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Rewiring Digital Humanities through an Ethics of Ecological Care

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Abstract

This paper advocates for a fundamental transformation of the Digital Humanities (DH) field through the adoption of an *ethics of ecological care*, challenging the discipline's current entanglement with environmentally damaging digital infrastructures. Drawing on feminist care ethics, postcolonial ecocriticism, and environmental humanities, we argue that DH must move beyond surface-level sustainability and engage in a deep, critical reassessment of its pedagogies, methodologies, and institutional affiliations. The paper critiques DH's complicity in extractive practices and digital techno-solutionism, calling for a shift from neutrality to active environmental accountability by introducing a two-pronged strategy: rewiring DH methodologies to reflect ecological awareness and embedding ecological care into DH education. By examining existing projects within Digital Environmental Humanities (DEH) and eco-critical DH, we highlight pathways for building more inclusive, decolonial, and care-centred practices. We imagine a rewired DH that is not a neutral academic space but a dynamic, ethical actor capable of contributing to planetary health and environmental justice. Positioning DH as a critical site for cultivating collective responsibility in the face of ecological precarity, the paper envisions a "care-full" DH committed to resisting exploitative systems and fostering sustained, interdisciplinary engagement with the climate crisis.

Introduction

More than a decade has passed since Bethany Nowviskie's (2015) ground-breaking keynote address at the 2014 Digital Humanities conference in Lausanne [Nowviskie 2015]. Nowviskie's talk, delivered amidst the burgeoning recognition of the Anthropocene as a new geological epoch marked by profound human impact on Earth, posed a poignant challenge to the field of Digital Humanities (DH). She interrogated the capacity of DH to grapple with the complexities of the climate emergency, specifically questioning the discipline's ability to maintain its humanistic core while operating at the vast scales arising from the potential of digital tools to both empower and alienate human agency. Indeed, while navigating this paradox of progress, DH sits at the crux of promoting technological advancement and societal development while also recognising the ways in which these changes are intricately linked to environmental degradation. Ten years on, with scientists setting off warning bells on our planet's future [Fletcher et al. 2024], Nowviskie's inquiry rings more urgent, probing us into the possibility of fostering progress within DH while simultaneously critiquing and resisting the dominant narratives that have contributed to the global ecological crisis. 1

In this paper, we build on this type of inquiry by carrying out a reflective discussion on the ways in which DH may be complicit in the impending climate crisis by relying on the infrastructures and extractive practices that contribute to depletion of resources. With this, we hope to provide a conceptual framework through which the field's methodologies and pedagogies could play a key role in contributing to thriving ecosystems. Our proposal for the discipline is to adopt an Ethics of Ecological Care that requires a commitment to environmentally conscious practices that could subsequently contribute to achieving environmental justice. By this, we envision going beyond the Western conceptualisation of environmentalist practices, such as the promotion of 'green growth' or 'green consumption', that are often considered as main pillars of sustainability [Bell 2020] and engage with the care-related aspects of the ecological crisis we are heading towards. Such a strategy demands a critical move from silence and a superficial focus on partiality or sustainable development goals [Drucker 2021], towards a more profound vision of 2

ecological care inclusive of an ecologically aware critical pedagogy [Freire 1970].

Neutrality, accompanied by a conspicuous silence regarding the environmental repercussions of digital technologies, has become increasingly indefensible. At this critical juncture, DH alongside other institutional actors, bears a responsibility to critically examine its role in the climate crisis and to actively pursue strategies for its mitigation. DH, as a discipline deeply enmeshed with digital infrastructures and computational methodologies, is uniquely positioned at the intersection of technology and society. The field's extensive reliance on data collection, data management, data storage, high-performance computing, and large-scale digital archives undoubtedly contributes to energy and resource depletion as well as producing a significant carbon footprint. This should compel DH scholars to critically assess the environmental dimensions of their work. By interrogating the lifecycle impacts of digital tools and practices, from data creation and curation to storage and dissemination, DH scholars can evaluate the ecological costs of digital preservation, the energy demands of algorithmic processing, the sustainability of current technological infrastructures, and the waste created as a result. DH requires a rewiring beyond the role of a neutral ally, to employ a paradigmatic and engaged position that may urge everyone and their work to become part and parcel of the pursuit of an equitable, just, and care-full ecology. 3

From an Interdisciplinary Present to Environmentally Care-full Futures

Transformative and meaningful change within this framework of care postulates traversing a complex interplay of forces. Any attempt to radically alter a discipline, particularly one as intricately interwoven as Digital Humanities (DH), will undoubtedly encounter friction between established institutional interests and the pursuit of novel agendas. Under these circumstances, we suggest a need to explore an alternative course of action, moving away from the inertia within academia which can act as an impediment to transformative change. The interdisciplinary core of Digital Humanities itself [Smithies 2017] [O'Donnell et al. 2016] [Thaller 2012] encompasses the critical application and interrogation of computational and digital methodologies across various domains such as digital heritage, libraries, culture, and society [Edmond and Lehmann 2021] [Deegan 2014] [Wolfe 2007]. The precise interdisciplinarity and inclusiveness of the field is already a niche school of thought within DH with ongoing scholarly debates stretching and narrowing the discipline's definition constantly [Klein et al. 2015]. Yet many refer to the field as expansive, an umbrella term, a tactical label, a generic framework, or simply a conducive environment for fostering connections and building bridges between diverse spheres of study [Liu 2013] [Berry 2012] [Borgman 2010]. Indeed, the concept of the "big tent" as described by [Finnemann 2014] diagnoses DH as an inclusive domain that welcomes a broad range of participants, methodologies, and disciplines. Challenged by [Whitson et al. 2017] and [Svensson 2016], this "big tent" viewpoint stresses the local contexts and multiple histories of DH and sees the field as a trading zone and meeting place. 4

These contradictory — and often adversary perspectives — collectively suggest that the field is diverse and dynamic, characterised by a range of disciplinary, national, and outer-institutional contexts. In fact, the recent intersection of postcolonial studies and digital humanities has exacerbated these connections and disconnections and has seen scholars exploring the contradictions of this second wave of DH through the lens of postcolonial information societies [Shah 2020], exposing the role of colonial violence in digital archives[Gajjala 2019], critiquing the technical and commercial strategies of powerful entities in the sector[Sanz 2013], and promoting a decolonisation of digital humanities through intersectional engagement [Risam 2018]. This paper does not intend to contribute to these extensive and fruitful discussions surrounding the definition of DH, nor does it aim to establish a new moral foundation for the discipline. We instead consider DH, in the broadest sense, as a discipline that includes both cultural and humanities research done by digital and computational methods as well as humanities informed research on the social, political, and cultural implications of the digital and computation. Rather than viewing the ongoing structural uncertainties as a hindrance or a constant, we propose that by conceptualising DH as a dynamic process, one where its definition evolves rather than remains rigidly fixed, we can unlock a fertile ground for exploring synergies with other concepts, and more specifically through the concept of ethics of ecological care. 5

Over the past decade, two main strands have emerged to tackle the issue: Eco-critical DH and Digital Environmental Humanities (DEH) which both advocate for incorporating ecological awareness into DH pedagogy and research practices. Eco-critical DH focuses on integrating environmental themes within DH methodologies, while DEH emphasises the use of digital tools for environmental humanities scholarship. [Ryan et al. 2023] exemplify DEH's potential to cultivate environmental activism through practices like perennial echo-archiving, digital 6

storytelling of ecological loss, and citizen eco-humanities projects. Similarly, [Travis and Holm 2016] showcase the application of digital tools and interdisciplinary strategies in environmental damage mitigation by detailing a Norwegian project that uses data analysis to monitor fishing practices and another that employs sensors, data analytics, and virtual reality to study the environmental impact of human interaction in urban settings. In the view of [Posthumus and Sinclair 2014], DEH can bridge the gap between computational methods in DH and eco-criticism's focus on environmental humanities. This, they argue, fosters a deeper understanding of nature's representation in media and cultural narratives surrounding ecological issues. [Cohen and LeMenager 2016] built upon this foundation, advancing for “ecological digital humanities” (EcoDH) within a special issue of PMLA. EcoDH, they posit, necessitates a critical path that challenges the conventional business-as-usual scholarship in the humanities. It encourages scholars to harness digital media for the creation, composition, and restoration of environmental narratives. Their approach proposes a disruption of unsustainable innovation cycles and promotes environmentally responsible practices. While our work aligns with these existing ideas, we propose a critical rewiring of DH’s potential complicity in the environmental crisis while stressing the need for DH to engage in self-reflection through a lens that fosters care-full ecological consciousness. Our proposal is that we need to move beyond awareness to rewiring the field through the lens of ecological care.

In essence, we propose the transition of DH from a stance of presumed neutrality to one of explicit accountability and a realm for purposeful and productive action. We certainly do not suggest this rewirement as merely an academic exercise; such a big shift clearly necessitates primarily an active engagement with policy-making and institutional reforms that promote environmental justice. To accomplish this, we introduce a two-pronged course to advance the integration of DH into ecological care discourse. The first prong focuses on the instrumentalisation of ecological care as a means to actively rewire DH methodologies and tools. The recent shift toward decolonial and postcolonial frameworks within DH provides a fertile ground for foregrounding reflective and responsible ecological thinking in project design, enabling researchers to redefine the field’s positionality in relation to environmental challenges. This approach provides the foundations upon which we may cultivate research and disciplinary practices that prioritise ongoing critical reflection, intentional decision-making, and collaborative action in the pursuit of planetary wellbeing. The second prong promotes a reconfiguration of DH pedagogic backbone by incorporating ecological paradigms, prompting a critical reassessment of the discipline’s pedagogical practices. This strategy not only integrates environmental considerations into curricular design and digital/computational tools and methodologies but also challenges established academic norms by positioning sustainability as a central component of DH teaching. Focusing on the methodologies and pedagogy of DH, currently intertwined with actors whose influences neutralise the discipline’s capacity to address the climate crisis, provides an imperative opportunity for critical self-examination through the frame of ecological care we unpack in the next section. 7

By acknowledging these entanglements, DH can begin to extricate itself from inadvertently exacerbating environmental challenges and ecological destruction, thereby realigning its practices. teaching, and tools with principles of sustainability and accountability [Fuller and Goriunova 2019]. As Gould argues, the urgency and undeniable need for deliberate environmental intervention calls for a shift within DH “to pursue an active [and activist]… engaged praxis that connects technology, the environment and the ‘ethical conditions of our vital here-and-now’” [Gould 2021, 94] This shift opens new possibilities for the field itself. By critically re-evaluating its methodologies and pedagogies as environmental artifacts, DH can contribute to building a more eco-careful future. Gould’s belief in the significance of “doing earth work,” directing DH’s unique skill sets towards tackling environmental challenges, contributes to our strategy in engaging with ethics of ecological care. Examining DH reflectively adds a layer of complexity but at the same time highlights the need for thoughtful and multifaceted approaches when integrating care into DH. To do so we argue for ecological thinking in and through DH which resists the environmentalist tactics that perpetuate colonialist, capitalist extraction systems that perpetuate environmental destruction and injustices (see [Liboiron_2021]; [Willoughby_2021]; [Bell 2014]. This also requires a process of unlearning to break the cycle of disconnection, precarity, and destruction in which our society seems to be stuck in [Stephens 2024, 93]. The required shift will not be achieved with incremental fixes; it requires a drastic, even radical, challenge to “business as usual.” As Stephens puts it, “Unlearning, the process of intentionally letting go of previously acquired knowledge, beliefs, assumptions, and behaviours, is a critical part of engaging with transformation and resisting hegemony” [Stephens 2024, 50] 8

The following sections dissect the multifaceted discourse surrounding the future of DH during the climate crisis. Our two-pronged strategy holds the potential to guide the field’s trajectory through a range of active and vocal 9

considerations, including addressing ecological care within DH itself, fostering educational initiatives, promoting fair innovation, and encouraging experimentation. Different visions of the future hold varying degrees of emphasis on key areas, and we need to ask: Which aspects of DH should be expanded or reduced, developed, or resisted to achieve these ecologically care-full diverse future configurations? This paper situates itself within these multifaceted debates, fully acknowledging the absence of straightforward solutions. Rather than offering a comprehensive blueprint for a future Digital Humanities predicated solely on the ethics of ecological care, it engages with the inherent complexities to envision a trajectory wherein ecological ethics are steadily woven into the very identity of the field.

Ethics of Ecological Care

10 Traditionally, environmental thinking, as developed in the Western societies, has viewed nature as a backdrop to human activity; a collection of resources to be managed or exploited. In other words, Western environmental thinking understood society and environment as a binary, leading to the conceptualisation of sustainability as a matter of 'green growth', an environmental agenda that has been widely accepted and pursued by corporations and other international policy-making organisations [Throsby and Petetskaya 2016]. By adopting eco-critique, we bypass this Western framework and the Anthropocene Nowviskie talked about in 2014, to follow Cubitt's (2019) rejection of "environmentalism" and argue for the need for a care that approaches the current ecological crisis as a consequence of understanding the environment as an externality [Cubitt 2019]. As he states, "This environmentalisation of the world, excluding it from participation in human affairs, is the basis of rule […] What humans exclude becomes externality, economists' term for resources that do not have to be paid for" [Cubitt 2019, 2]. Adapting Cubitt's positionality, we propose an ethics of ecological care for DH that conceives ecology as a network of connections that generates things, instead of viewing things as separate entities (including humans and their surroundings), which need to be connected in the pursuit of environmentalism. This shift in perspective asks for a move beyond simply managing resources and altering strategies, to understanding the complex web of relationships that sustain ecological balance. By deploying ecological care, we do not intend to create an addendum to the concept of DH; we believe that it is a concept that is deeply intertwined in a world where our work is interconnected along an axis of awareness and habits. In this section, we suggest that a radical rewiring of DH can emerge from the adoption of ethics of ecological care. Emerging nearly concurrently in the early 1980s within the works of [Gilligan 1982], [Noddings 1984], [Ruddick 1980] and [Ruddick 1989], the concept of "care ethics" challenged the prevailing justice-oriented moral theories of utilitarianism, deontology, and rights theory to focus on traditionally "feminine" domains like mothering and caregiving, addressing ethical issues such as abortion decisions, care for the vulnerable, and the ethics of intimate relationships. However, the concept has undergone a remarkable transformation over the past few decades breaking new ground away from its philosophical roots. Care ethics has now become a central concept across a wide range of disciplines, such as political science, economics, sociology, history, nursing, biomedical ethics, and theology.

11 Here, we primarily focus on the practical underpinnings of care ethics, however, we acknowledge the concept's interdisciplinary trajectory as crucial, and more significantly, we adopt its feminist articulation of "ecological care feminism" (ECF). Feminist perspectives define care work as unrecognised and undervalued labour, disproportionately shouldered by women, "with no expectation of immediate pecuniary reward" [Folbre_1995, 75] or as "a species of activity that includes everything we do to maintain, contain, and repair our 'world' so that we can live in it as well as possible" [Tronto and Fisher 1990, 40]. This framework highlights collective action, fostering mutual support through "continual affective and emotional adjustments" [Bennett et al. 2020]) and promoting well-being by minimising harm [Steiner 2017]. Extending this definition of care, ECF stresses the historical association of women with nature and their commitment to environmental conservation, further enriched by indigenous and feminist care ethics, which highlight the interconnectedness of humans and nonhumans and the importance of empowering communities to care for themselves and their environments.

12 ECF, as discussed by [Warren and Cheney 1991], [Merchant 1995], [Irwin 2013], and [MacGregor_2010], challenges the traditional association of women with nature and caregiving while advocating for shared environmental responsibility. [Warren and Cheney 1991] reject essentialist views, framing ecological care as a collective moral duty, while [Merchant 1995] critiques patriarchal exploitation of both women and nature, calling for ethical ecological practices such as interconnectedness and reciprocity, the rejection of exploitation, and holistic and community-oriented paths. Irwin's (2013) emphasis on structural and systemic changes that integrate care ethics

into decision-making [Irwin 2013]and MacGregor's (2010) critique of romanticising women's caregiving roles [MacGregor_2010]are both paramount here as they justify a radical perspective that acknowledges care as both labour and a moral responsibility, underscoring the need for its fair distribution across society and policy. In our adaptation for DH, a radical rewire calls for outgrowing individual acts of caring and translating them into field-wide changes that may contribute to a comprehensive commitment to safeguarding people while prioritising shared responsibility and mutual support. This critique is particularly important when considering the application of care ethics to environmental issues, where caring for the planet inquires for a collective action and a redistribution of environmental labour.

13 To expect or defer ecological care, labour, or responsibility to institutions, universities, governments or funding bodies is to risk perpetual inaction. Environmental accountability is not a duty to be outsourced — it is an ethical imperative that must be embraced collectively and immediately by DH. By turning to an ethics of ecological care, DH with its assemblage of tools and methodologies, can reveal the intricate connections within ecosystems that traditional approaches may miss. Below we attempt to centre on whether the concept of *ethics of ecological care* can truly provide a DH ecological rewire and a defensible pedagogical purpose. Following from the challenges faced in the discipline, we are called to dynamically uncover the environmental links to the ever-changing nature of DH, where those changes are visible, and the ways in which they influence its development. Through this we attempt to connect the disconnections between the versions of DH as a means of linking the scholarly community and exploring what lies ahead in a world that urgently demands environmental action. DH moves fast and while the expansion of the digital today has brought significant changes, including its focus on the socio-political aspects of technologies and research on global digital cultures and different digital mediums, we must ask: What is our positionality regarding the role of DH during the environmental crisis?

Rewiring Digital Humanities Methodologies through Ecological Care

14 A recognition of the diverse links and environmental impacts of DH could be the origin of generating an *ethics of ecological care* for the field, beyond awareness. To unpack those links and identify the responsibilities we have as a discipline is a complex but manageable rewiring of our rhythms, priorities, and practices. This unpacking asks for a fostering of inclusive innovation in the development of DH, holding powerful entities and collaborators accountable for their actions, and engaging in critical conversations that acknowledge the diverse needs and experiences of individuals and communities. As [Stephens 2024, 3] puts it, most higher education institutions prioritise and invest in technological innovation and technical fixes instead of supporting and encouraging research and teaching on systemic social change. In this techno-solutionist managerial institutional framework, DH did not remain immune. For DH to reflect critically on how the field may be complicit in perpetuating techno-optimism, one of the best places to start is to resist the Silicon Valley type rhetoric of innovation and disruption we have embraced in the last decade [Hannah 2023]. In fact, the fetishisation of the "free information-access" promise of the early internet days seems to have canonised data exploitation by internet giants and has diminished humanists' expectations of bilateral benefits. Many features of the modern Digital Humanities field have been consumed by this large-scale digitalisation and almost global internet connection that have amplified our access to content, data, and resources to conduct innovative research, which in turn have broadened DH methods to study them [Viola 2023].

15 The environmental impact of innovation on climate change is, however, not distributed equally; to the contrary, those who least contribute to it, suffer the most [Baldwin and Erickson 2020], and adaptation strategies employed by one group can inadvertently aggravate problems for another. This phenomenon, known as maladaptation, highlights the unequal burden borne by developing nations in the Global South, which face the brunt of climate change despite contributing the least to historical greenhouse gas emissions [Young 2021]. This lack of parity extends to the realm of technology. Information and Communication Technology (ICT), a fundamental pillar of DH practices, has a significant ecological footprint, and a substantial portion of the energy powering ICT infrastructure currently comes from fossil fuels [Freitag 2021], contributing an estimated 2-2.5% of all greenhouse gas emissions globally. When terms such as 'innovation,' 'transformation,' and 'digitalisation' dominate the talk of our evolving discipline, the underlying political contexts, everyday realities, and material cultures dissipate [Wiens et al. 2020].

16 The growing dependence on technology companies and social media platforms for data collection, analysis, and the management of datasets or machine learning applications in DH has raised concerns about a gradual erosion of responsibility within the field. This trend is particularly disconcerting given that numerous technology firms are

known to financially support lobbyists and politicians who challenge climate change initiatives, as evidenced by [Shefner and Lamphere 2024]. In parallel, social media outlets and current advances in generative AI are frequently implicated in the spread of climate-related misinformation [Galaz et al. 2023]. By increasingly prioritising short-term benefits through alliances with these external actors, DH risks deviating from its long-standing commitment to advancing human welfare, preserving cultural heritage, and disseminating knowledge to diverse audiences. Furthermore, the recent surge in public mistrust toward both technological innovators and public institutions, exacerbated by the concentration of power among a select few, could have a direct and adverse impact on fields such as DH [Boyd Davis et al. 2021]. In effect, defining academic achievement predominantly through economic partnerships with stakeholders whose ethical standings are questionable may not only dilute the core mission of the discipline but also contribute to its fragmentation and the erosion of trust within the broader academic community.

17 We propose that an ecocritical DH champions “slow scholarship” [Mason 2021], entailing a more deliberate and care-full research, careful planning, resource optimisation, and long-term impact. By slowing down and prioritising long-term planetary health, DH can produce more durable and impactful solutions to complex research problems and a more nuanced understanding of the environmental implications of DH. This would also mean resisting patriarchal and colonial structures of our institutions and actively seeking to address systemic marginalisation [Stephens 2024]. Indeed, as mentioned earlier, when we look at the intersection of Environmental Humanities and Digital Humanities (i.e. DEH), we find many guiding examples that show how DH can be deployed to underpin environment related research that has the capacity to advance the knowledge on environmental degradation. For example, [Ryan et al. 2023] show that by embracing diverse theories and practices, DEH can bring decolonial, arts-based, and practice-led models into dialogue with qualitative and quantitative paths. Such practices align with the ethics of care’s emphasis on building relationships, fostering empathy, and ensuring the well-being of others. By prioritising an *ethics of ecological care*, we demonstrate respect for the lived experiences and expertise of the communities we work for and with, forging partnerships with environmental justice organisations, NGOs, and community groups.

18 This strategy leverages existing knowledge and networks within these communities, creating a more efficient and effective course of action for DH. However, the benefits extend beyond efficiency, to foster a sense of shared responsibility and empower communities to be active participants in finding solutions that address their concerns as active research participants, from designing the research, interfaces, and ensuring a fair distribution of research benefits. A DH ethics of environmental care underscores responsiveness to the needs of others, which in this context translates to ensuring research and data collection prioritise the well-being of these communities. Ultimately, a successful strategy to a rewired DH that cares about the environmental crisis must ensure that the development process reflects the perspectives and needs of marginalised communities. For instance, by prioritising data justice, we can strive to ensure that data collection and analysis are conducted ethically and with respect for community privacy and ownership [Dencik et al. 2019]. Our growing data collection, analysis, and management methodologies and the turn to building infrastructure for conducting research should hence incorporate the analysis of structural inequalities, to reflect on how different groups and communities experience technological processes such as datafication, unevenly. An *ethics of ecological care* encourages us to consider diverse sources of knowledge beyond traditional academic research such as the inclusion of Indigenous knowledge systems [Whyte and Cuomo 2016] and other ways of knowing that may be crucial in addressing environmental challenges.

19 This infrastructural turn in DH has generated a substantial body of critical scholarship addressing the environmental impact of digital technologies. In particular, the emergent field of critical data centre studies [Edwards et al. 2024] examines the continually expanding digital infrastructure by analysing the contemporary social, cultural, political, and environmental contexts of the data centre sector. As integral components of multinational digital capitalism, data centres occupy a nexus at the intersection of energy systems, local economies, and environmental politics [Brodie 2023]; their expansion relies on energy resources and intersects with extractive industries, and carries profound planetary implications, frequently undermining local livelihoods [Lehuedé 2024]. In extension, the production of digital technologies used, developed, and promoted for or within DH depends on the extraction and processing of rare earth minerals that are crucial for many hardware components [Cubitt 2016], a process that often imposes considerable ecological costs. [Parikka 2013] observes that modern electronics operate as miniature mines for minerals and metals, while [Gabrys 2011] posits that these materials circulate within complex economic, cultural, and political networks. The practices of mining and earth extraction engender significant ecological harm through the generation of hazardous waste, deforestation, and unsafe labour conditions (see, e.g., [Taffel 2015]). For [Yusoff

2019], such extraction practices must be examined within the broader historical and ongoing contexts of colonialism and violence against both people and the more-than-human world. Consequently, an anti-colonial framework in this context demands not only the integration of indigenous knowledge but also a critical awareness of the mineral resources and mining practices that underpin technological production, the labour involved in constructing these tools, and the energy resources that power them. Through an *ethics of ecological care* developed for DH, researchers can acknowledge this uneven global distribution of environmental burdens associated with technology.

20 A comprehensive rewiring is feasible only if collaborations between academic and non-academic partners are rigorously and ethically evaluated to preclude extractivist practices and, where feasible, incorporate research partners and participants in formulating research questions, refining methodologies, and ensuring equitable benefits from the outcomes. Concurrently, a heightened environmental consciousness necessitates a critical interrogation of local, national, and global governance structures that have historically perpetuated environmental injustices. Embedding an *ethics of ecological care* within the discipline entails acknowledging the uneven historical trajectories that distinguish various digital humanities traditions and seeking avenues for interdisciplinary integration that transcend existing divides. This approach calls for reconfiguring collaborative practices and responses to the ecological crisis in ways that are ethically sound and inclusive, thereby fostering a research environment that aligns with both sustainable principles and environmental justice imperatives.

Rewiring Digital Humanities Education

21 It may be deemed both naïve and cynically unrealistic to push for an ethical rewiring of Digital Humanities, a field that is already overextended, structurally fragile, and deeply enmeshed in culturally specific contingencies. Although the immediate benefits of such a reorientation remain ambiguous, this shift holds the potential to enrich the fundamental objective of Digital Humanities, namely, the synthesis of scientific methodologies with the reflective traditions of the humanities education. We draw inspiration and frame this final part of the discussion within Paulo Freire's work on ecological awareness and critical pedagogy to champion an expansion of Digital Humanities towards a system that integrates environmental care and ecocritical futures. Freire's work champions a form of education that transcends the purely theoretical, aiming to construct frameworks that empower global communities, foster mutual respect, cultivate social responsibility, and celebrate diversity [Freire 1970]. By mirroring this emphasis on justice within its own principles, DH can evolve into a powerful entity for environmental education and advocacy. In the same vein that Freire argues for the critical inclusion of ecological concerns within any 'radical, critical, and liberating' educational practice [Freire 1993], DH may encourage researchers to revisit foundational concerns of the humanities and engage with concerns revolving around the constitution of the human as both a subject and object of study, particularly in relation to non-human elements, such as generative AI. Expanding on this encourages us to envision a future for DH that prioritises a humane and eco-careful future that integrates environmental justice and ecological concerns within the core educational mission of DH.

22 Recent expansions in DH have signified a paradigmatic shift toward a more globalised and critically engaged field. As discussed earlier, contemporary developments are marked by an increased focus on global digital cultures, which include robust discussions of decolonial and anti-colonial approaches, Black digital archives and experiences, and analyses of the socio-political implications of technology [Banda 2015] [Gomez 2020]. This transformation reflects a fundamental reconfiguration of the digital domain, from functioning merely as a publishing platform to evolving into a dynamic arena for conversation, collaboration, and multidimensional engagement. In doing so, DH has embraced a core humanities tenet that regards texts as multifaceted entities incorporating diverse media forms [Lanham 2000]. This expanded scope stands to benefit significantly from the integration of innovative educational frameworks, including radical pedagogies, critical data studies, decolonial methodologies, and ecocritical perspectives. Through such interdisciplinary and critically engaged approaches, DH can contribute to the cultivation of educational futures that are both socially equitable and environmentally sustainable.

23 Some current examples, which demonstrate practical implementations and real-world applications of principles such as sustainability, decolonialism, and responsibility in addressing environmental and societal challenges, can serve as valuable guides in shaping an *ethics of ecological care* that integrates diverse, contemporary experiences into an ethical framework. [Lyons and Howarth 2022] offer an interesting case of a pedagogical method used at the University of Pennsylvania where students were asked to use digital storytelling to defend environmental justice. By connecting their students with Colombian activists working against deforestation, air pollution, and river pollution,

and by using participatory action research methods, they created a digital storytelling platform. This platform provided a visual representation of the socio-environmental conflicts in Colombia, as well as providing historical context and reporting on the organisations and their activities in support of environmental justice. Throughout this project, Lyons and Howarth also worked to de-centre English as the default language for both digital humanities and environmental humanities in order to open up opportunities for collaboration with diverse groups, such as Colombian environmental activists in their case, and to open up new avenues for reaching a wider audience. Another example comes from King's College London [Gray et al. 2022], where scholars Gray and Bounegru used their flipped classroom technique to explore how hashtags and images were involved in the contentious issue of Amazonian Forest fires. As a result, in collaboration with the European Forest Institute, they created a 'cross-platform image dataset' using qualitative analysis.

Similarly, [Ruiz et al. 2017] offer a compelling example of how DH can be used to decentre whiteness within dominant environmental narratives. Their project, established at the California State University Digital Environmental Humanities Lab, involved collaboration with Chicana/o first-generation undergraduate students lacking prior formal research experience. Through archival research using digital tools, these students critically examined the centrality and dominance of whiteness in mainstream environmentalism discourses. They identified and questioned the absence of records documenting the historical contributions of Latinx, Indigenous American, and Black communities to environmental movements [Ruiz et al. 2017]. In essence, the students challenged the long-held narrative, perpetuated by predominantly white middle-class male conservationists, that nature exists to be tamed and conquered and instead, foregrounded alternative environmental histories and discourses. These alternative narratives focused on working-class environmentalism [Bell 2020], acknowledged the historical contributions of people of colour to environmental movements in the United States, and addressed the impact of slavery, colonialism, and imperialism on land dispossession and the erasure of Indigenous knowledge concerning the environment. This project exemplifies a productive and positive radicalisation of DH tool development and use towards an ethics of environmental care that foregrounds the experiences of marginalised communities and encourages a focus on the stories and perspectives often neglected by dominant narratives. This collaborative course allowed students to weigh in their own identities to inform the research process and challenge dominant narratives within environmental discourse through the use of DH tools. 24

Evidently, the cornerstone of a successful education in the face of ecocriticism lies in the creation of common, sustainable, intentional, and collective pedagogical tools. These tools, as Crane argued in 1998, must be based on “new experimentation as we explore and seek to understand a radically new space” for DH (Crane, 1998 as cited in [Lane 2017, 1]). While Crane’s argument was made for digital libraries, the recent proliferation of DH studies on fields such as digital infrastructures, platforms, and cryptocurrencies reminds us of the same critical importance of these innovations and the new connotations of the question related to the political dimensions of these allegedly merely technical developments. Who owns, who controls, and who benefits from these technologies? How sustainable are they? And do they undermine current education structures? Often led by large conglomerates, these innovations shape the performance of the economy, politics, regulations, and society while they are also impacting our comprehension of key concepts such as national borders, governments, and citizenship. 25

An *ethics of ecological care* can contribute to environmental and planetary health in a meaningful way, instead of perpetuating old environmental discourses that may propagate the same old power structures. Embedding an ethics of environmental care in DH pedagogy can rewire an environmentally conscious future that builds an open, trustworthy space through which scholars and students are empowered. For this, we must support a care strategy that enhances our values, our social benefit resonance, literacy, and techno-cultural coherence. To do that we must champion a rewiring that can aid us in creating an archetype that counters traditional and colonial hierarchical notions of education and deploy ecocritical educational principles from the outset, to guarantee that DH will be beneficial to all, encompassing planetary health. This paper argues for a repositioning of the discipline towards a more care-full DH, relying on shared understanding and development. Traditionally, DH pedagogy has been conceptualised and developed in an isolated manner, overlooking the interconnectedness of resources, networks, and infrastructure that underpin our research and teaching. By viewing DH pedagogies and methodologies as complex ecologies, we can cultivate a more environmentally aware appeal to our professional endeavours. 26

Conclusion

While the openness and flexibility of DH offer immense potential for tackling contemporary challenges, the environmental impact of the field's practices has spurred a critical re-evaluation that has positioned it at a crossroads. This paper argues that DH must embark on a transformative journey, embracing environmental responsibility and actively contributing to the pursuit of an ethics of environmental care. Neutrality and silence on the issue of climate change is unacceptable at this stage; it is the responsibility of the field to consider how they are contributing to the climate crisis and what they can do to mitigate it. We depart from conventional approaches to Digital Humanities that prioritise either top-down, institutionally driven solutions or bottom-up, grassroots initiatives. We argue for a more nuanced exploration of the interstitial space between these two extremes that fosters interconnected opportunities that leverage the creative potential of both top-down and bottom-up forces, thereby rewiring the possibilities of Digital Humanities. Our primary focus is on the institutional transformation that arises from the confluence of these two strategies since we believe it is within this nexus that some of the most impactful ecological changes can and are unfolding. In this context, we pose two critical questions: 1) What is the most effective ecological strategy for a future Digital Humanities? 2) Should we endeavour to reform existing institutional structures, establish idealised archetypes that exist outside of these structures, or directly challenge these structures altogether? 27

In addition to the promises and problems associated with the growing Digital Humanities, the focus on the debates around the definition of the discipline draws attention away from pressing issues facing humanity and the planet. This change necessarily implores transparency about the processes that constitute the field. Our work should and often contains the dialogic history of its making, and the experience of its research and teaching community to let it show how DH professionals grow, change and stumble through their expertise and encounter with other fields. We argue that the crucial caveat of what is being broadened should also be predominantly grounded in the ethics of environmental care, which has not been part of DH research as of yet. DH research should take seriously the fact that inquiry not only happens inside universities but also outside it and that we cannot remain neutral in the face of the climate crisis. We should take seriously the ways in which our methodologies and pedagogies are shifting, the materiality of the digital, the dynamics and politics of digital technologies and finding ways to account for them, situated in the context in which digital technologies are used and in which they matter environmentally. 28

This paper posits that an epistemic rewiring towards an environmentally conscious Digital Humanities, characterised by critical self-reflection and theoretical underpinnings, holds the potential not only to reconfigure the landscape of DH, but also to catalyse ground-breaking and socially impactful methodologies and pedagogy. By integrating *ethics of ecological care* into the fabric of DH's core, scholars can embark on a transformative journey, interrogating the anthropocentric tendencies inherent in existing practices and fostering a more holistic understanding of human-environment interactions within the digital realm. This paradigm shift necessitates a deliberate engagement with theoretical frameworks from environmental humanities, ecocriticism, and sustainability studies, enabling the development of innovative research agendas that address pressing societal concerns amidst the backdrop of climate change. An environmentally care-full Digital Humanities has the potential to transcend disciplinary boundaries, fostering collaborative endeavours with diverse experts and generating research outcomes that can contribute meaningfully to broader conversations. 29

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