POSTHUMANISM AND GREEN REPUBLICANISM: A NEW PATH FORWARD

Sungjin Park
Gwangju National University of Education, South Korea

Contemporary politics faces a coupled crisis: accelerating AI and intensifying ecological breakdown. This article argues that integrating posthumanism with green republicanism offers a coherent normative and institutional paradigm for governing the Anthropocene. Posthumanism decenters humans by treating humans, nonhuman animals, technologies, and abiotic environments as entangled participants in world-making, thereby expanding the community of justice. Green republicanism adapts civic republican ideals of the common good and freedom as non-domination to ecological limits and intergenerational responsibility, insisting that republican liberty is impossible on a degraded planet. To connect these frameworks, the article mobilizes new materialism— especially Barad's notion of intra-action—to reconceive agency as distributed across socio-ecological assemblages. Building on this ontology, it proposes an ecological republic in which nonhuman interests can be represented through guardianship models, rights-of-nature jurisprudence, and deliberative institutions informed by environmental sensing and carefully governed AI decision-support. The analysis addresses feasibility worries and the charge that posthuman inclusion dilutes human accountability, arguing instead for a republican ethics of stewardship that strengthens civic responsibility. The synthesis concludes by outlining a participatory, adaptive research agenda for sustainable and just governance.

Keywords: posthumanism, green republicanism, new materialism, Intra-action, Anthropocene governance

INTRODUCTION: THE EMERGENCE OF A NEW PARADIGM

Contemporary societies are facing a convergence of unprecedented challenges. The rapid rise of artificial intelligence (AI) and the worsening climate emergency require a radical reimagining of existing social and political frameworks. The traditional tenets of political philosophy, predicated on anthropocentric assumptions, can no longer adequately navigate us through these entangled technological and ecological crises. Dedicated to responding to this challenge, two approaches — posthumanism and green republicanism — offer critical new vantage points for

imagining sustainable and just futures. Posthumanism casts off the anthropocentrism that has taken root in Western thought for so long and argues for a broader community of ethical concern that includes nonhuman animals, mind- and body-techs, and the abiotic environment. Green republicanism, in contrast, draws on the civic republican paragon of civic virtue and common good, expanding these ideals explicitly toward ecological stewardship and intergenerational justice. Overall, the intersection of posthumanism and green republicanism heralds a paradigmatic turn towards inclusive and resilient forms of politics capable of responding to both AI-induced social transformation and the planetary environmental crisis. This integrated paradigm designates the need to restructure political architectures more flexibly, more ethically broadly, and more sustainably, more capable of tackling the impending challenges of the Anthropocene (Bostrom 2014, 91-99; Barry 2012, 245; Ferrando 2013, 26-32).

The demand to extend our moral and political community beyond humanity is not entirely new. For decades, both animal ethics and environmental philosophy have critiqued narrow anthropocentrism from Peter Singer's (1975) landmark case for animal liberation to Arne Naess's (1973, 95-100) plea for a deep ecology that values non-human nature for its own sake. These and similar foundational critiques laid the groundwork for challenging human exceptionalism on ethical and political grounds. That questioning deepens new levels in posthumanism, which deconstructs the categories used to keep humans enthroned above other forms of existence, showing that humans, animals, machines, and landscapes are in fact co-constructed. On the other hand, green republicanism has its roots in the tradition of civic republican thought (Pettit 1999; Skinner 2014), it infuses the latter with ecological sensibility—advocating sustainability, community, and participatory democracy as foundational political objectives (Barry 2008, 3-11). Green republicanism imagines a society that flourishes within the limits of ecology, considering the natural world no longer simply a resource for humans, but a partner in a shared commonwealth. Posthumanism, in contrast, brings with it a radical expansion of ethics, a demand that our lexicons of rights, agency, and justice are brought to bear on all life-forms and even material objects (Wolfe 2010, 49-98). At the intersection of these two visions is a powerful synthesis: a political philosophy that combines ecological responsibility and a republican commitment to the common good with a capacious posthumanist ethics that presses us to think about who — and what — counts in our moral and political calculations.

This paper will show that the combination of posthumanist ethics (including ethical and biocentric aspects) and green republicanism produces an innovative paradigm that is particularly relevant to the challenges of our times. The posthumanist-green republican thought, for instance, can help reconstitute democratic institutions to embody the interests and voices of non-human stakeholders, perhaps represented through human agents or legal rights of nature or even AI-mediated proxies for those radiant ecosystems. It can deepen the ethical terrain of environmental policy, moving from anthropocentric conservation to a biocentric or eccentric ethic where conserving biodiversity and ecosystem integrity is a question of justice, not merely charity. This fusion, however, is simultaneously rooted in the civic republican ideals of deliberation, community empowerment, and freedom from domination — newly expanded to include relations between human beings and the outside world. What

follows is a brief presentation of the key divergences and convergences between the two doctrines: green republicanism and posthumanism. On that basis, we analyze how new materialism, as a posthumanist philosophy, offers a common ontological ground capable of connecting these frameworks. Drawing upon this theoretical intersection, we propose a more inclusive reconceptualization of environmental ethics and explore practical implications for policy and governance at all levels - from urban planning to rights-based approaches granting legal standing to nature itself. We also respond to criticisms and objections, including concerns about feasibility or the danger of undermining human agency. We close by considering how this posthumanist-green republican paradigm might motivate more equitable and sustainable futures and call for a re-evaluation of existing strategies with an eye for the more inclusive and interconnected approaches to ecological stewardship that can be taken.

THEORETICAL FOUNDATIONS OF GREEN REPUBLICANISM AND POSTHUMANISM

Green republicanism and posthumanism come from different families of thought. It is important to clarify the foundations and philosophical commitments of each framework before bringing them together. Green republicanism is a 21st-century conversation that climaxes an even older political theory. Posthumanism is an ethical and ontological position that weighs the human-centric assumptions. Learning about each one in turn will give us better insight into how they can work together.

The Civil Virtue and the Project of Sustainability Green republicanism, at its most basic level, takes the traditions of civic republicanism — with its focus on citizenship, the common good, and resisting domination — and adjusts them for a time of ecological crisis. Classical republican thought, starting with Aristotle, but including Machiavelli and Rousseau, emphasized the importance of active citizenship, the pursuit of a common good, and monitoring against tyranny. Today, republican theorists such as Philip Pettit (1999, 80-109) consider freedom to be non-domination, emphasizing the need for political and economic structures to constrain power and prevent domination. Green republicanism carries these principles into the environmental sphere (Barry 2008. 3-11). It maintains that without a healthy environment and sustainable interaction of human communities with nature, genuine freedom and common good are unattainable. A green republican society works to live within ecological means, respecting the limits of the Earth and valuing the natural environment intrinsically as well as instrumentally. This view is inspired by well-known lines of environmental philosophy, e.g., Aldo Leopold's land ethic, which called for a broadening of the notion of community to include soils, waters, plants, and animals (Leopold 1949). It also echoes Arne Naess's deep ecology that stresses the intrinsic value of all living beings and emphasizes how radical variations in the relationship of society to nature are necessary (Naess 1973, 95-100). Green republicanism calls for those ethical insights to be institutionalized: a political order that places ecological preservation, intergenerational justice and a resilient community at the very centre. It involves rethinking constitutional arrangements, rights, and duties to embed environmental obligations (Barry 2012, 243). It also means a commitment

to participatory democracy in environmental governance, consistent with deliberative democratic models (Dryzek 2002, 140-161) whereby all stakeholders - present and future, human and (through proxies) non-human - have a voice in decisions that affect the shared planetary home.

In practical terms, green republicanism challenges the dominant paradigms of endless economic growth and private acquisitiveness. It draws on insights from ecological economics (Daly 1974, 15-21) to argue for a steady-state, regenerative economy operating within planetary boundaries. The emphasis on the common good translates into policies that mitigate climate change, protect common resources, and fairly distribute environmental benefits and burdens. Crucially, green republicanism does not treat environmental issues as isolated "green" concerns; rather, it integrates them into the heart of republican justice. Just as republicanism traditionally opposes domination of citizens by arbitrary powers, green republicanism opposes the domination of nature (and vulnerable human communities) by extractive, polluting industries or unsustainable practices. In this way, it links ecological integrity to freedom and justice. Thinkers like John Barry (2008, 3-11) and 21st-century green republican theorists (Dodsworth & Honohan 2023) have articulated how republican values of virtue, prudence, and shared sacrifice can underpin an environmentally conscious state — often termed the Green State (Eckersley 2004). This Green State would actively secure the ecological conditions for citizens' flourishing and treat the stewardship of nature as a fundamental duty of the republic.

Posthumanism is a wide-ranging intellectual approach that critically engages the human subject in the domains of philosophy, ethics, and politics. It comes partly from an understanding that the traditional humanistic approach - one based on Enlightenment notions of autonomous, rational beings as the center of moral consideration - has fallen into exclusionary and destructive practices involving those who are categorized as "other" (including non-human animals, the natural environment, and even some classes of humans). Posthumanist thought has plenty of forebears: feminist theory, science and technology studies, environmental humanities, and the new materialisms, to name a few. Posthumanism, at heart, provides a critique of anthropocentrism, the assumption that humans are fundamentally stakeholders in the moral universe who assume a superior or central position in that universe (Wolfe 2010, 3-30). Rather, it proposes that the world is filled with becomings and forces that are entangled, and that the lines between human and non-human beings, biological and technological beings, are unstable and constantly in flux (Haraway 2006, 117-159; Hayles 1999, 283).

Posthumanism emerges as a fundamental critique of classical humanism, dismantling the figure of the autonomous, sovereign 'Man' to reveal a more interconnected reality. This intellectual trajectory begins with Donna Haraway's (2006) cyborg metaphor, which destabilized the rigid binaries between humans, animals, and machines. By envisioning hybrid identities, Haraway paved the way for Rosi Braidotti (2013) to redefine the subject as 'nomadic.' In this view, the posthuman is no longer a fixed entity, but a fluid subjectivity — embodied, embedded in "nature-culture" systems, and existing in constant symbiosis with technology. This decentering of the human subject is further reinforced by new materialist philosophies (Bennett

2010, 47-69; Latour 2004, 205-229), which disaggregate agency from human exceptionalism. By asserting that materiality itself is active, these thinkers establish a 'flat ontology' wherein ecosystems and inorganic processes possess their own efficacy and value. Consequently, posthumanism necessitates a radical ethical turn. While it builds upon Singer's (1975) anti-speciesism and Nussbaum's (2006) capabilities approach, it pushes toward a deeper 'anti-exceptionalism.' It demands that humans recognize their profound kinship with the non-human world and relinquish hierarchies of domination. Ultimately, posthumanist ethics reframes human existence as one participant within a vast, interdependent web of relationships, grounded in a shared responsibility for collective flourishing.

The posthumanist perspective is especially pertinent in the context of AI and emerging technologies. Thinkers like Nick Bostrom (2014, 216) has highlighted the potential threats and transformations posed by superintelligent AI, forcing us to reconsider what the future of "humanity" looks like. Posthumanism invites us to conceive of AI not merely as tools or threats in human terms, but as part of a continuum of intelligent agency with which we will co-evolve. It questions rigid boundaries between the biological and the technological, suggesting that our future political community might need to account for artificial agents as well. In summary, posthumanism provides an expansive ontological and ethical framework: it sees the world as an integrated community of humans, other living beings, and material processes, all of which participate in creating reality (Ferrando 2014, 1-17). This worldview sets the stage for a more inclusive form of politics—one that posthumanism alone sketches out in theory, but which can be given concrete shape when combined with green republicanism's focus on governance and the common good.

TOWARDS INTEGRATION

At first glance, green republicanism and posthumanism might seem to operate at different levels, one at the level of political structure and civic values, the other at the level of ethical inclusivity and ontology. However, both converge on a critique of the status quo and a desire to overcome the alienation between humans and the non-human world. Green republicanism provides normative principles of justice, democracy, and sustainability that can guide collective action, while posthumanism provides an ethical vision that enlarges the community of justice to include non-humans. The theoretical foundations laid out above prepare the ground for their intersection. In the next section, I explore how the insights of new materialism help to bridge these frameworks, providing a shared basis for rethinking concepts like agency, community, and governance in a way that is neither purely anthropocentric nor naively eco-centric, but dynamically inclusive of all actors in our socio-ecological world.

INTERSECTING VISIONS: NEW MATERIALISM AS A BRIDGE BETWEEN POSTHUMANISM AND GREEN REPUBLICANISM

For posthumanism and green republicanism to fruitfully intersect, they require a compatible understanding of reality and agency-a shared ontological groundwork.

New materialism offers such a foundation. As a philosophical orientation, new materialism reconceptualizes matter as lively and relational, breaking down dualisms that have traditionally separated humans from nature and mind from body (Coole & Frost 2010, 22). By embracing new materialist insights, we can see how posthumanist ethics and green republican political theory converge on a vision of the world marked by interdependence, mutual constitution, and distributed agency. This section examines how new materialism undergirds the intersection of these visions, clarifying key concepts and demonstrating their theoretical synergy.

New materialism arises from dissatisfaction with earlier Western metaphysics that treated matter as passive substances awaiting human imposition of meaning. Instead, new materialists posit that matter and meaning are inextricably intertwined: the properties of "things" emerge through their relations and interactions over time (Barad 2007, 35; Dolphijn & Van der Tuin 2012, 168). In contrast to classical materialism (which might reduce everything to purely physical processes) or social constructivism (which might treat the material world as merely a backdrop for human discourse), new materialism insists that matters. Karen Barad (2007, 125-128) introduces the term "intra-action" to capture this relational ontology. Unlike "interaction," which assumes pre-existing separate entities that then relate, intra-action suggests that entities emerge through their relationships. In Barad's account, neither subjects nor objects pre-exist in their engagement; rather, through each specific intra-action, the boundaries and properties of entities are co-determined. This idea radically challenges conventional notions of individual agencies. Agency is not an exclusive attribute of human subjects; it is an emergent property of networks of relationships, a dynamic that can involve humans, non-humans, and material forces in entangled ways (Barad 2007).

Applied to our context, new materialist ontology blurs the rigid line between human and non-human realms. It suggests that humans are always already part of an ongoing material dialogue with the world. For instance, a forest ecosystem can be seen as a community of agents - trees, soil microorganisms, animals, water flows - each intra-acting and shaping outcomes. A decision by a human community to conserve or destroy that forest is not only a human political act but also an intervention into that web of relationships that will produce new intra-actions (e.g., changes in carbon cycling, wildlife behavior, local climate). New materialism invites us to recognize the historicities and agencies of non-humans: rivers have shaped landscapes and cultures; animals have co-evolved with humans, influencing our development; technologies we create in turn reshape our behavior and societies (Lemke 2014, 3-25). Matter is not a static stage for human affairs, but an active participant. This view aligns closely with posthumanism's decentering of the human and with green republicanism's call for respecting ecological limits. It provides a conceptual bridge, affirming that all components of our world - from people to plants to algorithms to rocks - are part of an interacting system and thus worthy of consideration in our ethical and political deliberations.

Embracing a new materialist perspective allows posthumanism and green republicanism to find common ground on several key points. First, both approaches reject the dualist separation of human society from nature. Green republicanism holds

that humans must see themselves as members of an ecological community, not masters above it; new materialism philosophically underwrites this by showing that what we call "society" and "nature" are deeply entwined. Second, both frameworks emphasize relationality. Republican political thought stresses relationships among citizens and the importance of community bonds for freedom; posthumanism extends relational thinking to include human-nonhuman relations, and new materialism asserts that relations are ontologically primary. In a sense, new materialism naturalizes republicanism and politicizes posthumanism: it suggests that not only are humans and non-humans interconnected, but these connections have normative and political significance. If agency and value emerge from relationships, then excluding non-humans from our political considerations is both philosophically untenable and ethically suspect (Latour 2017, 131).

Consider the concept of agency in this integrated light. Traditional views include limited agency to individual humans (or at best, collective human entities like states). Posthumanist thinkers like Bruno Latour and Jane Bennett have argued that agency must be understood as distributed among assemblages of human and non-human actors (Latour 2004; Bennett 2010, 47-69). According to Latour's perspective - The Parliament of Things - a river that floods carries agency in shaping human decisions (for example, prompting the creation of laws to protect floodplains), just as the engineers and legislators carry agency in shaping the river's flow with dams and levees (Latour 1993, 142-145). New materialism provides a theoretical justification for these intuitions: it tells us that outcomes are co-produced by many agents acting together. Green republicanism can absorb this idea by envisioning a political community that acknowledges such co-agency. Indeed, the republican ideal of non-domination can be reinterpreted here: not only should no human dominate another, but humanity collectively should not dominate or exploit the rest of nature to the point of destroying the very conditions of freedom for all. In a materialist sense, dominating nature is self-defeating, as nature's reaction (climate change, biodiversity loss) will in turn dominate us. Thus, the republican ideal of balanced power and responsive governance can be extended to human-nature relations.

New materialism also intersects with new materialist feminism and other critical theories that highlight how structures of domination often rest on objectifying certain beings as "less alive" or "less agentic." For example, Carol Adams and ecofeminists note parallels between the oppression of women/animals/nature under patriarchal, capitalist systems (Adams 2015, 79). By asserting the value and agency of all matters, new materialism resonates with these critiques and provides a vocabulary for political inclusion beyond humans. It supports an understanding of justice that is more than human. Green republicanism already emphasizes justice as a common good and communal responsibility; posthumanism broadens the subjects of justice; new materialism assures us that this broadening is not just sentimental but reflects the reality of intertwined existence.

The fusion of posthumanism, new materialism, and green republicanism offers a revolutionary outlook on political ontology. We arrive at a picture of the polity as an ecological republic - a community composed of humans and the myriad non-human constituents of our world; all bound by relationships of interdependence. In this view,

political governance cannot be about humans alone; it must be reconceived as a form of earth governance or "the government of things" (Lemke 2015, 3-25) in which managing the interactions of people, animals, technologies, and natural processes is a central concern. This does not mean granting literal political agency to every creature or object in a naive way, but it does mean our governance frameworks should systematically account for the interests and influences of non-human participants in the system. The new materialist lens suggests innovative institutional possibilities: for instance, parliamentary or advisory bodies that include representation for rivers, forests, or animal species (whether through human guardians, as envisioned in some indigenous traditions and legal experiments, or through data-driven proxies). It also implies legal rights for nature (Stone 2010, 4) are not merely poetic but acknowledge the real agency of rivers or ecosystems, which "speak" through their impacts on our shared world. In summary, new materialism helps dissolve conceptual barriers so that posthumanist ethics and green republican politics can inform one another. By understanding all entities as part of a continuum of intra-acting forces, we pave the way for a theory in which non-human nature is not an externality but a constitutive element of the republic. This theoretical confluence sets the stage for a practical reimagining of ethics and governance. The next section builds on this foundation to reconceptualize environmental ethics, considering posthumanist and green republican insights, moving from abstract ontological considerations to normative implications for how we value and relate to the environment.

RECONCEPTUALIZING ENVIRONMENTAL ETHICS THROUGH POSTHUMANISM AND REPUBLICANISM

The framework of traditional environmental ethics has been driven by disputes between anthropocentrism and biocentrism (or ecocentrism). Anthropocentric ethics value the environment only to the extent it serves human interests, whereas bio-centric or eco-centric ethics claim that life or ecosystems have intrinsic value regardless of their benefit to humans (Frantz et al. 2025, 449–459). al. But both frameworks, however, often presume a bright line between humans and "nature" and argue whether and how to extend moral concern across that line. A posthumanist lens - especially a new materialist one - pushes us beyond this dichotomy altogether. In this section, we move towards an environmental ethic based on these posthumanist - green republican foundations - one that understands humans as part of an entangled community of making-shoulders and builds on this to rethink fundamental concepts of agency, value, and responsibility.

Civic republicanism's focus on the common good traditionally centered on human citizens, but the environmental crisis forces us to expand our understanding of the community whose good is at stake. Posthumanist ethics provides the rationale for expanding the moral circle. It begins by critiquing anthropocentrism: the assumption that humans are the sole or primary bearers of moral value is not only unjust to non-humans but also shortsighted even from a human standpoint, since it promotes behavior that undermines the ecological foundations of human societies (Cochrane 2012; Wissenburg 2021, 779–796). The moral horizon must broaden to include all life

forms and even ecological systems as objects of direct moral concern. In practical terms, this means recognizing duties to animals, plants, species, and future generations in our ethical calculations. Posthumanist ethicists build on insights from animal rights philosophy—such as Singer's (1975) argument that the capacity to suffer, not species membership, grounds moral consideration—and from environmental ethics—such as Naess's deep ecology or Holmes Rolston's arguments for the value of species and natural processes. But posthumanism also incorporates the notion (from new materialism) that even entities traditionally seen as "inert," like rivers or mountains, partake in the web of relationships that sustain life and meaning. Thus, a posthumanist environmental ethic might say: not only do sentient animals merit moral concern (as utilitarians like Singer maintain, and as Donaldson & Kymlicka (2011, 50-72) argue in their theory of animal citizenship), and not only do living organisms and ecosystems have value (as deep ecologists like Naess contend), but all components of our world have a kind of participatory role that we ought to respect (Bennett 2010, 47-69).

From the perspective of green republicanism, this ethical expansion meshes with the idea of the *res publica* (the public affair or commonwealth) extending to the environment. If the stability and flourishing of the political community depend on ecological health, then caring for the non-human world is part of caring for the common good. A republican environmental ethic, enriched by posthumanism, treats the ecosystem as a stakeholder in justice. This approach aligns with concepts of environmental justice that link the treatment of nature with social justice, recognizing that marginalized human communities often suffer first and worst from environmental degradation. By valuing non-human entities intrinsically, we also indirectly safeguard human interests in the long run, creating a virtuous circle between ecological and social well-being. Policies grounded in this ethic would, for example, protect endangered species or habitats not merely because humans enjoy or need them, but because justice demands preventing the irretrievable loss of other life forms and the communities of life to which we belong.

One contribution of posthumanist thought to environmental ethics is the reconception of agency and responsibility via Barad's notion of intra-action. As discussed, intra-action implies that entities do not precede their relations; rather, relations come first, and entities emerge out of relationships. This view can revolutionize ethics: it suggests that we are co-constituted with the others around us, human and non-human. If who we are (our identity, our capabilities, our survival) is shaped by our interactions with animals, ecosystems, and technologies, then ethics is not about a separate human subject deciding how to treat separate others. Instead, ethics becomes about attending to the processes of relationship that continuously form and re-form both self and other. We have ethical responsibilities within these processes, not just toward external others (Barad 2007). This mutual constitution means ethical care for the forest is simultaneously caring for ourselves-in-relation-to-forest. Such a perspective resonates with many indigenous philosophies that do not draw sharp separations between people and nature, emphasizing kinship and reciprocity (Whyte 2017, 224–242).

Green republicanism traditionally stresses inter-generational ethics, ensuring that future citizens inherit a world where they can live free and flourish. Integrating

intra-action suggests we also consider intra-generational ethics in a broad sense: the ethical interplay among all beings currently sharing the planet. The idea of 'intra-active responsibility' emerges—acknowledging that as we participate in various ecological and technological networks, we are accountable for the effects that emanate through those networks (Barad 2007, 393-394). For instance, our industrial activities emit greenhouse gases intra-act with the atmospheric system, contributing to climate change that harms humans and non-humans globally. A posthumanist republican ethic would say we must take responsibility for those intra-actions by altering our practices, much as a republican citizen must take responsibility for how their actions affect the liberty and well-being of fellow citizens.

The resulting ethical framework can be described as holistic stewardship. It is holistic because it does not isolate humans from nature or prioritize one to the exclusion of the other; it recognizes the holistic interdependence of the Earth system. It is stewardship because it calls for active care and governance aimed at sustaining the conditions in which all members of the ecological republic—human or otherwise—can thrive. This approach transcends the anthropocentric/biocentric divide. It is neither narrowly human-centered nor simplistically nature-centered; rather, it is relationship-centered. The focus is on sustaining the relationships and processes that allow for the flourishing of life. Of particular significance is the recognition that ethical principles should not be elevated to the status of absolute values. As ethical principles are also produced within the framework of relationships, they are subject to constant change and evolution.

In practical terms, this reimagined environmental ethic urges several shifts. It demands that we move beyond seeing environmental policy as a zero-sum tradeoff between human prosperity and environmental protection. Instead, we frame policies as promoting the common good of a mixed community of humans and non-humans. For example, climate mitigation is not only about saving humans from future harm; it is about justice for island nations, for Arctic ice-dependent species, for unborn generations, and indeed for the climate system itself, which has a right not to be recklessly destabilized. It must be acknowledged, however, that this definition has the potential to perpetuate anthropocentrism. However, this does not entail the imposition of human definitions on non-human species; rather, it signifies that the concept of 'justice' itself must undergo continuous evolution within relationships. Conservation efforts shift from a mindset of preserving nature for human recreation or resource use, toward protecting other beings for their own sakes and for the integrity of the ecological commons. This aligns with legal innovations that have begun to grant rights to nature — such as the recognition of the Whanganui River in New Zealand as a legal person (Hutchison 2014, 179–182; Rodgers 2017, 266–279) or the constitutional rights of nature in Ecuador. These cases operationalize the idea that rivers or ecosystems can be seen as members of the moral and legal community, deserving protection and representation.

Furthermore, the ethical framework supports granting certain positive rights or considerations to non-humans. Just as green republicanism might argue every citizen has a right to clean air and water (because without these, freedom and health are undermined), posthumanist ethics would add that rivers have a right to flow, species

have a right to continue their evolutionary journeys, animals have a right to live according to their natures, and ecosystems have a right to persist. Some philosophers have begun formulating such rights (b), and courts around the world are cautiously recognizing them. Under a posthumanist-green republican ethic, these are not radical departures but logical extensions of an expanded view of justice. We recognize these rights not out of mere sentiment but out of an understanding that justice as non-domination should apply as far as possible in our relations with the non-human world as well. Humanity should strive not to be a tyrant over nature, but a responsible steward within it. In conclusion of this section, reconceptualizing environmental ethics considering posthumanism and green republicanism equips us with a more inclusive and nuanced moral compass. It urges us to see environmental stewardship as an integral part of political virtue and to consider non-human entities as part of our community of fate. Armed with this ethical perspective, we can now turn to how these ideas might inform concrete practices and policies. The next section explores practical applications and governance models that could implement a posthumanist-green republican vision in the real world.

PRACTICAL APPLICATIONS AND POLICY IMPLICATIONS

Translating the synthesis of posthumanism and green republicanism from theory into practice requires more than attaching new policy instruments to existing arrangements; it entails rethinking institutions, legal frameworks, and civic practices, considering ecological interdependence and republican commitments to shared rule. This section therefore explores how an integrated posthuman - green republican orientation can inform governance and public policy by reshaping community and spatial design, strengthening democratic participation and deliberation, expanding legal recognition and representation beyond the human, and mobilizing technology - especially AI – in the service of a wider democratic ethos. Any invocation of AI within this agenda, however, must confront its environmental costs. The energy demands of training and operating advanced systems are significant and should not be minimized. At the same time, technological development may yield mitigation pathways through efficiency gains, optimization, and changes in energy infrastructure. The relevant question is not whether AI should be adopted as an end, but under what normative and material constraints it can be deployed as public infrastructure that supports participation, transparency, and civic care while reducing ecological burdens. The guiding principle throughout is to develop governance models that are ecologically sound, ethically inclusive, and consistent with republican values of participation, non-domination, and the common good - treating ecological entanglement not as a background condition but as a constitutive element of political design.

A pivotal question for a posthumanist republican approach is how to give voice to non-human entities in decision-making processes. It is evident that a multitude of endeavors have been undertaken with the objective of safeguarding the interests of non-human entities and ensuring their continued existence. There have been earlier institutional and governance efforts - particularly in environmental conservation and indigenous or community-based management - that explicitly acknowledged

ecological interests (Garcia & Naganag 2015). However, democratic institutions have historically been confined to human participants, yet if we accept that animals, ecosystems, and future generations have legitimate interests, we face the challenge of representing those interests in our governance structures. There are several models and experiments that offer inspiration. One approach is to use proxy representatives or guardians. In a similar fashion to the way courts appoint guardians ad litem for the interests of children or mentally incapacitated adults, legislators or special ombudsmen could be assigned the responsibility of formally advocating for the interests of non-human stakeholders. For instance, New Zealand's granting of legal personhood to the Whanganui River came with the establishment of human guardians to speak for the river's interests in legal and policy matters (Hutchison 2014, 179–182). Similarly, Ecuador's constitutional rights of nature enable any citizen to legally defend the rights of ecosystems. These developments echo Christopher Stone's provocative question: "Should Trees Have Standing?" (Stone 2010) and illustrate one way to operationalize an answer in the affirmative.

Green republicanism's commitment to participatory democracy and the common good can accommodate such innovations. In a republican framework, representation is about capturing the common interest and ensuring no segment of the community is systematically ignored or dominated. Extending representation to non-humans can be seen as preventing a form of domination—human domination over nature without recourse. Donaldson and Kymlicka (2011, 252-258), in their theory of Zoopolis, propose a political model for animal inclusion: they suggest different categories of animals (domestic, wild, liminal) could correspond to different relationships with human political communities (citizenship for domesticated animals who are part of our society, sovereign status for wild animal communities, and denizenship for liminal animals like urban wildlife). While their model is focused on animals, similar creative political statuses could be imagined for other entities (e.g., treating a large ecosystem as akin to a federated unit with certain rights). These ideas remain largely theoretical, but they provide blueprints for how a posthumanist-inflected democracy might look.

Another approach leverages technology to bridge the human-non-human gap. With advances in environmental monitoring and AI, it is conceivable to create systems that are non-human feedback influences policy. For example, sensor networks can detect the health of ecosystems— soil moisture, air quality, wildlife movement — and feed this information into public decision platforms (Popescu et al. 2024, 1-19; Roudavski & Brock 2025, 56–96). One could imagine an "environmental parliament" where data representing ecological conditions is given a formal role, perhaps even an algorithmic vote or veto if certain ecological limits were crossed by a proposed policy. Although this may sound far-fetched, early steps are seen in initiatives like "digital twins" of cities for environmental simulation, and participatory sensing projects where citizens gather data on behalf of nature. The caution here, as critics might note, is to ensure technology augments rather than replaces human ethical deliberation (Bolton et al. 2021, 1-5). Posthumanist ethics encourages humility about human knowledge and welcomes input from non-human actors, but it does not advocate turning decisions entirely over to machines or algorithms. Instead, the ideal is a symbiotic governance,

where human wisdom and values interact with real-time signals from the natural world to guide policies that are both democratically legitimate and ecologically sound.

Implementing posthumanist-green republican ideals will also require adjustments to legal and economic systems. Legally, we might expand the concept of standing (who has the right to bring a case) to include guardians of nature. Legal personhood for elements of nature (rivers, forests, even species) can be a powerful tool to enforce conservation and restoration, as it essentially grants these entities a day in court. A green republican view supports this by arguing that protecting the ecological commons is a constitutional duty of a republic committed to the common good. One could envision constitutional amendments or charters of rights that explicitly recognize the rights of nature, as well as human responsibilities toward nature, drawing upon the precedent in Ecuador or the Earth Charter initiative. Economically, aligning with both republican and posthumanist values might involve redefining prosperity. Tim Jackson's Prosperity *Without Growth* (2017) and Kate Raworth's *Doughnut Economics* (2017) are examples of economic thinking that fit well with a green republican ethos: they call for economies that meet human needs without overshooting ecological ceilings. To incorporate posthumanist principles, economic metrics could evolve beyond GDP to measures like a "Gross Ecological Product" that values ecosystem services and biodiversity, or a well-being index that includes the state of the environment as integral to human and non-human well-being. Policies such as payments for ecosystem services, community management of resources, and agroecology initiatives can redistribute power away from large extractive corporations (which often dominate and degrade, contrary to republican freedom) and towards local communities and the environment itself. In a posthumanist republican future, one might even imagine forms of property and ownership changing concepts like the Commons regain prominence, and ownership of land or animals comes with fiduciary duties to care for those beings rather than exploit them. Legal scholar Christopher Stone's idea (2010, 61-69) that guardians could manage natural trusts for the benefit of the entity itself could transform how conservation areas or even farms are managed (e.g., a forest managed not just for timber yield to owners but as a trust for the forest's longevity and its denizens).

Finally, education and culture are practical domains for change. A green republican educational program would stress civics, ecological literacy, and the skills of deliberation and community organizing. With posthumanist influence, education would also incorporate an understanding of human embeddedness in larger systems and foster empathy towards other beings. Children might learn not only about the mechanics of government and the science of climate change but also engage in projects like caring for school gardens, monitoring local wildlife, or debating ethical scenarios about AI and animal rights. Cultivating this knowledge and virtue is crucial, since a republican polity depends on enlightened citizens, and a posthumanist one depends on citizens who see kinship with non-humans. In summary, the practical implications of a posthumanist-green republican approach are far-reaching. They challenge us to rethink our cities, institutions, and legal systems to reflect a more-than-human democracy, one that considers both humans and non-humans. We see glimpses of these changes in existing experiments: rights-of-nature laws, citizen assemblies on

climate policy, and even the involvement of AI in public decision support. Together, they suggest that our political imagination is expanding. Of course, implementing these ideas is not without obstacles. In the next section, we address some of the challenges and objections that may arise when attempting to merge posthumanist ideals with green republican practice, and we discuss how proponents of this paradigm can navigate those challenges.

NAVIGATING CHALLENGES AND OPPORTUNITIES

Any ambitious integration of philosophical frameworks will face both theoretical criticisms and practical hurdles. The fusion of posthumanism and green republicanism is no exception. Critics may question whether non-human entities should be included in our political community or argue that doing so dilutes human agency and responsibility. Others might point out difficulties in implementation: How do we represent a forest's interests? Would expanding moral concern to such a degree undermine urgent human-centered justice causes? Additionally, there are tensions to resolve—posthumanism's radical inclusivity might seem at odds with political structures built around human citizens. In this section, we critically examine these challenges and explore opportunities to address them, ensuring that the posthumanist-green republican approach remains robust and credible.

Traditional political theory is grounded in humanist assumptions (humans as rational actors, political rights-bearers, etc.), whereas posthumanism questions those very assumptions. Some theorists might argue that the concept of republican citizenship cannot be meaningfully extended to non-humans because animals or ecosystems cannot participate in deliberation or bear duties in the way citizens do. There is a concern that by blurring the line between persons and things, we risk category confusion that could weaken accountability—after all, humans must still make the decisions and take responsibility for outcomes. To navigate this, proponents clarify that including non-human interests does not mean treating animals or trees as if they were human voters but rather adjusting human institutions to be responsive to non-human needs (O'Neill 2001, 483–500). The agency of non-humans in posthumanist theory is not identical to human agency; it is often indirect or exercised through ecological feedback. Republican frameworks can accommodate this by expanding the idea of the common good: the common good now explicitly includes ecological well-being, which humans are uniquely placed to uphold. In essence, humans remain the deliberative agents, but they do so with a changed mindset and mandate—one of guardianship and partnership with the non-human world, not dominion over it.

Another theoretical challenge lies in reconciling posthumanist anti-exceptionalism with republican humanism. Republicanism, especially in its humanist strains, prizes human rationality, civic virtue, and dignity. Some may worry that posthumanism's leveling impulse might downplay these qualities or even question the distinction of human dignity. However, this tension can be reframed as an opportunity to redefine human excellence in a non-oppressive way. Rather than seeing human dignity in opposition to animal or ecosystem dignity, we can see it as coexisting.

Humans might be unique in certain capacities (moral reflection, complex language, technological creativity), and those capacities enable us to take unique responsibility for earth stewardship. Posthumanism does not deny differences; it denies unjustifiable hierarchies of moral worth. In a green republican context, one could argue that humans have special duties precisely because of our greater power and awareness. This resonates with the concept of noblesse oblige in earlier republics—privileged actors (in this case, the human species) have the obligation to act on behalf of the less powerful. Thus, republican humanism can be reimagined as a call for humans to exercise their agency ethically for the sake of the broader community of life. Far from devaluing humanity, it assigns humanity a crucial role as custodians of the republic, broadly conceived.

A possible misconception is that posthumanist green republicanism is anti-technology or anti-development, wishing to "go back" to a pre-modern relation with nature. On the contrary, this paradigm accepts that we live in a highly technological world and that technology can be part of the solution. The key is aligning technology with ethical and ecological goals. For example, AI and data science can help us manage resources more efficiently and predict environmental changes if they are governed by public oversight and oriented toward the common good (Bolton et al. 2021). The concern that technology might itself become an object of moral consideration (e.g., if we consider AI as a kind of non-human entity) is a frontier challenge: some posthumanists do consider whether advanced AI might deserve moral status. While this is speculative, green republican principles would urge caution—ensuring that any recognition of machine interests does not undermine human or ecological well-being. It's worth noting that republicanism has historically been adaptable to new constituents (expanding the franchise, for example); in the future, that adaptability could be tested in unprecedented ways (Barry 2008, 3–11).

Another objection might be from the standpoint of urgency. Critics could say, 'We don't have time for philosophical overhauls; we need concrete action on climate change and biodiversity loss now (Schütze & Haueis 2023, 6).' This is a fair point - policy cannot wait for everyone to agree on posthumanist philosophy. However, the strength of integrating these ideas is that it can motivate and guide action in the present. Recognizing the inherent worth of non-humans can bolster arguments for strong climate policies (not just to save humans but because it's wrong to drive other species extinct). It also widens the constituency for change - potentially uniting environmentalists, animal advocates, technologists worried about AI ethics, and social justice activists under a common banner. The narrative of an inclusive republic of life can be inspiring. Moreover, many immediate actions (like rewilding projects, renewable energy deployment, reducing meat consumption, granting land rights to indigenous communities) are consistent with this vision and can be pursued right away. The philosophical framework provides a cohesive rationale linking them together.

Finally, there is a question about the scale. Green republicanism has often been discussed at the level of the state, but environmental issues are global. Posthumanist thinking also challenges us to think globally (and beyond—cosmologically) about our place. How do we handle the mismatch between global ecological issues and local republican governance? One opportunity here is to revive and reform institutions of

global governance with these principles. Ideas such as a Global Environmental Constitution, a UN Parliamentary Assembly that includes civil society and possibly voices for future generations or nature, or transnational legal personhood for elements like the Amazon rainforest could be explored (Latour 2017, 121). While global republicanism is a complex topic, the shared vulnerability to climate change may push humanity toward new forms of solidarity. Posthumanist ethics reminds us that this solidarity must extend to our fellow earthlings of other species. As we navigate climate negotiations, concepts like "climate justice" already incorporate some posthumanist-republican ideas by focusing on equity, protection of the vulnerable (human or ecosystem), and shared but differentiated responsibilities.

In confronting these challenges, the posthumanist-green republican approach is strengthened by its plural roots. It is multidisciplinary and multivalent: drawing on philosophy, political theory, ecology, law, and cultural studies. This breadth means it can engage critics on many fronts—scientific evidence, moral argument, pragmatic governance—and adapt to valid critiques by refining its proposals. Ultimately, the measure of this paradigm will be in how well it can inspire concrete improvements in our relationship with the natural world and technological change. The challenges identified are significant, but they also mark the areas where further research, dialogue, and innovation are needed. Rather than undermining the project, they provide a roadmap for the work to be done. With these in mind, we can now conclude by reflecting on the broader vision that emerges from this synthesis and the hope it offers for the future.

CONCLUSION: ENVISIONING A POSTHUMANIST–GREEN REPUBLICAN FUTURE

The convergence of posthumanism and green republicanism represents a pioneering shift in contemporary political philosophy—one that aspires to reshape our understanding of community, agency, and justice in the face of 21st-century challenges. By critically engaging with anthropocentrism and drawing from the wellsprings of civic republican thought, this integrated framework invites us to re-envision humanism itself: not as a license for human dominance, but as a mandate for human responsibility within a broader web of life. Through the lens of new materialism, we have seen that our world is not neatly divided between active humans and passive nature; rather, it is a continuum of living and non-living actors whose interactions form the tapestry of existence (Coole & Frost 2010, 22; Fox & Alldred 2017, 176-194). This realization disrupts entrenched narratives of human exceptionalism and underscores the participation of the non-human in shaping our shared reality.

Posthumanism, as we discussed, extends ethical consideration outward, challenging us to treat non-human animals, ecosystems, and even intelligent machines as part of our moral community (Braidotti 2013, 40; Haraway 2016, 99-103). Green republicanism, meanwhile, channels the insights of environmental ethics and sustainability into concrete political commitments—demanding that our institutions pursue not just human freedom, but the freedom of all beings to flourish without

domination or neglect (Barry 2012; Wissenburg 2021, 779–796). In their intersection, we find a holistic vision of governance: a posthumanist republic that values ecological integrity as foundational to the common good and conceives of citizenship in ecological terms. This future-oriented vision is not purely idealistic; it is grounded in the practical possibilities we have explored. A posthumanist–green republican society might feature democratic forums where humans speak on behalf of voiceless rivers and forests, where laws require considering animal welfare and biodiversity impacts in every policy, and where technological innovation is steered toward enhancing coexistence rather than exploitation. It is a society that might measure its success by improvements in ecosystem health, animal well-being, and human equality, together recognizing these goals as interdependent. It would be characterized by cities teeming with nature, economies circulating resources without waste, and cultures that celebrate our connection to all forms of life. Education would cultivate ecological virtue and empathy, and science would be allied with traditional and indigenous knowledge to guide respectful stewardship of the planet.

Crucially, the posthumanist-green republican paradigm offers a narrative of hope and renewal at a time of widespread cynicism. It tells us that by broadening our sense of "us" to include the previously marginalized, whether that be marginalized people, other species, or future inhabitants of Earth — we can foster a more resilient and ethical world. It does not naively assume this will be easy; rather, it calls for ongoing dialogue, critical reflection, and collective action. This approach acknowledges the complexity of real-world problems and the possibility of unintended consequences (Latour 2017, 255-292), which is why it emphasizes democratic deliberation and adaptive governance. In true republican spirit, it trusts in the capacity of a community of free and equal beings to reason together about their shared fate. In embracing posthumanist ethics, it extends that trust and sense of shared fate beyond the human realm, suggesting that our political community is ultimately the community of life on Earth. In conclusion, combining posthumanism with green republicanism marks a significant evolution in political thought—one that seeks to align our political structures with the scientific reality of interdependence and the ethical reality of mutual respect. This synthesis challenges us to reformulate concepts of rights, duties, and citizenship in inclusive ways. It asks that we reconsider what freedom means if humans remain "free" while the biosphere collapses, or what justice means if it stops at the boundary of our species. By grappling with these questions, we move toward a politics that is at once environmentally sustainable, socially just, and profoundly inclusive. Such politics could guide humanity through the intertwined crises of climate change, biodiversity loss, and technological disruption, steering us toward a future where civilization and nature thrive together rather than at each other's expense.

The road ahead requires imagination, ethical commitment, and pragmatic experimentation. But the reward is great: a more equitable, compassionate, and lasting world. In the spirit of both posthumanism and green republicanism, let us envision and strive for a republic that truly belongs to all its constituents—human and beyond— working in concert to uphold the flourishing of the whole. This vision of a posthumanist-green republican future, however aspirational, provides a guiding star

by which we can orient present efforts and inspire transformative change in our political and environmental praxis.

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