses on the impact of the human-animal relationships on animal and human health (Monath, Kahn, & Kaplan, 2010; Zinsstag et al., 2009, 2012), and the EcoHealth field (Butler & Weinstein, 2011; Wilcox et al., 2004), which engages in active debates around important environment and health issues facing the world today (Charron, 2012). A defining mandate of the EcoHealth field is that any intervention must improve the health and well- being of people, animals, and ecosystems. An important feature of the application of an ecological perspective to health research is that it ‘‘emphasizes both individual and contextual systems and the interdependent relations between the two’’ (McLaren & Hawe, 2005, p. 6). McLaren and Hawe paraphrasing Kickbusch (1989) also observe that when taken up within public health key features of an ecological public health include understanding health as a pattern of relations rather than as a quantitative outcome (that is, viewing health as a process nested in contexts rather than as a static attribute of individuals), and a new type of dialogue between the natural and social sciences that enables the explanation of both physical and social processes contributing to health. (2005, p. 9)

Given its integrative capacities, ecologically informed health research is being seen as a way forward. For example, recent work on the post-2015 Sustainable Development Goals (which has direct implications for ecosystem health) is acknowledging that strategies to eliminate poverty will be more effective if they highlight the full gamut of linkages between sustainable development, global environmental change, health and well- being (Langlois, Campbell, Prieur-Richard, Karesh, & Daszak, 2012). Still improving the health and well-being of people, animals, and ecosystems is a multilevel problem, making it difficult to come up with a unified vision for producing ‘‘health for all.’’ Supporting the development of integrated visions through effective medical, environmental, and social health governance strategies and coherent health laws capable of working at the inter- section of human, animal, and the environmental health is also a challenge, in part because there are specific populations who continue to be marginalized and disenfranchised.

One population that continues to slip through the cracks are disabled people, not only in terms of their health needs but also in terms of their involvement in forming new public and global health agendas. Involving disabled people and drawing on insights from disability studies, such as cultural concepts of ability expectations (want stage), ableism (perceiving a given ability as essential; need stage), and disablism (negatively impacting people seen as missing ‘‘essential abilities’’) (Wolbring, 2012b), are good places to begin redressing these inequities. Using disability studies and ability studies lenses in a foresight manner, this chapter focuses on the specific contributions that the social theories and experiences of disabled people can make to ecosystem-based approaches to health. Issues faced by disabled people need to become more visible as this is a population disproportionately impacted by environmental and social degradations. In addition, disabled people's insights into disabling practices are worth contemplating as are some of the conceptual tools this community uses. The cultural dynamics of ability expectations and ableism in particular (Wolbring, 2012b), this chapter argues, are useful concepts when analyzing issues, such as governance strategies and the formation of laws intended to improve the well-being for voiceless populations, including animals and places, such as ecosystems.

This chapter starts by looking at the EcoHealth topic through a disability studies lens and in particular investigates the portrayal and involvement of disabled people within the EcoHealth literature. In its second section, the concept of ability expectations and its impact on the relationship between humans, animals, and the environment is introduced as is eco-ableism as an ecologically focused analytical lens that can be used in inter-, trans-, and intradisciplinarily ways to generate policies and advance the relationship between humans, animals, and their environments. The third section looks at where the EcoHealth field could move and asks some questions I believe the EcoHealth field has to address. Overall, it is hoped that this chapter enables the reader to become more aware of both existing and emerging challenges and to realize the potential utility of an ability expectation and ableism lens for studying health as a social-ecological phenomenon.

ECOHEALTH THROUGH A DISABILITY STUDIES LENS

Disability studies is an interdisciplinary academic discipline that brings together insights from the natural sciences, social sciences, and humanities to address the societal treatment disabled people encounter due to not meeting the species-typical, body-linked ability expectations of the so-called nondisabled. Disability studies champions the social model of disability that frames problems disabled people experience as being the result of barriers that originate within the physical, social, and cultural environment over the medical model of disability which locates the problem the person has as originating within the body. For example, a ''disabling'' environment is when people exhibit a form of ableism that expects certain body-linked abilities and considers anything existing outside of these expectations to be an impairment (Ayim, 1997; Campbell, 2008; Carlson, 2001; Imrie, 1996; Loja, Costa, Hughes, & Menezes, 2013; Wolbring, 2008a, 2008b, 2012b). How we portray disabled people, how we construct the meaning of disability and the visibility of disabled people, and how we depict the issues they contend with are key areas that disability studies scholars research.

These are, I argue, also important arenas of investigation to pursue for those working on health issues from a social-ecological vantage point. According to Kone et al., ‘‘the complexity of today’s environmental health problems calls for multilevel, intersectorial interventions, involving the coordinated efforts of researchers, policy-makers, nongovernmental organizations, and affected communities’’ (Kone et al., 2012, p. 413). However, one of the largest communities of people impacted by environmental health drivers globally, namely disabled people, are for the most part absent from these initiatives. This trend also appears to be true within intersectoral work being conducted under the rubric of EcoHealth.

One way to get a sense of the ways in which disability is being defined and addressed within EcoHealth discourses is by conducting a discourse analysis of material gathered through keyword searches. On December 20, 2012, for example, a keyword search using Google Scholar generated 35 hits with the keyword combination ‘‘ecological health’’ and ‘‘disabled people’’ and 102 hits with the keyword combination ‘‘ecological health’’ and ‘‘people with disabilities.’’ In contrast, results with the keyword combination ‘‘ecological health’’ and ‘‘women’’ generated 35 times more hits. On May 15, 2013, a keyword search of the journal EcoHealth via the Springer Web site using the terms ‘‘disabled people,’’ ‘‘people with disability,’’ and ‘‘people with disabilities’’ generated $n = 0$ hits, while a search for the term ‘‘disability’’ returned $n = 23$ hits. A further analysis of how the term disability was used shows that overall the trend has been to adopt a medical and not a social understanding of disability; furthermore, when used, the term ‘disability’ is often linked to the phrase ‘‘disability adjusted life years’’ (see for example: Choudhury et al., 2013; Dakubo, 2004; Ebi, Woodruff, von Hildebrand, & Corvalan, 2007; Khan, Phillips, Fernando, Fowles, & Lea, 2007; Narrod, Zinsstag, & Tiongco, 2012; Thomson, Connor, Ward, & Molyneux, 2004; Tserendorj et al., 2011). Additional ways in which the term ‘disability’ is used include references to: impairment caused by pesticides and issues of compensation, including eligibility for disability pensions (Yanggen, Cole, Crissman, & Sherwood, 2004); the disability burden created when impairment in children is caused by exposure to contaminants and the related considerations of the ‘‘economic costs of childhood diseases and disabilities’’ (Davies, 2006); the need to address issues of learning disabilities by controlling the use of and exposure to contaminants (Wernham, 2007); the prevalence of mental disorders and their significance as a source of disability (Jalaludin & Garden, 2011); and, finally, the role of zoonoses in causing permanent disability (Narrod et al., 2012). The overarching observation that can be drawn from this search is that there exists a concern about disability within the literature albeit only in the medical sense; therefore, few studies have used critical social theory and disability studies tools to give a new kind of breadth and depth to existing research so that the concept of disability is given dimension and complexity beyond the medical framework.

A similar conclusion can be drawn from an analysis of one key EcoHealth publication of the International Development Research Centre (IDRC), an organization in building the field of ecosystem approaches to health (or EcoHealth research), which has the mandate ‘‘to connect ideas of environmental and social determinants of health with those of ecology and systems thinking in an action-research framework applied mostly within a context of social and economic development’’ (Charron, 2012, p. 6). For example, in a recent IDRC-affiliated publication, terms such as disabled people or people with disabilities returned n=0 hits and the term disability/ies were mentioned only thrice and all three where within a medical framework. One mention highlighted that ‘‘certain pollutants can damage the neurological system with irreversible effects. Therefore, early detection of subtle damage is important to prevent long-term disability'' (Charron, 2012, p. 84). A second described that ''[Cystic echinococcosis] CE is found worldwide and its total burden is estimated to be about one million disability adjusted life years (DALYs) per year with approximately 200,000 new diagnosed cases reported annually'' (Charron, 2012, p. 191). A final example related to the observation that ''human exposure to chemicals and metals has been linked with biological alterations, subtle adverse health effects, and eventually, illness, major disabilities, and sometimes death'' (Charron, 2012, p. 84). This observation means that there is work to be done. According to the IDRC, ecosystem approaches to health (or EcoHealth research) have six principles: systems thinking; trans-disciplinary research; participation; sustainability; gender and social equity; and knowledge to action (Charron, 2012). Given that conflicting values are common to EcoHealth problems (Cleland & WY born, 2010), I submit that both disabled people and a disability studies lens could be better integrated into work that covers the nexus between the social and the ecological system.

While these hit count results and the quotes highlighted here are just one indicator of the lack of visibility of disabled people in EcoHealth discourses, overall these findings suggest, at least as a preliminary gauge, that disabled people are relatively invisible within the newly emerging field of EcoHealth and that the medical model of disability prevails. These absences exist despite the fact that (a) the term ''disability'' plays a central role in the discourse around temporary to long-term disability and DALY lost, caused by the environment; (b) the vulnerability of people with disabilities is often due to a decrease in environmental health; and (c) discrimination against disabled people is often linked to how a given social entity models human- nature relationships, for example, how a society deals with environmental disasters (Wolbring, 2009, 2011b, 2011d; Wolbring, Leopatra, & Yumakulov, 2012). This medical bias, when working on issues of disability, has important implications including that there is a lack of visibility of disabled people in work addressing health at the interface of social and environmental determinants of health. When investigating this phenomenon from another angle – looking at the links between disability and common social-ecological health issues – the trend persists. Disabled people are largely absent from the water and sanitation (Noga & Wolbring, 2012; Wolbring et al., 2012), climate change (Wolbring, 2009), the social determinants of health (Wolbring, 2011c), and sustainable development discourses, including from work on the Millennium Development Goals (8th Disabled People's International (DPI) World Assembly, 2011; Wolbring & Burke, 2013). These silences in the literature inspire the question: What kinds of approaches to disability should social-ecological approaches to health research be considering?

Shifting the focus and taking the lead from disability studies scholars, another area of relevance to the study of health at the humans-animals- environments interface is the way in which ability and disability are imagined in relation to states of health. Specifically, disabled people are engaging in debates around what disablement really is and how health and biological ''deviance'' coexist (Blume, 2010; de Clerck, 2010; Glickman & Carey, 1993; Lane, 1995; Preston, 1995). As the rich literature contained within the disability studies suggests, the biological and ecological sciences should do more than looking at bodily deficiencies when it looks at ''disability.'' Such a shift would require moving beyond a medicalized understanding of disability just as health sciences should move beyond a default use of the medical model of disability. In addition, the EcoHealth field could be strengthened by further responding to, and incorporating, knowledge derived from the realities of living with a body ability difference caused by a variety of circumstances. In general for the field of EcoHealth, it is my contention that the low visibility of disability studies scholars and disabled people and the one-sided medical understanding of disability are a loss for EcoHealth discourses. A gain for EcoHealth discourses would be to incorporate insights from disability studies, thereby gaining access to a wealth of theoretical insights about overlapping concepts such as vulnerability and interdependence. Interdependence is, in fact, an apt concept to use to elaborate upon this point.

Within disability studies, interdependence, and relatedly embodying the ability for interconnectedness, is a principle that leads ‘‘to action motivated by compassionate understanding and appreciation rather than competition; the experience of feeling with all beings now and into future generations’’ (Besthorn & McMillen, 2002, p. 226). For example, the late disability studies scholar Eric Leipoldt proposed that ‘‘the disability perspective of inter- dependence is a practical guide from the margins to making new choices that may lead to a just and sustainable world – one that reduces the distance between each other and our environment’’ (Leipoldt, 2006, p. 21). As the section that follows argues, another potential contribution that can be made to the study of health at the society-ecology interface is the concept of ableism, which was coined by the disabled people rights movement and disability studies scholars. Specifically, the next section in this chapter looks at the EcoHealth field through the lens of ability studies and the concept of eco-ableism and underscores that mutual learning can occur between the discipline of disability studies, ability studies (Wolbring, 2008c), and the EcoHealth field.

ABILITY STUDIES: INVESTIGATING ECO-ABILITY EXPECTATION AND ECO-ABLEISM AND THEIR IMPACT ON ECOSYSTEM APPROACHES

Ability studies investigates (a) the abilities that are seen as essential in a given context, (b) the dynamic of how an ability expectation consensus is reached, if it is reached, and (c) the impact of ability expectations. The disabled people rights movement was the first to look at the cultural dynamics of framing and reproducing ability expectations and in doing so coined the term ableism as a cultural concept (Wolbring, 2012b). Although ableism was developed to make visible disablism (the lack of support and active disablement by the ones who see themselves as able) (Miller, Parker, & Gillinson, 2004), the yearning for an ability (want stage), the internalization of the idea that a specific ability is necessary (need stage) (ableism) (Wolbring, 2012a) and the notion of disablement linked to ableism are all concepts that have broader social applicability. For example, individuals, households, communities, groups, sectors, regions, and countries make numerous decisions daily based on ability expectations (Wolbring, 2008b, 2012b). Some perceive the ability to protect one's privacy, to buy a house, to be competitive, productive, or efficient, or the ability to consume to be essential. Others do not hold these values and rather give significance to the ability to live in a harmonious equitable society. Ability expectations and ableism lead to an ability-based and ability-justified understanding of, among other things, human's relationships with other humans, other species such as animals, and other entities such as nature (Wolbring, 2011a).

Within the disability arena, the term ''ableism'' is used in a negative way – to problematize a form of discrimination. However, ableism does not have to be negative, for example, a society could decide that the harmonious interaction of humans, animals, and the environment is an essential ability of a functioning society, and this could be perceived as a positive normative expectation (Wolbring, 2008b). The abilities one favors and the ableist frameworks one subscribes to contour not only how people approach human-human,

human-animal, and human-nature relationships (Wolbring, 2011a) but also inform how people define ecological problems and imagine solutions to these problems. Players involved in the shaping of ecological discourses exhibit ability expectations (eco-ability expectations) and forms of ableism (eco-ableism) that influence how they define ecological problems and solutions to the problem and, therefore, whom they invite to the table as stakeholders and knowledge producers (Wolbring, 2011d). According to Naess (1973), the central objective of the ''shallow ecology movement'' is to increase the ability to enhance the health and affluence of people in developed countries, while the ''deep ecology movement'' has its focus on building the ability to promote ''biospheric egalitarianism, the view that all living things are alike in having value in their own right, independent of their usefulness to others'' (Stanford Encyclopedia of Philosophy, 2008). At root, social discourses and practices are at work in the spheres of giving, taking, and acting on perceptions of worth. One example of how different ability expectations contour ideas about how humans relate to nature (Wolbring, 2011a) is evident in the basic presumptions held within anthropocentric and biocentric worldviews. The anthropocentric school of thought is human-centered in its interpretation of the relationship between humans and nature (Stanford Encyclopedia of Philosophy, 2008; Verhagen, 2008) and thus humans view animals and nature as tools for fulfilling their needs and wishes. This outlook is disabling for nature (Wolbring, 2011a) and animals as both are valued and cared for only when considered capable of decreasing negative environmental impacts or increasing states of health and well-being for humans. The eco- or biocentric school of thought is, in contrast, centered on valuing the natural world and within this framework humans are expected to live in harmony with the needs of the biosphere (Wolbring, 2011a). In addition, as much as the concept of ableism originated from the disabled people rights movement, what forms of ableism are exhibited in other discourses such as the human- nature relationship also impacts disabled people. For example, an anthropocentric view is based on one entity dominating another entity, which one could say is reflected in how disabled people are treated by the ones who feel entitlement based on having certain body-related abilities. Living in harmony with nature as suggested in the bio/ecocentric approach might also require that humans live in harmony with one another, which might be better suited for disabled people as it emphasizes interconnectivity and respect for the ‘‘other.’’ However, as little work has been done in this arena, this outcome would depend on how a bio/ecocentric view would be operationalized.

Anthropocentric and biocentric views not only differ in how humans are perceived as causing the ill health of nature and what to do about it, but also in how to use nature to improve the health of humans. Anthropocentric environmental protection fights pollution, resource depletion, and now climate change with the goal of preserving a particular human way of living, which today is still often driven by favoring the ability to consume, the ability to outperform others, and the ability to generate a high Gross Domestic Product. For today’s energy and climate discourse, these three ability expectations precondition people to look for more ‘‘eco-friendly’’ energy sources as long as these sources do not challenge the status quo. While sources of eco-friendly energy may reduce the deleterious impacts of consumption on nature, the motivation for doing so has little to do with providing for nature’s needs and much to do with a growing realization that the ‘‘old’’ ways of treating nature threatens existing hegemonic structures and practices. Another way in which the status quo is maintained is through a turn toward techno-tools such as geoengineering and modifying humans. In principle, geoengineering (Abashian, 1998; Boyd, 2009; Corner & Pidgeon, 2010; Gardiner, 2011; Schneider, 2008) can be pursued either to address the needs of natural systems (biocentric approach) or to fix nature to suit the need of humans (anthropocentric approach); so far the anthropocentric approach prevails. Any geoengineering approach has to have a global impact if it is to fulfill the positive expectation of alleviating climate change problems. But that means it can also have negative global impacts such as exhibiting geotoxic problems that will disproportionately impact humans that are already marginalized as well as animals and could ultimately redefine the relationship between humans and nature.

Another venue for intervention can be imposed on human bodies. In adaptation scenarios, for example, human survival is sometimes premised upon the ability to modify the human body to cope with harsh or disruptive climates. To give one example: within the article ‘‘Human Engineering and Climate Change’’ (Liao, Sandberg, & Roache, 2012), the authors propose human engineering that has the end goal of changing bodily abilities as an adaptation strategy as it would enable people to withstand the impacts of climate change. The authors propose that human engineering is a potentially necessary alternative to geoengineering because they believe that efforts to change the ability expectations of humans (e.g., modifying aspirations toward consumerism through educational programs) are not working and geoengineering might be too dangerous. These same frameworks are also informing the treatment of animals such as those impacted by scientific laboratory experimentation. For example, some actors in the enhancement field are selling the idea of biological, especially cognitive, enhancements of animals to ameliorate the impacts of their maltreatment (Chan, 2009), thereby applying an enhancement form of ableism to animals (Wolbring, 2008b). The ground for accepting the idea of modifying biological structures (such as humans, animals, and the environment) to give them beyond biological structure-typical abilities is directly linked to other body-linked ability expectations discourses such as the ones related to disabled people and the ability expectation judgments they face and has direct implications for what it means to be healthy (Wolbring, 2005) and whose future and what types of health (human, animal, or the environment) we are trying to secure.

WHAT DO THESE PERSPECTIVES MEAN FOR THE FUTURE?

So where are we heading? In relation to ability expectations, some concrete points of departure have been highlighted. At the scale of the social, however, there might be a way to bring problems of equity and justice together by linking issues of health both for disabled people and the Earth in social movements akin to those that forged links between justice for women and the Earth. Some think that a shift in ability expectations at the scale of societies is already occurring based on instances in which anthropocentric frameworks are seen to be being dismantled. For example, according to Verhagen, ''evidence of an emerging biocracy in the modern Western world is legislation about endangered species and the representation of other life forms during political assemblies when persons or organizations become spokespersons and keepers of rivers, forests etc.'' (2008, p. 14). In another example, Ecuador may be construed as the first country to have become a legal biocracy or ecocracy by giving a new set of rights to nature. However, close attention needs to be paid to the underlying assumptions being reproduced in these forward-looking efforts. For example, how biocentric is the Ecuadorian approach? Articles 71–74 of its new constitution describe the relationship of humans to nature. Article 71 can be interpreted as giving rights to the ''entity'' nature. Article 72 talks about nature's right to an integral restoration and Article 73 talks about what actions against nature are prohibited. Yet, Article 74 retains anthropocentric reasoning: ‘‘Persons, people, communities and nationalities will have the right to benefit from the environment and form natural wealth that will allow wellbeing’’ (Republic of Ecuador, 2008). Examples of other social movements coalescing around efforts to bring social practices more in-line with biocentric worldviews include those led by ecological feminists seeking to bring about a more balanced relationship between humankind and the Earth (Johnson, 2011). Central to this feminist approach is an expectation of the ability to care (LaFollette, 2002), the promotion of the idea of interconnectedness (Besthorn & McMillen, 2002), and a rejection of dualistic hierarchical world- views that divide humans and nature. In other words, ecological feminism is rejecting the ability expectation of ‘‘dominance, competition, materialism, and technoscientific exploitation inherent in modernist, competition-based social systems’’ (Besthorn & McMillen, 2002, p. 226) and nourishing the ability expectation of ‘‘caring and compassion and the creation and nurturing of life’’ (Besthorn & McMillen, 2002, p. 226). Applicable to all of these movements are insights already expressed within disability studies theories and methodologies – notions derived from a discipline whose corpus of thought is built upon the experiences of living within disabling contexts and from knowledge gained through working hard to change policies and practices that disable and exploit the ‘‘other.’’

I close this section with some open questions. What could the scope, possibilities, and limitation be of approaches that would be built around ideas such as: a medical health of nature, a social well-being approach to nature, a medical health of human-nature relationships, or a social well- being approach to human-nature relationships? How would animals fit into such projects? How could disabled people fit into these discourses? Could a medical or social model of disablement better deal with EcoHealth issues? What are the consequences for disabled people if the medical understanding of disabled people continues to be so pervasive in the EcoHealth dis- course? How does this medical understanding limit how the field engages with human-nature relationships and human-animal-nature relationships? Certainly, having a clear understanding of the meaning and relationship between health, disease, disablement, and well-being and the ability expectation and ableism dynamics that drive the making of the meaning of health, disease, disablement, and well-being are important for EcoHealth research and practice. Ability expectations also shape the sustainable development agenda which, in turn, impacts emerging EcoHealth agendas. How the questions are answered are also relevant to the formation of the mandates and practices of government agencies, academic and nonacademic funding agencies, policy makers, national and international nongovernmental agencies, civil society organizations, and others interested in developing integrated approaches to promoting health and well-being for all, including disabled people.

CONCLUSION

Moving through the world with a body that is perceived as sub-species- typical – as impaired – teaches firsthand that perceptions shape practice, both in terms of how one personally navigates the challenges of disabling environments (both natural and social) and how society enables or disables health and well-being. From this vantage point, environmental health problems as well as societal views that enable or disable the ability of society to embrace the health of nature as part of the health of humans are important issues to reconcile. Relevant also is knowledge gained through the lived reality of being made sick by medical and social environments as well as from navigating through sick environments as someone labeled as lacking essential abilities because at some level these are interconnected phenomena. In short, there are myriad insights the disability studies and ability studies disciplines have to offer to work on health at the society-ecology interface such as how to develop a more nuanced, equitable, and sustainable research agenda.

This book chapter used the lenses of disability studies and ability studies

To raise the issues of whose values count, introduce new values, and imagine future scenarios. I hope that (a) the framework of ableism and eco-ableism will be seen as useful by the reader in their EcoHealth endeavors and that more cross-fertilization takes place between the fields of ability studies and EcoHealth; (b) the visibility of disabled people increases in environment and ecology of health discourses and that more cross-fertilization takes place between disability studies and EcoHealth, and (c) the investigation of the influence of science and technology, in general, and science and technology– enabled ability expectations and ableism, in particular, be considered within future gazing EcoHealth research.

NOTE

1. When I use the term health I use it with the meaning of medical and social health.

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