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Narrative ecology: a storied approach to area, place, and ecosystem

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Abstract: This article proposes a new theoretical framework for *narrative ecology*, drawing from ecolinguistics, econarrative, and previous uses of the term in the literature. Unlike some formulations which treat ecology metaphorically, the framework treats narratives as a literal part of information flows that are intrinsic to ecosystems. If the howls of monkeys communicating information about predators are ecologically significant in the information flows of ecosystems, then so too are narratives that influence how humans conceptualise the world and treat it. The article attempts a consilience between narrative theory and ecological science, resulting in a transdisciplinary approach to the ecosystems that life depends on. The aim is not only to study these ecosystems, but also to intervene in the narrative ecology in order to protect them and help them regenerate. The theoretical framework has implications for how area and place are conceptualised. While area is usually considered to be a space defined by a boundary, place is an area that is experienced by humans and given meaning. Within the narrative ecology proposed in this article, a place can be seen as the material area plus the local and global flows of narratives which give it meaning. The conclusion describes a hypothetical ecologist who discovers that the ecosystem of a river has been disturbed by eutrophication. The ecologist traces back the cause firstly to a sewage treatment works and then to the metanarratives of privatisation that led to vast numbers of sewage spills in the United Kingdom. Finally, the hypothetical ecologist looks for inspirational narratives that can represent rivers in ways that promote their legal protection.

Keywords: area; ecology; narrative; place

1 Introduction

Narrative ecology is a framework that has been used primarily in education and psychology to refer to the stories that an individual is exposed to and how those stories shape that person's identity. It's a useful theory and has been extended to

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other areas such as migration studies, where it refers to the influence of the media on how the public conceptualise and treat migrants. Current theories primarily use the term "ecology" metaphorically to describe the interaction of stories with other stories and with human minds in social space. In this article, I explore what happens if ecology is taken literally, and narrative ecology is seen as a branch of ecology rather than a branch of narrative analysis.

The question I am asking is not so much "What is narrative ecology?" but "What could narrative ecology be if ecology is taken literally?" My reason for taking ecology literally is that the ecosystems that life depends on are under threat in an unprecedented way. Conceptualising a literal narrative ecology is not an idle thought experiment – it is an attempt to make a useful and productive theory more applicable to intervening in the ecological crisis that we face. I will start by outlining a vision for a literal narrative ecology before reviewing previous studies and drawing on them to enrich the vision. I will then attempt consilience between narrative theory and scientific ecology, describing the ways in which narrative can be seen as a literal part of the interactions among humans, other organisms and the physical environment. Following that, I will draw out implications of narrative ecology for the concepts of area and place. The conclusion brings the threads together to present a more comprehensive theory and suggests how it can be applied.

2 Narrative ecology: a framework

My starting point is to propose the following definition of "narrative ecology":

> Narrative ecology is a branch of ecology which sees the exchange of stories – storying – as an ecologically significant form of interaction of humans with other humans, other species, and the physical environment.

Ecologically significant here means that storying influences worldviews and behaviours and therefore has consequences for the biophysical systems that life depends on, including energy flows, biodiversity dynamics, soil formation, biogeochemical cycles, and other key ecological processes. Narrative here refers to cognitive structures that are manifested in textual form as stories during communicative exchanges. The structures (and the stories they become) consist of a sequence of logically connected events involving characters and a location, usually with enough vivid detail to convey vicarious experience, and typically featuring some kind of turning point or complicating action.

The exchange of stories of this kind occurs in the context of metanarratives, or the stories-we-live-by, which lack the structure of a sequence of events and are more like general worldviews. Metanarratives such as THE GOAL OF SOCIETY IS ECONOMIC GROWTH, or WEALTH IS A SIGN OF SUCCESS, are often treated unquestioningly as just reflecting the way that things are rather than being one version of the world among other possible versions. The relationship between narratives and metanarratives is that the exchange of stories contributes to the creation of metanarratives in the first place and constantly reaffirms them or resists them. In this way, narrative ecology concerns the exchange of narratives in the traditional sense of stories with characters, plots, and locations, and how they establish, entrench, or erode metanarratives.

The formulation of narrative ecology as a branch of ecology rather than a branch of narratology is intentional and aligns with the syntax of the term – ecology is the head while narrative is the modifier. The reason for this emphasis is to stress that the primary purpose of studying narrative ecology is to discover something of importance about the ecosystems that life depends on rather than something about narrative. It is worth noting that "ecolinguistics" has *linguistics* as the free morpheme and *eco* as the bound morpheme, emphasising linguistics. However, that does not mean that I am proposing narrative ecology only for those who define their professional identity as scientific ecologists. Instead, narrative ecology is transdisciplinary, and academics in areas such as linguistics, psychology, cultural studies, media studies, artificial intelligence, geography, and religious studies can see themselves as ecologists, analysing the role that narratives play within the ecosystems that life depends on.

This framework for narrative ecology is a starting vision, but there are richer and more sophisticated aspects to uncover through reviewing previous studies of narrative ecology and attempting consilience of narratology and ecological science.

3 Conceptions of narrative ecology in the literature

Currently there are relatively few academic books or journal articles on narrative ecology. In the literature that does exist, however, there are useful ideas which can be woven together and expanded on to provide a more comprehensive theory. The following sections cover the most relevant uses of the term "narrative ecology" in existing literature.

3.1 Narrative ecology 1: education and professional identities

Narrative ecology is used in education studies in relation to the ongoing development of the professional identities of educators (Maynard et al. 2023; Turvey 2012, 2013). Here the "ecology" of narrative ecology consists of the diverse technological, sociocultural, and autobiographical factors that influence the professional development of educators. The term "narrative", in this case, is about the creation of a structure to integrate these diverse factors into a coherent professional identity and practice (Turvey 2013). Turvey's aim is to encourage educators to play a role in critically interrogating the many factors that influence their work, particularly the technological ones, and actively integrating them into a professional narrative of self.

This sense of narrative ecology is clearly based on the work of Giddens (1991) and his concept of a "story of the self":

> A person's identity is not to be found in behaviour […] but in the capacity to keep a particular narrative going. The individual's biography […] must continually integrate events which occur in the external world, and sort them into the ongoing "story about the self". (Giddens 1991: 54)

As new technology arises, the whole identity of an educator can shift and change, and with the onset of artificial intelligence, many educators are now questioning their role in the world. I would agree with Turvey that it is vital for educators to constantly reflect on their identities rather than forcing themselves to continue down a path that is no longer relevant to the way the world works. However, this is a very abstract sense of "ecology", distant from animals, plants, forests, rivers, oceans, and the natural world. It uses "ecology" as a metaphor to mean little more than "interaction in a context".

In the educational account, narrative ecology is described as psychosocial, influenced by the social and cultural context, including social relationships, technological, sociocultural, and autobiographical factors, as well as broader cultural, political, and religious narratives. What is missing is the life-sustaining aspect of ecology – the constant interactions of humans with other species and the physical environment that are necessary for the continuance of life. Educators, and all other professionals, are working within an industrial form of civilisation that is unsustainable. Unsustainable means just one thing. Our current civilisation cannot continue into the future – either it will be transformed into a new sustainable civilisation, or it will collapse. This presents a fundamental challenge to what it means to be an educator in the current conditions of the world, since traditional forms of education (and teacher identity) reproduce current unsustainable societies rather than challenge them. Typically they prepare students to live in the world as it is, rather than the very different world that it will be. I would therefore argue that

identity reflection for educators (and for all professionals) includes reflection on their role within an unsustainable society that is on a path towards ecological collapse, and that they consider whether they are reproducing or challenging the basis of that society. In this way, the definition of narrative ecology moves one step closer to being more literal than metaphoric.

3.2 Narrative ecology 2: psychology and the self

An approach to narrative ecology similar to the education one occurs in the area of psychology. In the book *The Co-authored Self: Family Stories and the Construction of Personal Identity*, McLean (2015) proposes the concept of the "narrative ecology of self" to describe the multilayered world of stories that individuals encounter through interactions with family and others in their immediate social and cultural circles. She writes that "The narrative ecology comprises the stories that are available to a person as he or she develops, the stories that form each person's particular narrative landscape" (McLean 2015: 5). These include "stories of one's own personal experiences" as well as "the stories of one's friends, romantic partners, and teachers; stories that persist in the culture at large, and […] family stories" (McLean 2015: 5). Identity, in this view, is constructed through weaving together the stories that surround an individual, in ways which can be more or less conscious. While McLean focuses on family stories, Breen et al. (2017: 243) extend narrative ecology to include stories in books, movies, TV, plays, and other media, showing how influential they are in shaping people's life stories, their "narrative identity". Lind (2023: 1) expresses the concept of narrative identity as follows:

> Narrative identity constitutes the dynamic and evolving life story. Storying serves to scaffold a sense of continuity between time and place, by integrating diachronic and idiosyncratic actions into a meaningful whole, and supports a sense of purpose and direction as life unfolds. (Lind 2023: 1)

This storying occurs "within a dynamic, psychosocial ecology – a narrative ecology" (Lind 2023: 1), which consists of the world of narratives that an individual is exposed to, including conversations in their inner circle, their locality, mass media, and "overarching cultural, political, and religious master narratives" (Lind 2023: 1). Lind goes on to describe how if the narrative ecology is disordered, if it goes awry, and people construct maladaptive life stories from it, then this leads to Personality Disorders and dysfunctional thinking, feeling, and behaving. The specific term that she uses is "disturbed narrative ecology", a term I will come back to.

While the educational approach saw narrative merely as a structure for integrating aspects of identity, the psychological approach has a much richer idea of

narrative as the stories that exist with the social environment of an individual that influence the formation of identity. The dynamic nature of "storying" and "storytelling" as continuously and actively shaping our reality – a "dynamic narrative web of near and more distal storytelling", as Lind (2023: 1) puts it, draws strongly from the interactive aspects of the domain of ecology. The idea of individuals as active agents who have some control over the stories they expose themselves to, and the stories they allow themselves to be influenced by, offers possibilities for personal transformation.

It is useful to note that the concept of narrative ecology in both education and psychology places an individual human at the centre, surrounded by stories. Dunlop and Wilkinson Westberg (2022: 1–2) describe how life stories "have been noted to exist within distinct and individualised narrative ecologies, ecologies that begin with the person and work out from there to include the social relationships, social contexts, and cultures of which the person is a part". In this sense, narrative ecology is anthropocentric in a very literal way – the human is at the centre integrating stories – rather than a broader social cognition (van Dijk 1990) or ecological embedding.

3.3 Narrative ecology 3: migration studies and the public imagination

Caracciolo et al. (2023) use the term "narrative ecology" in the social science discipline of migration studies to describe the role of narrative in constructing concepts of migration in the public sphere. In this way, they go beyond the model of ecology being focused around the influences on an individual to a broader conception of interacting stories influencing the public imagination in general, i.e. social cognition. Their starting point is the well-established concept of *media ecology*, which concerns "how media shape public perceptions as well as individual attitudes and worldviews" (Caracciolo et al. 2023: 2). To this they add narrative theory to look specifically at narratives as "cognitive and communicative tools, vital for narrative worldmaking and for the sharing of experiences and worldviews" (Caracciolo et al. 2023: 5). They include stories of all kinds, from those conveyed in conversation, to mediated stories, up to metanarratives and master narratives, noting that "stories travel: they move around, bumping into other stories and sometimes clashing with them (as in conflicting accounts of a historical event)" (Caracciolo et al. 2023: 5). It is in this interaction of stories with each other and human minds that they locate the concept of narrative ecology.

This is a useful conceptualisation of narrative ecology because although it is still using ecology as a metaphor it makes stronger use of the source frame, including the interaction of narratives with other narratives and human minds. What is missing,

or could be more strongly developed, are the literal ecological factors that influence migration. One of the key drivers of forced migration is ecological destruction, which can prevent people from meeting their needs in their current location or trigger resource wars that make their current location insecure. The literal ecological dimension is often missing from news reports which focus on migrants only at the point of arrival, treating them as an unwelcome flood that will overwhelm the country. An alternative would be to represent migrants as people who have been displaced because of the ecological destruction caused by overconsuming countries, and who have a right to ecological justice and reparation. The framework for narrative ecology in migration studies is very useful in considering the interaction of stories of all kinds in influencing the public imagination, but could include literal ecological factors too, such as the ecological drivers of migration and their absence in mainstream narratives.

3.4 Narrative ecology 4: ecocriticism and internal heterogeneity

Another area that the term narrative ecology has been used in, although rarely, is ecocriticism (Dale 2019; Gonzales 2012; Hufford 2021; Schrimper 2021; Varsava 2011). The earliest use of the term is by Strecker (1998: 68), who states that "Narrative ecologies are complex, hybrid networks of information systems linked by narrative". He uses this conceptualization to describe complex works of ecological fiction by Richard Powers and William T. Vollmann that draw on multiple fields from biology to painting in an attempt to confront the upcoming "devastating, large-scale ecological catastrophes" (Strecker 1998: 68). In this sense, narrative ecology is internal to a particular book, with the metaphor of ecology being used to describe the interaction of different information systems within the book that are threaded together through econarratives.

This formulation is useful in revealing the internal heterogeneity within econarratives, which can help them draw together the multiple ways of knowing necessary to grasp the complexity and scale of the ecological crisis. The ecological crisis isn't just a technological or scientific issue, but a cultural, political, artistic, and spiritual issue. A work of literature can bring disparate disciplines as well as folklore and grounded experiential forms of interaction into conversation with each other in a way that single-discipline humanities, social science, or natural science would struggle to. Although applied to econarratives, this formulation of narrative ecology is still metaphorical and does not reach out beyond the internal dynamics of the text to look more generally at the flow of narratives and their interaction with minds and social cognition.

3.5 Narrative ecology 5: ecocriticism and influences on the author

Another way of using the term narrative ecology in ecocriticism occurs in the article "Queer Narrative Ecology in Margaret Fuller's 'The Magnolia of Lake Pontchartrain' and Virginia Woolf's 'Kew Gardens'" by Schrimper (2021). This article uses the term only once, to describe how the author Margaret Fuller's work is "distinctly rooted in an environment based on community" and enters into "dialogue with classical and romantic-chivalric texts" (Schrimper 2021: 105). Schrimper writes that "by engaging these forms, viewing them as voices with which to converse, Fuller arrives at her site of narrative ecology" (Schrimper 2021: 105). He contrasts this rich narrative ecology with "the transcendentalist figure of the lone individual [Henry David Thoreau] at Walden, or Emerson's 'self-reliant' individual who, as the term suggests, sought growth in isolation" (Schrimper 2021: 105). Narrative ecology, in this sense, is how an individual author engages with multiple narratives from classic literature and with the narratives of their social circle to inform their nature writing.

A rather different vision would see Thoreau and Emerson as not alone, isolated, or self-reliant, but living in communion with and supported by the hares, owls, butterflies, chestnuts, birch trees, huckleberries, water lilies, ferns, worms, corn, and the wider ecosystems they were immersed in. These two authors could be seen as co-producing narratives with these beings from the more-than-human world or reading stories from the natural world as much as writing them, an idea I will return to.

3.6 Narrative ecology 6: ecocriticism and author as ecologist

Varsava (2011) provides a more literal ecological perspective in his article "Jiang Rong's *Wolf Totem*: Toward a Narrative Ecology of the Grassland of Contemporary Inner Mongolia". Varsava (2011: 283) explains how Jiang Rong's celebrated book, *Wolf Totem*, explores "the collision between traditional minority Inner Mongolian culture and modernizing majority Han Chinese socioeconomic practices, and the consequent ecological degradation of Inner Mongolia". The focus of the article is on how Jiang Rong vividly represents the physical ecosystems of Inner Mongolia and the traditional understanding of those ecosystems by local people in contrast with the lack of understanding by Chinese officials. An example Varsava (2011: 290) gives is a dialogue where a Mongolian elder shares the ecological wisdom that:

> Out here, the grass and the grassland are *the* life, the big life. All else is little life that depends on *the* big life for survival. Even wolves and humans are little life. (Jiang Rong in Varsava 2011: 290)

Wolf Totem is a powerful cautionary tale, vividly describing the ecological collapse that occurs when wolves are eliminated from their position as a keystone species regulating the grassland ecosystem. In Varsava's perspective, what Jiang Rong is doing is a form of ecological study using different methods from ecological and social scientists. Jiang Rong's methodology involves deep personal interaction with the ecosystem and the people who live their lives there, and dissemination of the findings through carefully crafted fictional narrative. Fiction here is an ideal way to distil the essence of the enormous complexity of observed social, cultural, and ecological factors into a narrative that makes it comprehensible.

As Varsava points out, since the novel is a narrative, it can reach people in ways that scientific and sociological studies cannot. This is partly because the novel sold millions of copies and was translated into more than thirty languages (Marzluf 2021), but also because narratives have the power to represent experience vividly, giving readers a vicarious experience of actually living within the grassland ecosystem. Varsava (2011: 293) writes that:

> During the Cultural Revolution, one million *mu* of land […] were cleared in Inner Mongolia, trebling the amount of arable land to 1,530,000 mu in this fragile ecosystem. Raw statistics are of course an inarticulate means to convey the impact of such a dramatic development on the physical and human landscapes. Wolf Totem's self-assigned task is to convey this profound alteration of the land as lived experience. (Varsava 2011: 293)

Narrative ecology, therefore, in Varsava's use, is the use of narrative to report the findings of participatory research into the interactions of peoples, animals, and lands in vivid experiential ways that can reach and inform multiple audiences. The idea of a novelist as an ecologist is a powerful one, validating a way of approaching ecosystems that could otherwise be seen as marginal and for entertainment purposes rather than serious study.

This is where it is useful to distinguish the two meanings of "ecology", one referring to the study of the interactions of species and the environment, and one referring to the interactions themselves – "the relationship of living things to their environment and to each other, or the scientific study of this", as the *Cambridge Dictionary* puts it.[1] It is an unfortunate fact of English that the *scientific study* of a phenomenon is often referred to using the same word as the phenomenon itself – "the geology of a region", "the hydrology of the watershed", "the ecology of a salt marsh". I say unfortunate because it conflates scientific ways of approaching a phenomenon with the phenomenon itself, privileging those ways of knowing and

1 https://dictionary.cambridge.org/dictionary/english/ecology (accessed 22 March 2026).

marginalising others. Rock formations existed long before humans came along; humans had ways of knowing them long before the academic discipline of geology came along; and there are current valid and valuable ways of understanding rock formations beyond mainstream science. Describing the observation and narratives of an author as a form of ecology does not change the double meaning of "ecology" but does widen the ways of knowing that are included in the sense of ecology as study.

3.7 Narrative ecology 7: folklore studies and the agency of the more-than-human world

Another use of the term narrative ecology to consider is from folklore studies, one which begins to construct a more grounded concept that includes the agency of the more-than-human world. In "The Witness Trees' Revolt: Folklore's Invitation to Narrative Ecology", Hufford (2021) describes a narrative ecology that exists in a particular place and involves the interaction of humans, animals, trees, the physical environment, and (importantly) stories. She describes a "vernacular forest" which is "deeply entangled with named localities […] a forest system that continually emerges through speech and material practices that engage daily, seasonal, annual, and intergenerational cycles" (Hufford 2021: 80). In this narrative ecology, humans exchange stories about a forest in conversation with each other, and these stories influence their interactions with the forest, including their foraging activities and actions to protect and regenerate the area. Other species, including trees, are seen in this narrative ecology as agents, influencing perceptions and finding their way into the stories: "Everyday talk, actions, and perceptions enmesh human subjects in an open dialogue with the more-than-human forest" (Hufford 2021: 24).

Going beyond folklore, we can consider more generally how the more-than-human world influences writers, poets, and storytellers of all kinds through co-creation of narratives. Some narratives can be thought of as already "in the land" and in the land community (using Leopold's 1979 term) and can be read from the land and expressed in words. Members of the land community from trees to wolves can be thought of as active agents, co-producing narratives. Iovino and Oppermann (2014: 2) use the term *storied matter* to describe "a material 'mesh' of meanings, properties, and processes, in which human and nonhuman players are interlocked in networks that produce undeniable signifying forces". If deer or foxes are appearing in a narrative, they can be seen as active agents inserting themselves onto the pages through their presence and action in situations where they were observed by humans. This could be direct observation by the author or by those who produced sources the author draws on for their imagination of the animals.

The agency of all life forms in creating meaning and human knowledge is described by Gonzales (2012) in the article "Ant Medicine: A Narrative Ecology", which focuses on multispecies co-creation of meaning through the figure of the ant. Gonzales is an indigenous scholar of Kickapoo, Comanche and Macehual heritage at the University of Arizona. She writes that:

> This narrative ecology of ant medicine explores how knowledge comes from the natural world and how human knowledge emanates from other forms of peoplehood. Many indigenous paradigms of knowledge recognize that Traditional Ecological Knowledges (TEK) evolve out of relationships that recognize that life forms have agency. Human life and meaning are co-created by a living universe that is active in various dimensions of existence […] Indigenous communicative practices such as oral tradition, storytelling, and symbolic orders help to sustain, evolve, and reflect these traditional ecologies. (Gonzales 2012: 84)

This is a useful conceptualisation of narrative ecology since it embeds narrative deeply within the natural world and within literal ecologies.

4 From metaphorical to literal narrative ecology

The sections above described different ways that the term "narrative ecology" has been used in the literature, and there was a spectrum from entirely metaphorical senses of "ecology" as an abstract principle of "interaction of something within a context" to more literal and earthy uses of the term. The word "narrative" was also used along a spectrum from metaphorical (for example, narrative as a structure that an educator uses to integrate their experience) to more literal narratives in the sense of stories which have events, locations, and characters.

Clearly, the use of the term "ecology" in educational and psychological constructions of narrative ecology is metaphorical, meaning little more than various factors interacting with each other within various contexts. The same can be said of the academic fields of *language ecology* (the interaction of languages within their social contexts), *learning ecology* (how language learning is influenced by exposure to texts in the learning environment), *communication ecology* (the relationship between different forms of media in the information environment), and *media ecology* (the interaction of people with their communications technology).

However, it can be argued that there is never a need to metaphorize ecology and strip out the animals, plants, forests, oceans, soil, rain, and the ecosystems that life depends on, because everything within the human sphere is always and inextricably embedded within these larger ecosystems. Individuals exist in constant interaction with the more-than-human world, from the oxygen released by plants they breathe, to the other species they are eating or digesting, to the many species they are sensing

through sight, sound, touch, and smell and, unfortunately, to the ecological harm they are causing through their casual consumption. Language learners, particularly if they are learning globally dominant languages, are being exposed to discourses which encourage ecological destruction, while physically exposed to the results of that destruction in the depleted and damaged ecosystems that surround them. Communications and the content of the media cannot be separated from literal physical ecosystems since they represent (or ignore) the more-than-human world and have an impact on it through encouraging people to protect or damage the ecosystems that life depends on.

My argument is that narrative ecology, and other metaphorical uses of the term "ecology", could benefit from going beyond considerations of the psychological context, the cultural context, and the social context to explicitly include the ecological context. Dunlop and Wilkinson Westberg (2022: 18) take some steps towards this broader concept of narrative ecology by expanding the metaphor of ecology to include physical place, i.e. how neighbourhoods, states, broader regions and, in general, "specific cultures delineated on the basis of their geography" influence the identity of those who are associated with the places. However, it is possible to go further than this with the concept of *ecocultural identity* (Milstein and Castro-Sotomayor 2020), where people identify not only with particular social or cultural groups, or with particular places, but as being part of a wider community of life that includes other species and the physical environment. Milstein and Castro-Sotomayor (2020) describe how:

> Indeed, all of us, each and every one, are always participants in crisscrossing sociocultural and ecological webs of life, whether consciously or not. It is a growing majority of humans' obliviousness – and even active denial – of our interrelated sociocultural and ecological constructions and conditions that has us where we are today, in the midst of unfolding anthropogenic biospheric catastrophe. (Milstein and Castro-Sotomayor 2020: xvii)

The key expression here is "ecological webs of life" in addition to the sociocultural, implying interdependence, reciprocity, or interbeing with other forms of life and the physical environment. In a narrative ecology, ecological webs include the physical (e.g. the air we breathe, the ground we step on, and the food we eat), as well as the narratives that surround us and influence how we see ourselves in relation to the rest of the natural world. The narratives are not separate from the natural world but are part of it, because they arise in interaction with other species and the physical environment, reflecting and refracting that interaction. They also influence how humans behave and therefore influence the future thriving or destruction of the ecosystems that life depends on. Putting the two frameworks together, we can say that ecocultural identity arises from interactions within social and ecological webs and the narratives that are embedded within those webs.

The role of narrative in shaping ecocultural identities is only one aspect of the constructive power of narrative, however. In addition to individual identities, narratives shape families, institutions, organisations, cultures, societies, and the general way that we perceive reality. As Dahlstrom (2014: 13615) describes, "narrative cognition is thought to represent the default mode of human thought, providing structure to reality". In doing so, narratives shape how humans interact with each other, with other species, and with the physical environment. This makes narrative a part of ecology, not in a metaphorical way, but in a quite literal way.

4.1 Consilience with scientific ecology

Narrative ecology is a framework which is underused and undertheorized in ecocriticism, and used metaphorically in education studies, psychology, and migration studies in ways that downplay consideration of the ecosystems that life depends on. However, it is possible to combine insights about narrative shaping human cognition and behaviour with literal, scientific ecology to produce a more comprehensive framework. In this section I will explore the consilience of narrative studies and scientific ecology – bringing them together to create a grounded "narrative ecology".

The starting point is the earliest formulation of ecology, proposed by Haeckel (1866) in the wake of the discoveries of Humboldt and Darwin:

> By ecology, we mean the whole science of the relations of the organism to the environment including, in the broad sense, all the "conditions of existence". These are partly organic, partly inorganic in nature […] Among the inorganic conditions of existence [are] the physical and chemical properties of its habitat, the climate (light, warmth, atmospheric conditions of humidity and electricity), the inorganic nutrients, nature of the water and of the soil, etc. As organic conditions of existence we consider the entire relations of the organism to all other organisms with which it comes into contact (Haeckel 1866, translated by Egerton 2013: 266).

The key expression here is "conditions of existence" (*Existenz-Bedingungen*), which is why ecology is so vital – it concerns the ability of life to exist and continue into the future. In Haeckel's formulation, the focus is on an individual organism, and it is easy to see that psychology has taken this original conceptualisation of ecology and metaphorised it. In the psychology metaphor, the "organism" is an individual human, the "conditions of existence" concern the identity of that human, and the relations are with narratives in the social environment of the human.

Later formulations of ecology move away from a focus on an individual organism to a wider ecosystem where multiple organisms interact with each other and

the physical environment in ways that ensure the continuation of life. Tansley (1935) was the first to use the term "ecosystem", as follows:

> Though the organisms may claim our primary interest, when we are trying to think fundamentally we cannot separate them from their special environment, with which they form one physical system. It is the system so formed which, from the point of view of the ecologist, is the basic unit of nature on the face of the earth […] [There is a] constant interchange […] not only between the organisms but between the organic and the inorganic. These *ecosystems*, as we may call them, are of the most various kinds and sizes. (Tansley 1935: 299)

Tansley here uses the word "interchange", and later in his article "relations" and "interactions". Haeckel (1866) similarly uses the terms "relations" (*Beziehungen*) and "interactions" (*Wechselwirkungen*). The various types of interactions of organisms with each other and the physical environment are central to ecosystems. Vernadsky (1998 [1926]) describes *material flows* of chemical elements in cycles that involve the atmosphere, waters, and Earth's crust. Lindeman (1942) described *energy flows* from the sun, to plants (producers), to herbivores (primary consumers), to carnivores (secondary consumers), and on to higher trophic levels. Importantly, *information flows* were later incorporated into ecology, including bee signalling dances (Lindauer 1961; von Frisch 1967), birdsong (Marler 1957), and chemical and olfactory communication among animals (Bossert and Wilson 1963; Wilson and Bossert 1963).

Information exchange among organisms plays an important role in ecosystems. Alarm calls in response to predators, for instance, can influence the distribution of herbivores, leading to trophic cascades which affect whole ecosystems. Then there is foraging and resource location, which can also be influenced by communication, with the bee dance being a classic example. Other kinds of ecologically relevant communication are territory marking, mating rituals, social status, and conflict signalling, and navigation communication influencing migratory routes. Trees have also been shown to communicate in ecologically significant ways, for example signalling stress when damaged through emitting volatile organic compounds (Baldwin and Schultz 1983) or sending information along mycorrhizal networks, which are picked up and responded to by other trees (Gorzelak et al. 2015; Song et al. 2015). Pollan (2013) writes that "Unable to run away, plants deploy a complex molecular vocabulary to signal distress, deter or poison enemies, and recruit animals to perform various services for them".

Much of the early work in scientific ecology imagined a pristine ecosystem untouched by human influence as a "baseline", a situation that is becoming rarer and rarer in real life. McKibben (1989) used the expression 'the end of nature' to describe how every marine, terrestrial, and atmospheric system on the planet has been influenced by human activity. The area of "human ecology" presents a more holistic view where humans are seen not just as external agents damaging ecosystems from

the outside, but as inextricably a part of ecosystems as other animals and organisms. Although the term human ecology has a history of being used in different ways, Odum (1971) proposed a clear vision of humans as an integral part of ecosystems in a chapter entitled "Toward an Applied Human Ecology" in the third edition of *Fundamentals of Ecology*. Within human ecology, flows include economic flows, flows of goods and materials, population flows (e.g. urbanisation or migration), pollution flows, and technological flows. Importantly, the flows include *information* exchanged among humans. This information has ecologically significant impacts through influencing human behaviour, for example in encouraging people to regenerate or destroy ecosystems. One of the key ways that humans communicate is, of course, through language.

More recently, scholars in the Danish school of ecolinguistics have been exploring language as an ecological phenomenon through the concept of *languaging* (Cowley 2019, 2024; Steffensen 2011; Steffensen et al. 2024). The key insight is that language plays a role in ecology as it is dynamically exchanged by people as they speak, write, read, and listen. Language which is sitting in people's minds as a language system or sitting in unread texts is not playing an active role in the ecosystem. In the article "The Return of Languaging: Towards a New Ecolinguistics", Cowley (2019) describes how "Languaging ascribes understanding to lived cultural experience. It connects beliefs, rituals, technologies, institutions, practices, and much besides". In doing so, languaging influences human practices and behaviours which, in turn, play an active role in shaping ecosystems, for better or worse. As Steffensen et al. (2024: 4) put it, "we suggest treating languages as integral to living and the ecology. On the one hand, languages shape human experience and, on the other, they are embedded in how practices change lives and even geophysical systems".

A good example of ecologically significant languaging comes from Halliday (2001). Halliday describes how a particular newspaper represented a projected increase in air travel as something positive, with expressions that included "a more optimistic outlook includes prolonged air travel expansion driven by continued growth". He argued that:

> Everything here, and in countless texts repeated daily all around the world, contains a simple message: growth is good. Many is better than few, more is better than less, big is better than small, grow is better than shrink, up is better than down. Gross National Products must go up, standards of living must rise, productivity must increase. But we know that these things can't happen. […] We are destroying many of the other species who form part of the planetary cycle. (Halliday 2001: 191)

What is key here is that the texts are dynamically exchanged globally across the world, influencing human perception and behaviour in ecologically significant ways, in this case ways that are highly destructive for the future of the ecosystems that life

depends on. On the other hand, Greta Thunberg spoke the following memorable words at the UN Climate Action Summit of 2019: "People are suffering. People are dying. Entire ecosystems are collapsing. We are in the beginning of a mass extinction, and all you can talk about is money and fairy tales of eternal economic growth" (Thunberg 2019). This exchange happened among Thunberg, the immediate audience, and a global audience as it was shared on traditional and social media. It was also part of a broader exchange of words on social media that resulted in millions of people taking part in climate protests as part of the Fridays for Future movement. We could say that in the same way that prey species communicate alarm about the dangerous approach of predators, the mass languaging that occurred was the alarm call of the youth, warning of impending danger and stimulating ecologically significant action. Steffensen et al. (2024) conclude that

> [rather than] downplaying language about the world, we present languaging as an intrinsic aspect of the world. As human agents shape languaging and, inseparably, practices, we think and act "on behalf of the world". (Steffensen et al. 2024: 16)

The final important aspect to consider is *narrative* since, as I mentioned previously, "narrative cognition is thought to represent the default mode of human thought, providing structure to reality" (Dahlstrom 2014: 13615). Languaging has an impact on human perception, practices, and action through its role in conveying narratives, which cognitively structure reality into sequences of logically connected events. Narratives make sense of how the world is, how it was, and its trajectory into the future. And it is not just languaging that conveys narratives but also *gesturing* (body language), *imaging* (creation and viewing of everything from computer icons to photography and fine art), *musicing* (performance and reception of music), *building* (the design, construction, and reception of the built environment), *gardening* (the design, construction, and reception of gardens), and every other conceivable semiotic mode. In a parallel with the term *languaging* this conveying of narratives as an ecological exchange between humans can be called *storying*. Storying is a combination of storytelling and story-receiving and is an active process of interaction, whether the exchange occurs mouth-to-ear or through writing and reading.

Narrative ecology, in a literal sense that aligns with scientific ecology, can be defined as the role of storying (the exchange of narratives) within ecosystems. The narratives play a role in human interactions with each other that influence behaviour, and these behaviours have an impact on ecosystems. Some of the behaviours will protect or even help to regenerate ecosystems, while some will destroy them. More importantly, we end up with a new way of thinking about ecology itself. Ecology can be thought of as consisting of the life-sustaining interactions (including energy, material, information, and narrative flows) among humans, other species, and the

physical environment. Narrative ecology could therefore be thought of as a branch of ecology that focuses on the vital role that narratives play in ecologically significant interactions – interactions which have an impact on the ability of ecosystems to sustain life.

5 Narrative

The reason why narrative is so central to how we perceive reality and act in the world is because reality (whatever that is) is far too complex to comprehend and communicate about directly. In reality, there are no objects, events, or processes, just constant fluxes of energy and matter, particles and waves. A human, animal, or plant does not exist as a separate object – they are, we are, in a flux from not being, to growth, to decay, to not being, with no firm boundaries between organism and environment. According to quantum theory, there is no definite boundary to atoms, and living beings exist as "supraorganisms", where bacteriophages, archaea, fungi, and other organisms have even been claimed to outnumber the original cells (Glendinning and Free 2014). In addition, living beings live only in constant exchange with other living beings – the body is permeable and only continues in time through a constant absorption of gasses, water, and nutrients into itself, so cannot be seen to exist in isolation – *trans-corporeality* is Alaimo's (2010) term for this. Human minds cannot even be seen as separate since they absorb and contribute to wider discourses – taking part in what van Dijk (2009: 19) calls *social cognition*. There are no isolated "events" or "processes" or "thoughts" out there, just a complex, constant, and inseparable swirl of activity.

Simplifying this complex swirl into discrete and bounded objects, living beings, events, processes, causes, and effects is a constructive act, an act of *narrativizing* or *storying* the world (whether the "real" world or a fictional world). This makes narrative a form of human cognition (Herman 2000, 2003), with texts (from an oral performance of a story to a novel or an anecdote in conversation) forming a bridge between human minds, allowing narratives to spread among a community.

A common way of conceiving narratives is as sequences of temporally and logically connected events involving characters and locations. This is quite a dry and functional characterisation of narrative based on narratology (including Abbott 2021; Bal 2017, 2021; Herman 2009; Labov 2013; Toolan 2018). However, narratives can also be described in a different way as "a reimagined experience narrated with enough detail and feeling to cause […] listeners' imaginations to experience it as real" (Simmons 2015: 22). There is something important here about the power of narratives to vicariously immerse listeners and readers in experiences – narratives can bring the reader anywhere in the world, at any time in the past or the future and they can

position the reader as viewing the world from the perspective of anyone, another human, an animal, a plant, a physical object. As Varsava (2011: 293) pointed out when discussing *Wolf Totem*, it is this property of narratives which makes them so powerful in encouraging people to notice and care about the ecosystems that life depends on: "*Wolf Totem*'s self-assigned task is to convey this profound alteration of the land as lived experience".

Another aspect of narratives that makes them particularly powerful in terms of influencing cognition is that they often contain turning points, complications, complicating actions, crises, ruptures, disruptions, or reversals (Labov 2013: 5; Todorov 1971; Toolan 2018; van Dijk 2023: 258). In Todorov's (1971) account, the turning point could be a negative one, where an initial state of harmony gives way to degeneration, or it could be a positive one where harmony is restored. Van Dijk (2023: 258) expresses the view that a complication is essential to narrative since "a story without some kind of Complication seems less of a story: it does not have a point, a reason to tell it in the first place, for instance to tell that something that happened was at least interesting, or unexpected".

Being aware of the multiple meanings that the term "narrative" has, from general worldview to specific story consisting of events and characters, it is important to pin down a particular meaning of narrative within the framework of narrative ecology I am proposing. Like the term "ecology", I want it to be as literal as possible, because if "narrative ecology" consisted of ecology in its broadest metaphorical sense, and narrative in its broadest metaphorical sense, it could end up meaning very little at all – "something interacts with something in some context and influences how people see the world". I have therefore settled on the following as the way that the term narrative is used in the proposed framework:

> A narrative consists of a logically connected sequence of events involving characters and a location, usually with enough vivid detail to convey vicarious experience, and typically featuring some kind of turning point or complicating action.

This refers both to narrative texts (a book, a relating of an oral story, a poem, a film, etc.) and to narrative structures, which are how narratives are held inside the individual cognition of those people who "know the story". Narrative structures are converted into narrative texts in the process of writing a story down or telling it in words. It is an imaginative rather than mechanical process, which is why a single narrative structure will produce multiple similar narrative texts if a story is told on different occasions.

Narrative ecology, therefore, consists of the exchange of narratives as they move from cognitive structures into texts in production and influence cognitive structures in reception. Rather than imagine the exchange of narrative as a conduit, where a

narrative is neatly delivered into the mind of the receiver, it is more accurate to see the influence of narrative on receivers as depending on how the narrative resonates with their experience, their knowledge, and their ideological beliefs. Greta Thunberg's many powerful narratives are likely to resonate very differently with young people worried about their future compared with conservative climate sceptics. Where they do resonate, however, the effect can be galvanising or transformative.

6 Metanarratives

Although I have pinned down the way I am using "narrative" in the narrative ecology framework I am proposing, there is a very different sense of the term that is important to consider. In social and political commentary, *narrative* is often used in a general sense to mean worldview, common way of understanding, or taken-for-granted common sense. An example is the Wellbeing Economy Alliance, which states on its website "By changing the narrative, we can make a Wellbeing Economy common sense, the way the neoliberal economy is now" (WEA 2026). Here "the narrative" is something general along the lines of "economic growth is the goal of society".

A wide range of terms are used to express this broad sense of narrative: **story** (Loy 2010: 5), **big story** (Mead 2014: 27), **stories we live by** (Stibbe 2021: 1), **myths we live by** (Midgley 2011: 1), **paradigm** (Robertson 2014: 54), **root metaphor** (Martusewicz et al. 2011: 37), **refrain** (Berardi 2012: 131), **grand narrative** (*grand récit*) (Lyotard 1984: 37), and **metanarrative** (*métarécit*) (Lyotard 1984: 34).

Among the many examples of metanarratives that these authors describe are: economic growth is the key goal of society; profit is the goal of a corporation; wealth is a sign of success; humans are of central importance; humans are superior to nature; technological progress is beneficial; humans are separate from nature; science is the only valid source of knowledge; nature is a machine; nature is property; happiness comes from material accumulation; western modernity is the apex of human development; nature is a resource for exploitation; and capitalism is the natural order. In a similar vein, Machado de Oliveira (2025: 61) describes the **hallucinations** of modernity:

> Modernity, as a dominant paradigm, often masquerades as reality itself – its assumptions so deeply woven into our lives that they seem inevitable, even natural. Yet, beneath its veneer of certainty lies a system built on patterns of thought that distort our perception of life's entangled complexity […] These hallucinations are adaptive for maintaining modernity's logic but maladaptive for the flourishing of life. (Machado de Oliveira 2025: 61)

She describes ten of these hallucinations, which echo and expand on the work of the other theorists mentioned above. The ten hallucinations are: separation is real; progress is linear; nature is a resource; growth can be infinite; consumption equals happiness; individual success is a measure of worth; social mobility is the purpose of life; science and technology will save us; certainty and mastery are attainable; and reality is objective (Machado de Oliveira 2025: 61–68).

For reasons that will become clear shortly, I will use the term "metanarrative" to cover all of the terms described above. Following Lakoff's (1993) convention when describing conventional metaphors, I will write them using a short summary statement in small caps, e.g. INDIVIDUAL SUCCESS IS A MEASURE OF WORTH. Lakoff uses the term "mnemonic" to describe summary statements like this since they are not the metaphors or metanarratives themselves, which are more complex, but stand for them. For example, INDIVIDUAL SUCCESS IS A MEASURE OF WORTH refers to a metanarrative that includes aspects such as the way that success is defined in modernity – in terms of fame, productivity, wealth, and status rather than making a contribution to the flourishing of life.

The first thing to note is that the metanarratives described by these authors are of existential importance – they are habits of thought, worldviews, ideologies, patterns of understanding the world that are widespread and are the foundation of an unsustainable civilisation on a path towards collapse. The second thing to note is that at first they appear to be something completely different from narratives in the sense of sequences of logically connected events involving characters and locations. On the one hand we have a worldview like ECONOMIC GROWTH IS THE GOAL OF SOCIETY and on the other hand we have epic narratives like Homer's *Odyssey*.

There is one crucial dimension, however, which narratives and metanarratives share: that they are only one version of the world among infinite other possible versions. To call something a "story" or a "narrative" is to open up unexpected and unknown pathways to reimagining the world. This is of particular importance for a metanarrative such as ECONOMIC GROWTH IS THE GOAL OF SOCIETY. This metanarrative is a key contributor to ecological destruction, but, like other metanarratives, is often seen as transparently reflecting "just the way that things are". Coscieme et al. (2019: 1) use the term "the myths of mainstream economics" to destabilise economic metanarratives like this, showing that they are only one possible version, and then explaining why alternative metanarratives such as WELLBEING IS THE GOAL OF SOCIETY would be far more beneficial. As Mead (2014: 27) puts it "our view and experience of the world only change as we question the prevailing 'big stories' and imagine new possibilities".

Metanarratives and narratives (in the sense of logically connected events) are related to each other and interconnected in various ways. One way is that a metanarrative such as PROGRESS IS BENEFICIAL is a mnemonic for expressing something which has narrative depth. In this case, there is a story which begins with a primitive or

undeveloped society where life is hard, and then certain characters – scientists, entrepreneurs, inventors, and technologists – work hard to create new discoveries that bring an increasingly modern society into being, a society where life gets more and more comfortable and convenient over time.

Another way that metanarratives and narratives are related to each other is that repeated patterns of narratives can establish, entrench, or erode metanarratives. A documentary about a heroic inventor, say Thomas Edison or James Dyson, could entrench the PROGRESS IS BENEFICIAL metanarrative. The many children's stories that represent farms as small, friendly, family-run places where animals lead happy lives can help establish and entrench a metanarrative of ANIMAL FARMING IS A BENIGN PRACTICE. In an article "It's Time to Wean Ourselves off the Fairytale Version of Farming", Monbiot (2015) criticises the children's storybook *The Tale of City Sue* (Willis 2015), which was distributed for free by the Guardian newspaper inside a Saturday issue. The story begins with a bucolic family farm with red barn and happy animals, with a complication occurring as City Sue, who is used only to being confined indoors, arrives and initially struggles to adapt, until finally she realises the benefits of outdoor life in the lush grass of the farm. It is a prototypical narrative consisting of a sequence of logically connected events, characters, and locations which are described in enough detail through the words and images to vicariously experience the world through the eyes of the characters, with an initial harmony, a complication, and a resolution. It is powerful since it positions the child reader in the position of cows and evokes pleasant emotions of the enjoyment of life on a farm. The twist is that this is not an innocent children's story that happens to represent farms in an idealised way, it is an advertisement from the milk corporation Kerrygold intended (Monbiot claims) to disguise the ecological destruction and harm to animals caused by the increasing intensification of the dairy industry.

In narrative ecology terms, the narrative *The Tale of City Sue* (Willis 2015) plays a potential role in ecologically significant interactions of humans with other humans, other species, and the physical environment. The fact that it was distributed for free in the national Guardian newspaper means it reached approximately 175,000 readers across the United Kingdom using 2015 circulation figures (Jackson 2015). This resulted in potentially large numbers of storying events where children read or had the story read to them. The entailments of the narrative align with and potentially entrench the wider metanarrative that ANIMAL FARMING IS A BENIGN PRACTICE. This metanarrative potentially influences consumer behaviour, nudging consumers towards the purchase of ecologically destructive products that harm animals and the environment (Gillespie 2014a, 2014b; Üçtuğ 2019).

In the conclusion, I will explore why the word "potentially" occurs so often in the previous paragraph. For now I will note that metanarratives are of great importance for the future of life and so should very much be part of narrative ecology theory. The

choice of the term "metanarrative" rather than, say, "myth", is to show that they are factors within narrative ecology. However, I am careful not to conflate narratives and metanarratives, keeping the two conceptually distinct. The two are often conflated in general, non-academic discussions of "changing the narrative" and the danger of this is to miss the particular power that sequences of events with characters and locations play within cognition.

7 Implications for area and place

Klein (2014), in *This Changes Everything*, describes the trajectory of our unsustainable civilisation towards collapse. She writes, "There are ways of preventing this grim future or at least making it a lot less dire. But the catch is that these also involve changing everything […] how we live, how our economies function, even the stories we tell about our place on earth" (Klein 2014: 4). Dealing with the unfolding ecological crisis means rethinking "our place", both metaphorically and literally. And there is something else about place that goes beyond survival: as Relph (2008: 1) puts it, "To be human is to live in a world that is filled with significant places. To be human is to have and to know *your* place".

In this section I will apply a narrative ecology framework to the concepts of area, location, space, and place. Ecologists often study areas, ranging from a fingertip survey of a 1 m^2 quadrat to a watershed, a mangrove swamp, or the Arctic region as a whole. However, no matter how delimited the area is, by the frame of a quadrat, a fence, or lines on a map, it is influenced by the wider factors of the climate, biogeochemical cycles, and factors beyond the earth such as solar radiation and lunar tides. When we add in narratives then the same boundary crossing occurs. There are narratives local to the area which reflect and influence the local culture and environment, but they interact with broader narratives and metanarratives that circulate in society at large.

The meaning of the terms "area", "space", "location", and "place" are complex because they have various meanings in everyday use, and theorists in geography and other disciplines use them in more precise but still highly varied ways. In general, however, space, area, and location are more technical, abstract, and described in scientific ways. Space is area and volume, area is defined by a boundary, and location by coordinates. Place, however, includes another, more human, dimension. Cresswell (2004: 11) writes that "To think of an area of the world as a rich and complicated interplay of people and the environment – as a place – is to free us from thinking of it as facts and figures". He also states that places are "spaces which people have made meaningful. They are all spaces people are attached to in one way or another. This is the most straightforward and common definition of place – a meaningful location"

(Cresswell 2004: 7). In these quotations, Cresswell uses all three terms *area, space,* and *location* and defines place as any of these three with the addition of people, and, most importantly, with the addition of meaning.

This line of thinking originates with Tuan (1979: 387), who describes how studying spaces requires "an abstract and objective frame of thought, quantifiable data, and ideally the language of mathematics". On the other hand, place:

> has a history and meaning. Place incarnates the experiences and aspirations of a people. Place is not only a fact to be explained in the broader frame of space, but it is also a reality to be clarified and understood from the perspectives of the people who have given it meaning (Tuan 1979: 387)

Similarly, Agnew separates "location" – the coordinates of an area or material setting – from a "sense of place", which is the subjective emotional meaning people attach to that location (Agnew 2011). Ghosh (2016) gives a specific example of a place:

> I was recently sent a piece about a mangrove forest in Papua New Guinea. This was once a "place" in the deepest sense that it was linked to its inhabitants through a dense web of mutual sustenance and symbolism. (Ghosh 2016: 81)

Ghosh's characterisation of "place" here is more ecological than Cresswell's, Tuan's, or Agnew's. Here the relationship between people and place is an ecological one of reciprocity, with symbolism structuring thoughts and influencing behaviour in ways which ensure the area sustains the people in a physical sense, and the people look after the life-supporting ecosystems of the area in return. This aligns with the folklore studies concept of narrative ecology described above. There is an "area", which is the forest, but to the people it is a place. The folklore of the place arises with the active participation of the forest and also shapes the physical forest itself through foraging and efforts to protect it. There is therefore a mutual sustenance and symbolism occurring that is part of the narrative ecology.

If we consider place from a narrative ecology perspective, then the meaning and symbolism that differentiates "place" from "area" can be seen in terms of narrative, narrative being a primary organising structure for meaning. This makes a "place" *a storied area*, an area that is teeming with narratives circulating within it, flowing through it, and shaping it. Following Ghosh, we can say that an area is not just a bordered region or a material zone but is part of a living ecosystem that exists in mutual and reciprocal relationship with the people. Narrative plays a key role in what Cresswell (2004: 3) describes as the "complex integrations of nature and culture that have developed and are developing in particular locations, and which are linked by flows of people and goods to other places".

If we consider an area to be a geographical region with a clear physical border (a fence) or conceptual border (lines on a map) and a location (coordinates that define

where it is), then it is relatively fixed. Place, on the other hand, is partly physical but also cognitive, since it consists of narratives that are part of ecosystems that include humans, other species, and the physical environment. When people leave an area then they bring the place-defining narratives with them and can adapt and rebuild them within the new area that they find themselves in, as happens with the complex narrative ecology of displacement and diaspora.

The narrative ecology of a particular area, which could be a forest, a lake, a city, or one of many other types of conceptually bounded region, is a complex interplay between ecosystem, area, and narrative. As I have discussed, there is a dialectical relationship between narrative and area, where narratives are influenced and arise from and reflect the material reality of the area, e.g. the folklore of the forest, legends surrounding a particular tree or mountain. On the other hand, the narratives structure human conceptions of reality and influence behaviour, which shapes the material reality of the area. In other words, the narratives become physically encoded into the land.

Most areas on Earth now have some element of human design in combination with natural features – a patchwork of fields, a public garden with regimented rows of daffodils, a logging road dividing up an ancient rainforest, a hydroelectric dam deep in the Himalayas, and, most designed of all, a city. All of these areas can be read as texts, if we see texts as intentionally designed configurations of signs (verbal, visual, auditory, musical, spatial, or material) that convey meaning.

While humans are the authors of texts, beings from the more-than-human world can be co-authors. A landscape architect can design a row of trees along the side of a road, spaced at regular intervals, but the trees have their own agency in determining what they look like when fully grown. We can say that all building materials come from the more-than-human world originally – wood, sand, oil – and all exhibit agency by just being who they are and having the properties that they have, what Bennett (2010) calls "vibrant matter". In this sense, all physical texts are co-authored. A philosophical question is whether there are any texts beyond the human world entirely. In my conceptualisation, the answer is "no". Texts, discourses, narratives, and metanarratives are products of the human mind's simplification of the richness of the world in a struggle to make sense of unlimited complexity with limited cognition. What lies beyond human cognition is far greater than anything that can be captured with a limited word like "text", and deserves to be described in different, non-anthropomorphic terms.

Physical texts that we can see "on the ground", such as gardens or cities, were "written" in the sense that cognitive structures led to material changes and can be "read" through embodied engagement with them. The physical layout can convey stories about human relationships with other humans, other species, and the natural environment. I use the terms *forest as text, garden as text,* or *city as text* to describe

this way of reading areas and the human and more-than-human entanglements that constitute them.

In the case of the city, historical events are inscribed into the palimpsest of building design. Hierarchies of characters past and present are visible from the range of buildings they frequent – the cathedral, the grand town hall, the luxury villas, the tiny identical houses of the workers, the inadequate social housing, and the tents or cardboard boxes of the poorest. Injustice can be read from the location of environmental harms in the poorest areas – traffic, and factories pumping out pollution in the poorest areas. The natural world is also pressed into service of the hierarchies, with tree-lined streets and flower-filled parks in the richest of areas, and asphalt in the poorer ones.

At the same time, there is another city, which exists in the narratives that circulate in linguistic interactions, and structure the concept of the city in people's minds. This I call *text as city*. When we look at how the city is described in literature, in tourist information brochures, or in everyday conversation it can seem a subtly different place from the material reality on the ground. Perhaps the cathedral, grandness of the town and luxury villas are given a central place in the narrative, while social deprivation, traffic, pollution are erased. In *Critical Ecolinguistics Within Singapore, 'the Garden City'* (LeVasseur 2026), Todd LeVasseur and his students study the stories told about and by Singapore in relation to ecology, revealing how the stories construct a self-proclaimed sustainable "garden city" through words, i.e. text as city. They compare this with the material reality of the city and the stories which can be read from it (city as text), revealing both alignments and contradictions with the socially constructed city (text as city).

In narrative ecology, there are three aspects which are entirely intertwined and mutually arising, a) the narratives that are exchanged in words during human interactions, b) narratives encoded into the land and "read" through interaction with the land, c) the materiality of the land itself. Interventions to make a city more sustainable, or to regenerate a forest area, therefore need to be made partly at a physical level (material intervention), but also at the level of narrative, changing the narratives which structure the area in the public imagination and changing the narratives woven into the physicality of the area itself.

8 Conclusions

In this article, I have drawn from the literature on narrative ecology to describe how narratives can inform the identity of individuals, either anthropocentric identities or ecological identities depending on the narratives that they are exposed to and how those narratives resonate with them. Beyond the individual level, narratives

circulating in a society can shape the public imagination. Narrative texts can be internally heterogeneous, bringing together different ways of knowing. Human factors like the author's immediate social circle, the readings they draw from, and the voices they seek out and listen to can all affect the narratives they produce. More importantly, however, the more-than-human world can play an agentic role in the creation of narratives, with authors reading stories from the land and weaving them into the narratives they create. In some cases, authors can be seen as ecologists, engaging in participant observation within an ecosystem, observing both the physical factors and the stories of local inhabitants, and presenting their findings in the form of narrative. In general, the key aspect of narrative ecology is that there are not two separate things: ecosystems and narratives. Narratives are part of ecosystems because they are part of information flows that have ecologically significant consequences.

I'd like to step back for a moment to consider possible ways of conceptualising the situation we are facing at this point in history. There has been a concentrated focus on the threat of climate change, but there are other issues that are also pressing: biodiversity loss, chemical contamination, freshwater depletion, food system fragility, and the global inequalities that mean that "1.1 billion of 6.3 billion people live in acute multidimensional poverty" (UNDP 2024). And we can add to that the 23 billion land animals and 38+ billion fish who are suffering in confinement in intensive farms at any moment (Anthis and Anthis 2019). Any attempt to step back and conceptualise these systemic issues will be a simplification. Some commentators frame the "polycrisis" as a scientific issue, to be solved by empirical study and technological intervention. For others it is a political issue, to be solved through the dismantling of capitalism and its replacement with a more benign and less extractivist form of governance. Others see it as a social issue, to be addressed through a shift towards a less hierarchical society which stresses cooperation and mutuality rather than competition and personal gain. Some see it as a crisis of the soul, a disenchantment of the world that needs to be addressed through spiritual evolution and discovery of the sacredness of the earth. However, the entangled issues we face share underlying causes and exist within the intersection of multiple interlocked and interrelated systems: political, social, economic, legal, military, technological, biological, ecological, cultural, psychological, and spiritual systems.

In 2015, when I published the first edition of *Ecolinguistics: Language, Ecology and the Stories We Live By,* I used the term *story we live by* to bring together multiple ways of representing and responding to the polycrisis. The *stories we live by* are the metanarratives that underpin our current unequal and unsustainable industrial civilisation, including political, economic, environmental, and spiritual stories. This is "story" in a very general sense of "way of thinking about the world". For the second edition, in 2021, I added a chapter on narrative, in the sense of a sequence of logically

connected events involving characters and a location. This was a vital addition since, as mentioned above, "narrative cognition is thought to represent the default mode of human thought, providing structure to reality" (Dahlstrom 2014: 13615). My 2024 book, *Econarrative: Ethics, Ecology and the Search for New Narratives to Live By*, develops the concept of *econarrative*, to mean "a narrative that involves not only humans but also other species and the physical environment in interaction with each other" (Stibbe 2024: 7). In this work I search for inspirational new narratives to live by that can challenge the destructive metanarratives of industrial civilisation. Following this I realised the important place of the exchange of narratives – storying – within ecosystems and began using the term "narrative ecology".

Narrative ecology draws on the idea of "languaging", the exchange of words, but goes beyond this to *storying* because of the power of narrative to shape individual and social cognition. Using a verb form of the noun "story", in present participle, "storying" emphasises the importance of continual exchange – a narrative which is written down but not read or heard plays little part in the ecosystem, except through the physicality of the article that it is written on or the electricity and materials of the device it is stored on. Moving from econarrative to narrative ecology means recognising the dynamic exchange of stories as part of actual, literal ecosystems, rather than focusing solely on texts in isolation.

Earlier in this article I described how the narrative advertisement *The Tale of City Sue* (Willis 2015), "potentially" reached large numbers of children, and "potentially" influenced them by giving them a positive impression of an ecologically destructive product. To be able to remove the word "potentially" it would be necessary to go beyond linguistic or narratological analysis of *The Tale of City Sue* (Willis 2015) as a text in isolation, and conduct linguistic anthropological studies to examine the role of the text in the situated cultural practices of families (Duranti 1997). It would also be necessary to conduct reception studies on how the text influences the worldviews and actions of those who are exposed to them (Green 2021). The narrative ecology lens gives attention to the cultural and physical context in which the narratives are produced, the positionality of the producers of the narratives and how the narratives are disseminated and exchanged, in addition to internal narratological aspects. It lifts the gaze from texts themselves to the wider ecosystems that texts circulate within and form part of.

I have framed narrative ecology as a form of ecology, in opposition to ecolinguistics which is a form of linguistics. Let us imagine an ecologist taking water samples in a river in the United Kingdom and discovering that eutrophication has severely disturbed the riverine ecosystem. Algal blooms have depleted the oxygen levels in the river; fish have died and biodiversity collapsed. The ecologist seeks out the cause of the eutrophication and discovers it comes from sewage works upstream. This is where political factors play a role in the ecosystem because sewage works

across the United Kingdom are discharging vast amounts of effluent into rivers because they were privatised, and profits and borrowings are going to shareholders rather than infrastructure investment (Buse and Bayliss 2022). The privatisation occurred because of metanarratives such as STATE-OWNED CORPORATIONS ARE INEFFICIENT, COMPETITION DRIVES DOWN COSTS, THE STATE IS OVERSIZED, and so on, arising from a form of neoliberalism imposed originally by prime minister Margaret Thatcher (Buse and Bayliss 2022: 1). Once privatised, other metanarratives are influential such as THE GOAL OF A CORPORATION IS TO MAKE A PROFIT and NATURE IS A RESOURCE TO BE EXPLOITED. For rivers, this second one includes metanarratives such as RIVERS ARE INFRASTRUCTURE, RIVERS ARE WATER SUPPLY, and RIVERS ARE WASTE CONVEYORS. These metanarratives are continually reinforced through the public discourse of water companies, politicians, and even ecologists when they write of "ecosystem services".

Against the background of these dominant metanarratives of our unsustainable civilisation, there are narratives (actual narratives with characters, events, and locations) which challenge the metanarratives and tell a different story. For example, micronarratives in Kimmerer's (2024) *The Serviceberry: An Economy of Gifts and Abundance* use the author's community experiences such as picking wild strawberries to illustrate and promote economic systems based on reciprocity. Macfarlane's (2025) book *Is a River Alive?* uses scholarly reflection and personal narrative to make the case that rivers should not be thought of as resources for exploitation but as living entities with agency that should have their rights respected by the legal system. The book begins with classic narrative style as a sequence of events:

> Twelve thousand years ago, a river is born. In a hollow at the foot of a hill on which flints lie white as eyes, water rises for the first time from a crack in the chalk – and flows away. Rises and flows, rises and flows: for days, then years, then decades, then centuries, watched by a midsummer day-moon and a berry-red winter sun, watched in all weathers, watched by deer who stand six feet tall at the withers, watched by the sentries of hawk and fox, watched in sleet and hail, watched by aurochs eleven feet long from muzzle to tail. (Macfarlane 2025: 3)

The narrative has characters – the hawk, fox, aurochs, and, most importantly of all, the river, personified through the verb "born". It places the reader in a position where they are seeing the scene through the eyes of the characters with the repetition of the mental process "watch". There is the specificity that makes the scene imaginable – the colour of the sun, the colour of the flint (emphasised by simile), the seasons, the size of the animals. The narrative continues throughout history until (rather grandiosely), Macfarlane adds an extra character, himself: "And that August, at the height of the drought, a boy is born; he has very dark hair which soon turns flaxen" (Macfarlane 2025: 7). The narrative continues to recent times "One day late in the long dry, I walk up to the springs with my younger son, Will" (Macfarlane 2025: 10). Here there is a complication or degeneration, when father and son discover the

springs that feed the river are drying up. “Has the water died?” asks the son (Macfarlane 2025: 10). This is powerful writing which encourages the reader to construct rivers as beings that are alive, that are born and who can die, and sets up a narrative arc from one of these states to another.

Reimagining rivers as alive can contribute to their protection if they are then granted legal rights, something that has already been successful in cases like the Whanganui River in Aotearoa New Zealand where indigenous narratives were drawn on to make the case (Cribb et al. 2024). Legal protection, if successfully enforced, can prevent sewage from being dumped in rivers, avoid eutrophication, and have real physical results in restoring ecosystem function. This is why narratives can be seen as part of ecosystems.

Coming back to our hypothetical ecologist, what begins as an ecological study of nitrates, algae, oxygen levels, and biodiversity in a river ends up exploring the dominant metanarratives that are an underlying cause, and inspirational narratives that are opposing those metanarratives. All of these form the ecosystem. The riverine ecosystem is disturbed, but this is ultimately due to *a disturbed narrative ecology*, using Lind’s (2023) term.

An actual scientific ecologist, used to clearly observable qualities and measurable quantities, would likely baulk at the idea of narratological analysis to reveal the entailments of stories, anthropological analysis to reveal how people interact with texts, and reception studies to determine the influence on their behaviour. Tracing the webs of causality in human narrative systems is far more difficult than in isolated biological systems. But if the focus stays only on the physicality of the local river ecosystem, then this misses the wider systemic causes of biodiversity loss in the river and draws attention away from tackling the larger human systems that ultimately determine the fate of the river. What narrative ecology shows is that everything is interrelated, and a study of narrative ecology does not fit easily into the silos of contemporary academia. It will take everyone working together across disciplines to develop a systemic approach to the intertwining of human systems, narrative, animals, plants, forests, rivers, cities, biogeochemical cycles and the ecosystems that life depends on. Narrative ecology, I would propose, is one possible umbrella to conduct such transdisciplinary research.

My vision of researching narrative ecology is akin to medical science – the goal is not just to come to an academic understanding of pathology or the causes of ecological destruction, but to use analytic techniques to intervene and restore health or regenerate the ecosystems that all life depends on. Interventions include discovering and promoting existing narratives which oppose the dominant metanarratives of an unsustainable civilisation or providing stimulus for creative writers to produce inspirational new narratives to live by. I will finish with a quote from Macfarlane’s (2025) *Is a River Alive?* This quote creatively captures the interplay

between narrative and metanarrative, story and land, that is narrative ecology. Having described the impounding of water by dams across the world, Macfarlane (2025) writes:

> Meaning, as well as water, can be impounded: can still and settle behind dam walls of thought. The impounded meaning of "river" is now one of "service provider", an identity held in place by structures of the imagination as well as of the land. We have become increasingly waterproofed: conceptually sealed against subtle and various relations with rivers, even as they continue to irrigate our bodies, thoughts, songs and stories. Rivers run through people as surely as they run through places. (Macfarlane 2025: 20)

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