Wildness, infinity and freedom

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I feel like a wet seed wild in the hot blind earth.

(Faulkner, [1930] 2007, p. 58)

Abstract

Biodiversity risks losing relevance in an increasingly urbanised, unequal and disembodied world. Beyond basic material needs, we might gain the greatest well-being from eudaimonia – the freedom to flourish and live meaningfully. Immersion in nature improves the fundamentals of eudaimonia: psychological, emotional and social health. This presents an opportunity re-frame biodiversity from a passive entity needing to be saved by 'good people' to a catalyst in the quest to become good. Drawing on the capability approach, I propose that wild landscapes – defined as self-willed, ecologically complex communities comprising functioning ecosystems – are mediums that facilitate individuals' search for meaning. Features of wild landscapes (organisms, habitats, structures) stimulate unique perception and experience that afford the elements of self-meaning (ideas, narratives, memories). Ecological processes (succession, disturbance, dispersal) generate dynamic perceptual experiences, which improves our ability to comprehend meaning by restoring cognitive functions and relational values. Functioning ecosystems continually create and permute features in space and time, instantiating ever-varying patterns from which to adapt meaning as our contexts and aspirations change. Wild landscapes thus provide infinite value for our freedom to become. As widening income inequality amplifies asymmetric power structures; increasing the agency of those who seek to improve society is one pathway to a sustainable future.

1 The search for meaning matters most

Urbanised and affluent individuals drive global consumption, causing waves of environmental degradation, biodiversity loss and socio-economic inequality that wash around the world (for example, Weinzettel et al., 2013). Although consumerism has colonised the idea of 'the good life' as a linear progression from poor to rich, fuelled by slash and burn production, the effects of material wealth on well-being saturate rapidly after basic needs are met (for example, Barrington-Leigh and Galbraith, 2019; Kahneman and Deaton, 2010).

Rather, the freedom to realise one's potential and find meaning in life (eudaimonia) corresponds to lifelong psychological well-being and health (Baumeister et al., 2013; Frankl, [1946] 2004; Park et al., 2010; Ryff, 2017). Self-meaning comprises two primary dimensions: purpose – the over-arching aspirations and life mission that orchestrate one's daily activities and decision-making; and comprehension – the ability to interpret information from your environment and integrate it into the understanding of one's life (Steger, 2012). Purpose and comprehension interact and change adaptively over time in response to shifting contexts and personal circumstances (Child, 2011; Frankl, 2004; Heft, 2013; Kegan, 1982;). As such, self-meaning is not a fixed outcome or end state but the process of *becoming* who one is or needs to be. Thus, rather than (over)supplying static (often lucrative) conceptions of 'needs', where individuals are cast as passive consumers or patients to be looked after, we should promote policies that create environments wherein individuals are free to search for unique self-meaning and become 'agents who can do effective things' (Sen, 2013). Individuals who create value and not merely consume it.

Re-framing well-being from passive resource accumulation to the meaningful lives that resources may enable is a central tenet of the capability approach (Sen, 1999). Capabilities are the fundamental freedoms that enable us to find and manifest self-meaning, such as being nourished and healthy; being able to think, reason and imagine; and participating in decisions that affect one's life (Sen, 1999; Nussbaum, 2011). Capabilities are constrained or facilitated by personal, social and environmental (dis)enabling conversion factors that influence what individuals are actually able to do and become with their freedoms (their "functionings") (for example, Ballet et al., 2013, 2018). A meaningful life is continually constituted by the set of current functionings that individuals have reason to value, such as 'having self-respect', 'learning a new skill', or more materialist ambitions such as 'buying luxury vehicles'.

Shifting from materialist to 'mindful' functionings that result in prosocial and pro-environmental outcomes is a necessary condition for strong sustainability (Mabsout, 2015). This requires integrating the evaluative spaces of both the capability approach and the sustainable development paradigm (Anand and Sen, 2000; Ballet et al., 2013; Schultz et al., 2013; Pelenc and Dubois, 2020). Capabilities are increasingly being linked to ecosystem services as both resources and conversion factors, where provisioning services are always positive but regulating and cultural services (CES) act as both negative and positive conversion factors (reviewed in Ballet et al., 2018; Polishchuk and Rauschmayer, 2012). However, it remains unclear how capabilities can be functionally connected to the ecological

condition of ecosystems such that achieved functionings consistently feedback into conserving the resources from which freedoms are made possible. For example, although Ballet et al. (2018) link cultural ecosystem services to the personal identity capability they note that different aspirations may result in positive or negative choices concerning nature because people "do not have the appropriate cultural background to 'spontaneously' apprehend the cultural services a natural area can deliver" (Pelenc and Dubois, 2020, p. 36).

Indifference towards pro-environmental behaviour is at least partially due to the inert framing of nature as a service provider consisting of "spatially bound, temporally stable" stocks and flows to supply static user needs (Bekessey et al., 2018; Norgaard, 2010; Pröpper and Haupts, 2014, p. 29). This may create perverse incentives to commodify a particular service that best serves the interests of a dominant user group (Bateman and Mace 2020; Hirons et al., 2016; Polishchuk and Rauschmayer, 2012; Pröpper and Haupts, 2014), leading to domesticated and ecologically barren landscapes that merely retain the veneer of biodiversity (Gobster et al., 2007; Lev et al., 2020; Truong and Clayton, 2020). Culture is a fluid concept, constituted by the collective search for meaning of individuals who "endlessly spin metaphors […] to weave labyrinthine and ever-expanding networks of symbolic equivalence" (Ingold, 2003, p. 330). Thus, rather than attempt to categorise current cultural configurations as end-points, a more progressive approach might ask what are the features and qualities of landscapes that create the meaningful experiences from which culture is continuously derived.

Sustaining biodiversity could be tantamount to sustaining the capability for everyone to find self-meaning. Empirical evidence shows that immersion in nature improves multiple dimensions of eudaimonic well-being, including personal growth, vitality, positive affect, autonomy, cognitive functioning, positive relations with others, morality, and life satisfaction (reviewed in, for example, Bowler et al., 2010; Bratman et al., 2019, 2012; Hartig et al., 2014; Mygind et al., 2020; Russell et al., 2013; Sandifer et al., 2015, Pritchard et al., 2020). Seeking out a meaningful life has been hypothesised as a pathway that mediates the flow of eudaimonia from natural habitats (reviewed in Cleary et al., 2017; Hinds and Sparks, 2011; Lumber et al., 2017), which is supported by meta-analyses that found a significant positive relationship between nature connectedness and eudaimonic well-being (Capaldi et al., 2014; McMahan and Estes, 2015; Pritchard et al., 2020). Greater nature connectedness also increases pro-environmental and pro-social behaviour (Cleary et al., 2017; Lumber et al., 2017; Whitburn et al., 2020), An immutable message emerges from this research: we don't need to be 'good people' to value nature, we need nature to become good people.

Here I develop a capability model linking the search for self-meaning to biodiversity through the concept of wildness. I define wildness as the self-willed, spontaneous and creative properties that emerge from functioning ecosystems (Cookson, 2011; Perino et al., 2019; Prior and Brady, 2017). Wildness exists on a spectrum of ecological autonomy from domesticated to wilderness and generates dynamic landscape patterns and species assemblages. A self-meaning capability, similarly, is the dynamic interplay between the possibility of purpose and the capacity for its comprehension, instantiated through internalised symbols (such as ideas, memories and stories) and bound together through the making and remaking of relationships (Child, 2011; Heft, 2013; Prior and Brady, 2017; Steger, 2012). Several studies have found that wilder landscapes increase eudaimonia relative to domesticated 'natural' spaces (Hinds and Sparks, 2011; Lev et al. 2020; Wood et al. 2018). The more we search for meaning in wild landscapes, the more sustainable our chosen functionings may become as we practice the "etiquette of freedom" (Snyder, 1990, p. 25) – to understand that our flourishing is interdependent with the flourishing of others; that we can be more without having more.

2 Wildness as a medium for self-meaning

Searching for meaning is rooted in evolutionary and ecological processes as all organisms strive to find solutions to changing environments. Cognition, consciousness and environment have thus become entwined through embodied interactions (Garbarini and Adenzato, 2004; Heft, 2013;; Varela et al., 2017), extending the boundaries of the self into one's surroundings. As bodies with minds rather than minds attached to bodies, knowledge emerges by "discovering structure" in phenomenal field of "dynamic, animal-environment reciprocity" instead of the "mind imposing structure on a malleable world" (Heft 2013:163-166). Self-meaning might thus be 'felt' first before filtering into consciousness, as our minds incorporate subjective experiences (Gibson, 1986; Heft, 2013; Merleau-Ponty, [1945] 2013). Embodied cognition implies that the landscapes through which we move (or sit) are an inextricable and fundamental constituent of our minds, with the corollaries being that landscapes with more diverse features to perceive may provide more opportunity to find self-meaning; and landscapes with more dynamic features may sustain our fascination and

continuously provide new insights into self-meaning as one's context and aspirations change (Fig. 1).

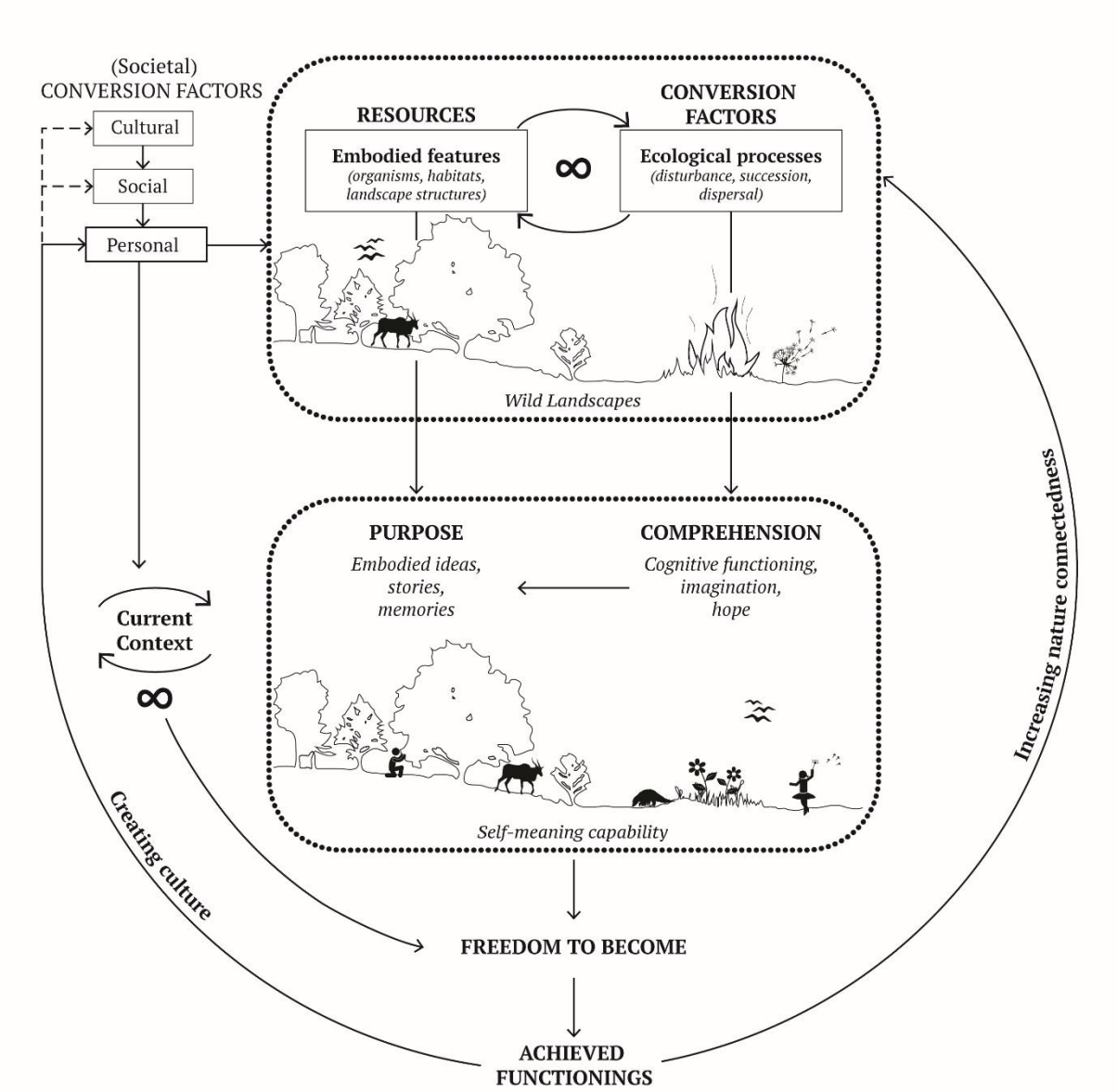

Figure 1. Conceptual model (adapted from Ballet et al., 2018) showing the proposed interlinkages between wildness and the self-meaning capability. Within wild landscapes, embodied features (e.g. organisms, habitats, and structures) afford unique perceptions and experiences that can be converted into purpose through embodied ideas, memories and narratives that improve relationships with people and places. Ecological interactions within and between species, as well as landscape-level processes (e.g. disturbance, succession, dispersal), generate dynamic and spontaneous variation that restores attention, sustains imagination and deepens relational values through intersubjectivity. Functioning ecosystems are thus positive conversion factors for comprehending self-meaning. By instantiating

self-meaning, wild landscapes enable adaptive 'functionings' necessary for one's current context, such as developing stronger relationship with your family, gaining the inspiration and vitality to find a more rewarding career, or quietening one's mind to make an important decision. Achieved functionings ultimately feed back into the cultural and social context that act as filters for personal conversion factors (e.g. what is deemed acceptable to do or become) and therefore wild landscapes play an active role in increasing nature connectedness and shifting societal values towards the prosocial and pro-environmental. Wild landscapes continually both create (through evolution and environmental change) affordances and permute existing affordances in space and time (e.g. chance occurrences, seasonal flowerings, natural disturbances and patch dynamics). Such 'unknownness' provides infinite opportunity for unique self-meaning to be found by each perceiver and drives the search for meaning cycle. As purpose changes throughout one's life, self-meaning can thus be adapted from within the same wild landscape over time, which means wildness is infinitely valuable for eudaimonic well-being.

2.1 Wild features as resources for purpose

Within wild landscapes, the variety of perceptible features are resources that can be incorporated into one's purpose (Gobster et al., 2007; Bratman et al., 2019, Lev et al., 2020), and include organisms of different species, habitat mosaics and ecotones, and structural elements such as variation in vegetation height and density (e.g. from old-growth trees to scrub). Higher species and habitat diversity positively correlates with aspects of purpose, including reflection (thinking and gaining perspective), identity (the degree of feeling differently in particular places), attachment (degree of emotional connection to places) (Fuller et al., 2007; Passmore and Holder, 2017); vitality (feeling alive, energetic and capable), positive affect (such as joy, interest, alertness) (Wolf et al., 2017); and aesthetic value (reviewed in Tribot et al., 2018). As such, almost all significantly meaningful interactions in nature occur in wild habitats (Lev et al. 2020) – those that are relatively unmanaged and have greater biodiversity.

Wild features embody multiple 'affordances' for developing purpose that are unique to the observer and change dynamically in space and time. Affordances are the properties of a feature that enable an individual to perceive and act (Chemero, 2009; Gibson, 1986; Heft, 2013; Ingold, 2002; Raymond et al., 2018). For example, a smile may afford an invitation to engage but also the opportunity to back away; and a fallen log may afford a place to rest for a

human, a home for a vole; and a substrate to grow for fungi. Affordances are thus innately relational, defined by each organism's current contexts and capacities. They generate both *affects* (direct emotional or intellectual responses) and *effects* (transformative experiences). Affects and effects can be converted into symbolic self-meaning by challenging beliefs and behaviours and enabling one to discover hidden aspects of the self (Clayton et al. 2017; DeMares and Krycka, 1998; Naor and Mayseless, 2017), which has been shown to significantly and consistently improve eudaimonic well-being (Pritchard et al. 2020).

One of the most meaningful affects is 'encountering wildlife' (Lev et al. 2020). For example, watching an eagle swoop to catch a fish inspired one participant to "feel strong and […] empower[ed] to move forward and open a private practice" (Lev et al., 2020: 7). Every feature in wild landscapes has had to prove itself, and thus every feature has embodied meaning because "the perspective of a challenged and self-affirming organism lays a new grid over the world: a ubiquitous scale of value" (Weber and Varela, 2002, p. 118). Some ideas live in hard places: field mice, lizards, insects – eking out existence on metabolic water; reminders of true grit. Some ideas drift in the wind – seeds, spiders, spores; "a ghost wilderness [that] hovers around the entire planet" (Snyder, 1990, p. 16). Wild landscapes thus comprise a vibrant "communicative matrix woven through with signs and wonders" (van Dooren et al., 2016, p. 2). It's not that you learn everything about life from observing wild features – a bird in itself isn't a manifestation of morality – but it may be a trigger that ripples across a web of memories, experiences and internal symbolic meaning. As such, each affordance embodies potential significance, ideas that can structure and expand our understanding of ourselves and of the world, expanding the horizon of potential self-meaning. As Robert Macfarlane (2007, p. 100) noted, "it is valuable and disturbing to know that grand oak trees can take three hundred years to grow, three hundred years to live and three hundred years to die. Such knowledge, seriously considered, changes the grain of the mind".

Wild affordances act as waypoints that magnetise movement through continual perception-action loops, drawing one into the landscape where new opportunities for experiences and ideas continually unfold (Gibson, 1986; Greaves, 2019; Heft, 2013; Lev et al., 2020). For example, "sitting by a [wetland]" with your child enables other affordances to enter the perceptual realm, leading to subsequent experiences like "watching ducks", "observing insects" and "hearing owls" (Lev et al., 2020). Perception-action loops depend on the perceiver's aspirations and abilities. A wetland might be perceived as a place to find a particular medicinal plant for one person, but a site to experience seclusion and

contemplation by another. Perceiving leads to acting: while searching for the plant, one might come across spoor imprinted in the mud, laying a mental marker as a place for hunting or perhaps evoking an aesthetic response – ghostly creatures fading into the veld. Or, while contemplating, a strange birdcall might prompt exploring a nearby thicket, maybe eliciting a memory from childhood that helps cohere one's self-identity. The movement of self-willed features alone drives perception-action loops as it is "both expressive and responsive, and thus open and indeterminate" (Greaves, 2019, p. 16). Wild landscapes thus directly generate knowledge along perception-action pathways where the terrain, being "infinitely variegated" (Ingold, 2010, p. 135), enables manifold and multisensory ways of knowing (Clayton et al., 2017; Ingold, 2010; Merleau-Ponty, 2013). Every wild feature is a degree of our own existential freedom (Collar, 2003); and diminishing wildness diminishes our capability to find self-meaning. "Thought, like memory, inhabits external things as much as the inner regions of the human brain. When the physical correspondents of thought disappear, then thought, or its possibility, is also lost" (Macfarlane, 2007, p. 100).

Effects from affordances are perception-action loops that we incorporate as stories and memories, enhancing both our "internal clarity" as individuals (Cookson, 2011) and our relationships with others, which is a significant factor in the relationship between eudaimonia and nature connectedness (Pritchard et al., 2020). A quarter of all experiences recorded by Lev et al. (2020) were relational, ranging from generating new relationships through perception-action pathways (for example, teaching someone how to forage mushrooms); to deepening existing relationships through conversation that "simply does not happen in everyday life" (Lev et al., 2020, p. 7); to storing memories that protect relationships (for example, one participant associated memories of her mother with a "high meadow that overlooks the bay"; Lev et al., 2020, p. 8). Wild landscapes "require that we learn the terrain, nod to all the plants and animals and birds, ford the streams and cross the ridges, and tell a good story when we get back home" (Snyder, 1990, p. 26). These stories seep into our relationships through the retelling and regaling, while the features themselves soak up and store the memories, releasing them slowly over one's life to enrich self-meaning.

New experiences of nature, and thus new stories, are made possible when the landscape possesses ecological complexity and unpredictability (Clayton et al., 2017). The number of potential stories increases with the number of affordances in a landscape, and so wilder landscapes with more features are more strongly related to 'continuity with the past' (Fuller et al., 2007; Lev et al., 2020). Wild affordances produce immediately perceived place

meanings that interweave individual narratives at landscape scales and thus cohere communities through distinct social-ecological systems (Colley and Craig, 2019; Ingold, 1993; Hartig et al., 2014; Raymond et al., 2017). For example, a tree growing in an agricultural field may afford shade, fruit and vantage, which precedes social construction of cultural ecosystem services such as picnicking (relationship building), picking (subsistence harvesting) or preying (sacred groves); and thus "the place was not there before the tree, but came into being with it" (Ingold, 1993:167). Wild affordances do not merely reflect cultural preferences, they create cultures. As such, ecologically complex landscapes will be essential in cultivating the sense of place and relational values necessary for societies to adapt to the Anthropocene (Chan et al., 2016).

2.2 Conversion factors for comprehension

The practice of searching for self-meaning in wild landscapes through perception-action loops feeds back into one's ability to find it (Fig 1.). Comparative and experimental evidence shows that immersion in nature restores attention and mindfulness, reduces stress, enhances creativity and increases task performance (for example Atchley et al., 2012; reviewed in Bratman et al., 2012; 2019; Hartig et al., 2014; McMahan and Estes, 2015; Russell et al., 2013). Attention restoration theory describes how directed attention – the process of deploying cognitive energy to focus on selected stimuli while avoiding distraction – is restored in natural landscapes because the affordances themselves are inherently fascinating and elicit involuntary attention, thus allowing neural pathways a chance to recover and improve working memory (reviewed in Bratman et al., 2012, 2019; Mygind et al., 2021). By helping us to be present in our own lives, and remember more of it, we might extract and sustain more self-meaning from our experiences.

The wilder a landscape, the more likely perception-action loops will draw you into the field and reveal the asymmetrical and intricate affordances that restore one's attention through softer, effortless perception. While we wander, we experience different scales of perception: from the drift of clouds across a mountain to the rustling of leaves in the canopy to the flicked shadow of a bird. The patterns never exactly repeat themselves; they meander and morph like "the calligraphy of rivers" (Snyder, 1990, p. 71), drawing our attention into unexpected and

unpredictable directions. This fractal-like ecological complexity is more restorative to observe than built scenes because of the interwoven layers of subtle information (Van den Berg et al., 2016). Similarly, Wood et al. (2018) and Schebella et al. (2019) found a significant positive relationship between the wildness of urban parks and subsequent improved attention, reduced stress and general positive affect. Furthermore, wilder landscapes, because they are more likely to generate different habitats, will increase the likelihood of affording complementary cognitive benefits. For example, the interior of a forest promotes stress recovery most effectively but exploring the forest edges (which, as an ecotone, generally has higher species richness) best restores attention (Chiang et al., 2017).

Patterns are always changing in wild landscapes because its features are dynamic. Flowers bloom and blow away, animals dip in and disperse, the seasons have their say. In functioning ecosystems, ecological and environmental processes will always reshuffle the affordances available in a landscape. For example, species disperse seeds to create new habitats and animals seek new habitats to settle; fire creates clearings where different plants can germinate and gradually 'succeed' one another. Both dispersal and 'stochastic' disturbances (that afford opportunities for establishment) are fundamental to wildness in that they enhance the ecological complexity, autonomy and diversity of ecosystems (reviewed in Perino et al., 2019). Wildness is thus a process of becoming over being, of flux over stasis, of dynamism over balance; a source of continual vitality (Vannini and Vannini, 2019). This explains the consistently strong vitalising effects of nature experience (Capaldi et al., 2014; Pritchard et al. 2020), which have been shown to be mediated by the presence of wild features (Ryan et al., 2010). As patterns shift, emerge and evolve, there is more to notice and thus more opportunity for cognitive restoration and gentle sensory stimulation. This means that, because wilder landscapes are more likely to generate perceptible changes through time, our connection to nature will strengthen as we stay fascinated and continue to find meaning (Schebella et al., 2019).

While we experience these dynamics themselves, we also experience others experiencing them. Such 'intersubjectivity' emerges from the collective unfolding of all organisms' perception-action loops in the landscape. Intersubjectivity creates a phenomenal field of multi-sensory experiences that situates the perceiver as a node within a "domain of entanglement" where relationships are "continually ravelling here and unravelling there" (Ingold, 2011, p. 71). Developing relational values facilitates capabilities concerned with self-identity and self-meaning (Chan et al.; 2016; Child 2011; Ballet et al. 2018; Mygind et

al. 2021). For example, a review found that nature helps children's abilities to form positive relationships, social competencies, emotional management and self-expression (Mygind et al. 2021). Intersubjectivity deepens our sense of ourselves by widening our sense of others and otherness (Cleary et al., 2017; Naor and Mayseless, 2017), which leads to 'unselfing' – where one's ego dissipates into the landscape and receptivity to affordances increase as we become more mindful and observant (Zhang et al., 2014). As Macfarlane (2012) described in his re-tracing of the old paths of England, "I felt a sensation of candour and amplitude, of the body and mind opened up, of thought diffusing at the body's edges rather than ending at the skin".

In this state, one's intrinsic aspirations (such as personal development, intimacy, kindness, empathy, love and care) improve and extrinsic aspirations (such as money, image or fame) decrease (reviewed in Cleary et al., 2017). Currently, we are framed as 'stewards' responsible for saving the planet but this is ineffective because we do not act on values, we develop values from action; and the potential to perceive appropriate action is a function of our environment (Berger and Beckmann, 2010; Ingold, 2002; Lumber et al., 2017). Incentivising a shift to sustainable functionings will thus require strengthening people's perceptive abilities and not simply admonishing why nature *should* be valued (Schebella et al., 2019).

Perhaps most importantly, as much as wildness provides the affordances to know, it also creates the space to *unknow*. In wild landscapes, you're never quite sure what you'll find, sometimes not sure what you've seen. Shapes morph in and out of messy banks, re-manifest as a sound from somewhere, or a sudden stillness before a snapped-twig twitch. Wildness is always equivocating. Such "[i]llusions [that] drive home the truth that our habitual vision of things is not necessarily right: it is only one of an infinite number, and to glimpse an unfamiliar one, even for a moment, unmakes us, but steadies us again" (Shepherd, [1977] 2019). The affordances embodied within wild landscapes, through their dynamic and self-willed natures, continuously create opportunities for us to 'unmake' and 'steady ourselves', providing windows for new meaning to be incorporated. Furthermore, because each organism chooses which affordances to act on, based on their aspirations or abilities, each organism 'creates' its reality as it responds to triggers tucked into the unfolding landscape. This "allows […] one existential reality to reside alongside innumerable, created realities" (Birkin and Polesie, 2013, p. 151; Gibson, 1986). These co-occurring realties are refugia for our imaginations because they show us we are not alone out there – the edge of existence is a nexus. By creating unknownness, wild landscapes resist homogenisation of experience and

sustain existential freedom for all (Clayton et al., 2017). Unknownness cannot be replicated by technology or domesticated green spaces as both serve to diminish dynamic sensory stimulation and standardise ("optimise") experience (Truong and Clayton, 2020),

Because it is the mystery of what *might be* that renews us, unknownness give us hope. It reminds us that change is always possible, that we are free to change. Monbiot (2013) recounts a story about kayaking off the Yorkshire coast when a storm-swell threatened to push him onto the rocks. At his lowest ebb, muscles exhausted, when he had nearly given up, he saw a flash of chestnut and movement on the shore – a corncrake –rare and out of its usual range. Seeing this frail bird battling the same elements, he felt solidarity, and "as the bird receded up the beach, [..] felt [his] energy surging back". Wildness is an indeterminate process that sustains possibility through its "immanent potential" (Vannini and Vannini, 2019). Each time we enter a wild landscape, it is a new domain, enabling us to discover increasingly "fine-grained specifications" to self-meaning (Lev et al., 2020). To know that some things are unknown, to know there are landscapes where serendipity, spontaneity and creativity can spark something in you gives a sense of limitlessness to one's life. *Unknownness* thus drives the search for meaning. By stimulating us to carry on searching, the presence of meaning itself becomes more significant as we become primed to "elevate the significance of meaning-relevant information" (Steger et al., 2011, p. 179), feeding back on itself in a virtuous cycle. "One idea above all emerges: that the self-willed forms of wild nature can call out fresh correspondences of spirit in a person. Wildness […] is an energy which blows through one's being, causing the self to shift into new patterns, opening up alternative perceptions of life" (Macfarlane, 2007, p. 209).

2.3 Wildness affords infinite value

Wildness is limitless for all generations for as long as the sun shines because functioning ecosystems continually permute matter in response to environmental change. Landscape patterns are "perceptible instantiations of interrelated, interdependent, environmental phenomena" (Gobster et al., 2007, p. 963), where ecological and evolutionary processes present a palette of ever-morphing affordances – Darwin's 'endless forms' – for our perception (Ingold, 2002). Ultimately, evolution creates new wild affordances. Proximally, affordances are dynamic in space and time: a bird seen transiently in a wetland while along

its migratory route; a geophyte germinating after the right fire intensity; asynchronous cicada swarms. On landscape scales, disturbance creates phase diversity and thus habitat mosaics, ecological succession creates vegetation structural diversity, herbivory creates patch dynamics, predators create ecotones through landscapes of fear. Wild features themselves grow, transform and die; reflecting the vitality of the landscape. For example, trees embody relations with pollinators, seed dispersers, soil conditions, droughts and other events within the landscape through their life (Ingold, 1993). Wild affordances thus express "patterns of being and becoming, and thus ways of affecting and being affected (van Dooren et al., 2016)". Between organisms "issuing forth along the lines of their relationships" (Ingold, 2011, p. 71), and landscapes subject to flux, wildness continually open up the seams of existence, and thus always offer opportunities for finding self-meaning. As such, wild landscapes possess infinite value for individuals because, for each 'interaction pattern' (from 'walking along the edge of a river' to 'foraging for mushrooms'), "countless different embodied versions […] can be uniquely realised given different types of nature, people and purposes" (Lev et al., 2020).

Affordances are also dynamic for a particular feature-perceiver relationship over time and thus have the potential to provide different self-meaning from the same feature at different points in one's life (Chemero, 2009). As our personal context changes, we will 'see' different affordances in the same feature. A wetland may provide a place to swim when young, a place to read and write when older, and a place to fish with your children when older still. Coming across a porcupine quill on a dusty trail at one point in your life might conjure an aesthetic response in imagining the creature lurking in the landscape at dusk; and at another time might become a token of your time with a loved one – a shared memory to lengthen your life. Over one's lifetime then, wildness becomes an asset that does not suffer from diminishing marginal returns like manufactured consumer products. Rather, one's experiences within wild landscapes provide additive value in the personal growth they afford over time, leading to greater eudaimonic well-being (Pritchard et al., 2020). For this reason, ecosystem service valuations are always underestimates of embodied landscapes that continually reconstitute and reimagine themselves (Norgaard, 2010; Bateman and Mace, 2019).

Thus, for each potential affordance – there are two levels of dynamic change – one from the feature itself as it exhibits its own life histories, and one from the perceiver depending on her circumstances and receptivity to a particular affordance. This, combined with the continual permuting of features in wild systems, generates an infinitely re-arranging array of

affordances from which to potentially draw self-meaning and achieve our chosen 'functionings', such as deepening friendships through story-telling; restoring mental energy to make an important decision; or perhaps finding inspiration to finish your thesis. Thoreau declared 'in wildness is the preservation of *the* world'. Wildness is really the conservation of *your* world.

3 Self-meaning and sustainable economies

As globalisation quickens, we risk becoming ever more fragmented and manipulated by atomised content and misinformation. Instant information is like eutrophication of meaning, creating toxic algal blooms in our minds that suppress the rarer, more considered thoughts. By providing a medium for one's unique ideas to surface and for external information to percolate through finely-textured layers, wild landscapes incubate effective agents (Sen, 2013). For example, Atchley et al. (2012) showed that being immersed in nature for four days, without access to technology, increased creative problem-solving by 50%, which helps counteract consumer culture's instant gratification and impulsivity (reviewed in Bratman et al., 2012). From a public health perspective, wild landscapes function as 'equigenic environments' that mitigate the negative conversion factors of socioeconomic inequality into poor mental health by enabling everyone to equitably improve their eudaimonic well-being (for example, Mitchell et al., 2015). Wild landscapes can also be considered 'heterotopia', which Foucault (for example, 1986) termed as spaces that simultaneously represent, disrupt and transform – that are *other* to establishment. By facilitating self-actualisation on an individual level, wild 'heterotopia' may facilitate adaptation on a societal level by acting as "transgressive spaces where it is possible to think differently, be differently, and engage in the practices of freedom" (Beckett et al., 2017, p. 10; Vannini and Vannini, 2019). For this reason, spatially and temporally dynamic wild landscapes are increasingly being recognised as key assets for urban spatial planning for the unique experiences they offer (Threlfall and Kendal 2018).

Mainstreaming the value of wild heterotopia into economic policy-making might be most effective through Experimental Ecosystem Accounting (EEA), which has been developed to shift the System of National Accounts beyond gross domestic product (Hein et al., 2020). EEA includes four account types that measure the spatial extent of various ecosystem types;

the ecological condition of ecosystems; the physical flows of ecosystem services, and (if needed) the monetary value of ecosystem assets and services (Hein et al., 2020; Supporting Information). Ecosystem assets are defined as different ecosystem types (landscape units likely to share broadly similar ecological characteristics and functioning, such as forests, grasslands, wetlands or estuaries) permuted into various themes and scales according to the particular policy decision (such as enhancing psychological well-being from green urban infrastructure at city scale, or increasing pollination services from ecological corridors within agricultural landscapes at regional or national scales). The wildness of a particular landscape can be measured as the ecological condition of the ecosystems comprising the landscape, which can then be aggregated into the condition account for each ecosystem type for the policy focus areas overall (Supporting Information). Ecological condition can be through various ecological complexity indicators, such as biodiversity intactness index (Scholes and Biggs, 2005).

Integrating EEA and the capability approach (CA) helps to solves their respective shortcomings. The CA currently lacks a feedback process between the condition of the resources and the functionings that can (or should) be achieved (Ballet et al., 2013; Schultz et al., 2013; Pelenc and Dubois, 2020). Making capabilities spatially-explicit by integrating with EEA would help policy makers more clearly assess the trade-offs between human, natural and manufactured capital at specific scales. Similarly, neither natural capital accounting nor the ecosystem services concept captures the intrinsic value of ecological processes and species diversity or fully encompasses human well-being (Bratman et al., 2019; Bateman and Mace 2020; Hein et al., 2020), and thus would become more holistic by linking ecological complexity more fully to human capabilities and functionings. For example, integrating the self-meaning capability into EEA makes a direct connection to the extent of ecosystem types themselves as fundamental mediums available to search for self-meaning, as well as generating the affordances to convert into purpose. Similarly, the wilder a landscape (the more ecologically functional it is) the more likely it is to hold our fascination and increase the comprehension necessary to find meaning. Thus, both ecosystem extent and condition are important to human well-being in their own right, in addition to the selected ecosystem services that are ultimately evaluated (Bratman et al., 2019). This integration may help to reduce the entropic loss of value when quantifying ecosystem services alone (Bratman and Mace, 2020). By functionally interlinking the capability of both ecosystems and humans to

manifest their own ‘functionings’, EEA-CA can incorporate the existential freedom of humans and non-human entities directly into economic decision-making.

4 Conclusions

Wildness is an infinite resource for human flourishing and freedom. The ecological and evolutionary processes that generate biodiversity also contribute to the individual’s lifelong capability to find self-meaning, helping one to create culture rather than simply respond to it. Integrating the self-meaning capability into a natural capital accounting framework switches the focus from categorising what we can get *from* the environment to what is *within* the environment that enables us to (re-)create value. Mainstreaming interlinked models of wildness and well-being will make clear to decision-makers that any development option that simplifies a landscape to maximise manufactured capital or commodities (such as approving agricultural monocultures or open-cast mining) will ultimately reduce human freedom to find self-meaning.

Re-wilding, in its broader sense of restoring ecological complexity and functioning (Perino et al., 2019), can thus guide development programmes that seek to simultaneously improve prosperity, public health and socioeconomic resilience. This does not mean we have to abandon all land back to wilderness – not all landscapes ought contain apex predators – but rather that our policies should be promoting the fullest expression of wildness possible in each landscape, given context-specific opportunities and constraints.. “Biodiversity is an expression of the possible” (Collar, 2003, p. 268), where wild landscapes, replete with self-willed features and messy relations, sustain the infinitely possible meanings of being alive. As much as rewilding is a process of restoring ecosystem functioning, so too does it restore our capability *to become* and do ‘effective things’. Wildness should be at the forefront of policies that resist economic hegemony and cultural homogenisation.

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