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***AGGREGATE  
FLOWS***



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## MUTANT TAXONOMIES

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The experience in Essex has been an inquiry into a complex territory composed by a wealth of layers of meaning. Observing and documenting the Colne estuary while walking around it, revealed a damp and flat landscape, flows of water that connect and complement each other, uncovering and covering up. What inhabits this landscape is a permanent watery and changing interface of *mud*.

Mud has agency insofar as it is an ever-present matter that defines the morphology and phenomenology of the landscape, as well as constituting historical memory—a material that conserves the past and is itself an object. Mud's status as the intermediary between organic and mineral matter is the effect of the accumulation and sedimentation of layers of time that connect us to remote geological periods and the presence and mixtures of

contemporary processes that impact on the land. In that sense, mud is the interface between humans, what they transform, and the ensuing records of those transformative impacts. It is a metaphor for time—always formless and in different consistencies—which contains fossils from the past, preserving them. Mud is itself an organic matter that was once alive and whose current compressed form is oriented to the future. As a container of imprints of natural and industrial processes, as well as ensuing de-industrialisation, it mixes with history and phases of “development,” such as the trading circuits established during industrialisation when mud was used to make bricks, which were then transported by barge to cities, then returned loaded with horse manure from urban centres used to fire kilns in which those same bricks were baked. This cyclical circulation produces a sort of metabolic, mutant landscape, because the impact of extraction changes the lie of the land in the extractive periphery and in the city where that matter is reinstated. This metabolic linkage resembles an organism/landscape that pulsates and circulates, evoking the traces those pulsations leave in the layers of time. In that sense, mud is the matter that preserves and traps elements in time, containing them in permanent movement and recording different

forms, consistencies and agents in the land in organic, disordered forms: it invites the delirium of revealing possible fossils of the present. The modern architecture that contains sediments that were once trapped in mud is a confluence between past and present. The primary materials used to raise contemporary architecture could be the fossil's call to return to the surface.

Essex has a rich history of traditional painting through the figure of John Constable, who depicted local landscapes in many of his works, revealing in the process the domestication of nature in his representation of farming and riverine activities. Constable, like JMW Turner, is significant because both elevated the landscape genre from its subordination to historical painting, establishing it as an autonomous genre in the arts. In that regard, two centuries later we view images like *Wivenhoe Park* (1816) and *The Hay Wain* (1821) picturesque and pastoral scenes, an almost bucolic depiction of nature. However, the area *The Hay Wain* represents was, when Constable made it, an industrial hub of mills owned by the artist's father that stored, processed and distributed corn. Over the past two hundred years, representations of domesticated nature have become “official” visual narratives.

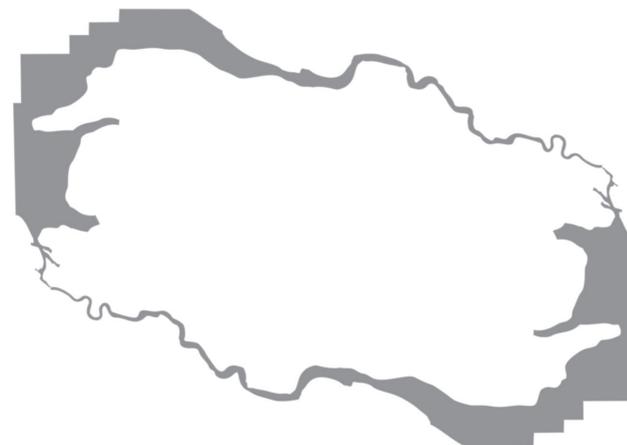
Constable incorporates a new layer of meaning in the perception of the land in this region, where distinctions between productive nature (profit) and contemplative nature (beauty) seem to blur. In this blurring, it is as if the visual modes of conceiving domesticated nature as an auratic, idealised landscape served as a vehicle to spread capitalism from the centre (British Empire) to its productive peripheries (colonies or countries with British investment in extractive industries).

The history of art offers one route to understanding that economic model through its representations and the way that economic model operates, accumulating sediment in the meanings of landscape. In fact, historically this mode of production was embraced by the elite groups that governed the Americas and took shape throughout the nineteenth century in each of the recently founded independent nations. The *artistic* model thus becomes the *natural* model: two natures in one, a Janus-faced being. On one side is the post-industrial nature of geopolitical centres, which seek an illusory recovery of "pristine" nature of landscapes transformed by development. On the other side is a nature which the model of industrialisation in geopolitical peripheries is still in the process of

rendering productive and domesticated. Those contexts problematize the uptake of the rationalisation of nature as resource. Moreover, the pictorial tradition of representing, whether critically or not, industrial processes in such contexts remains embryonic.

In this regard, it is curious to see in local birdwatching a profound engagement with the landscape realised through calm and constant observation of the birds that live in it. Birds can become metonyms of the landscape, referencing the different issues that affect it. On one hand, the swan educes the post-industrial aestheticisation of the landscape, which was already present in Constable's paintings. On the other, the guanay, a nitrate-producing bird that evokes extractive landscapes in peripheral geographies, references extractive industries that have shaped the modernisation of countries like Peru and Chile. Both notions and representations of functional nature remain in permanent tension and accumulation, mixing together and shifting around in contemporary narratives as if they were tides and mud.

The project *Aggregate flows* proposes a mutant taxonomy, a heterotopic archive of different layers and sediments of meaning, memory and matter, contained in the Colne estuary. Just like the mud that defines the estuary, this archive's consistency is subject to the temporalities of its environment, to the endlessly accumulating events that keep the landscape, its materiality, and interpretations of it in constant movement.





## AGGREGATING GEOSTORIES ON THE RIVER COLNE

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The final word on the history of nature is that *nature is history*. Timothy Morton, *Ecology Without Nature*.

The prefix 'geo' in geostory does not stand for a return to nature, but for the return of object and subject back to the *ground*—the 'metamorphic zone.' Bruno Latour, "Agency at the Time of the Anthropocene."

The strata of the Earth is a jumbled museum. Embedded in the sediment is a text that contains limits and boundaries which evade the rational order, and social structures that confine art. Robert Smithson, "A Sedimentation of the Mind: Earth Projects."

Industrialisation marked a change in the Earth's metronome, and with it the tempo of the biosphere. In writing on the Anthropocene, this shift is often figured as a "great acceleration" stemming from the sharp rise in fossil fuel combustion that powered the industrial revolutions that began in the mid-eighteenth century and rose again from the mid-twentieth century amid fast-paced urbanisation. With industrialisation, humans began transforming the Earth's metabolism to a degree equivalent to a geological force, such that the impacts of these activities "will lead modern civilization to appear as a 'trace fossil' of the present age."<sup>1</sup> Sudden ruptures in the biosphere lay bare the vivid scale of anthropogenic transformation of the Earth system, revealing the interconnectivity of bodies and matter. But it is not only abrupt landscape shifts that expose such ecological entanglements. Creeping changes such as desertification and ruination mark other tempos more quotidian in their unfolding, whose effects and affects are less dramatic. Slow changes in less visible landscapes call for narrative and aesthetic forms that move beyond spectacular imaginaries as they conjure flows of matter and shifts in tempo.

Geostories unfold as matter is deposited, extracted, and shifted around. On the River Colne, these

material flows are visible in the landscape. Glacial drift laid down by vast rivers that ran across Essex 500,000 years ago left stratigraphic records of sand and gravel sunk under and among layers of silty soil and dense clay that form the region's geology. Much later, nineteenth and twentieth century industrialisation and urbanisation dug back into this past. Extraction of glacial matter brought the deep past back into the present. On the banks of the river, people baked mud into bricks used in construction, and shovelled sand onto ships to ballast them. Later, machines were brought in to excavate sand and shingle, sifting and sorting it into aggregates in processes that create new silt pond landscapes on rural riverbanks as they insert extracted matter into the circuitry of global economies and the architecture of urban modernity. Today, the Colne remains in flux amid the de-industrialisation that saw the closure of shipbuilding yards, ports and the cessation of extraction on its southern banks, where JJ Prior, the last commercial aggregates and river

[1] Ashkan Sepahvand, Christoph Rosol, Katrin Klingan, "MUD: All Worlds, All Times!," *Textures of the Anthropocene: Grain Vapor Ray. Manual* (Berlin and Cambridge MA.: Haus der Kulturen der Welt/MIT Press, 2013), 14.

transport company on the river, is shipping down to its last remaining quay in Greenwich the final tonnes of sand it extracted from Fingringhoe in 2015. The gradual depletion of these remaining piles of aggregates are part of a “metamorphic zone” where glacial past, de-industrialised present and post-industrial future converge.<sup>2</sup> This zone is the product of non-human and human forces: a jumbled museum of stratigraphic records, landscape morphologies and aesthetic forms produced by ever-changing processes of metabolism and reflux that do not correspond to stable taxonomies, forms or representations but mix *here* with *there*, *then* with *now*.

The rural landscape of Essex feeds the metropolis with ingredients for concrete. Separated from silt then transported by barge to London, sand grains swim again in viscous matter, moulded into shapes, wrapped around steel bars, and set in place as liquid stone. After extraction they go to ground again. Back on the Colne, the “negative deposits”— holes left by extraction— in post-extractive landscapes are restored to remove the traces of intervention. Local communities call for extractive sites to be remade as undulating landscapes not grounds levelled by machinery.<sup>3</sup> And so, landscape architects fill in swathes of terrain to emulate a “natural”, pre-extractive state.

As industry re-stages nature as simulacrum, it keeps alive a picturesque tradition of rolling lands that are easy on the eye. Only “dire necessity” would call for “some polish’d scene [...of] The lawn so level, and the bank so trim ... Should *Art appear*, / That art were *Affectation*,” writes William Gilpin, a theorist of the picturesque, in his poem “On Landscape Painting” (1794).<sup>4</sup> Nature, in other words, should appear to be unstaged, unmediated by human intervention, even as it is carefully composed into pictorial form. This feedback loop between pictorial convention and real landscape is expounded by Uvedale Price, whose 1794 essay on the picturesque has the telling sub-title “on the Use of Studying Pictures, for the Purpose of Improving the Real Landscape.” Extraction, he writes, causes “deformity in ground” that is “strikingly and unnaturally

[2] Bruno Latour, “Agency at the Time of the Anthropocene,” *New Literary History* 45 (2014): 1–18; 15.

[3] Information about landscape restoration was provided by John Dix, General Manager at JJ Prior. Personal interview, 26 November 2018.

[4] William Gilpin, “On Landscape Painting: A Poem,” *Three Essays: On Picturesque Beauty; On Picturesque Travel; and on Sketching Landscape: To Which is Added a Poem, on Landscape Painting* (London: R. Blamire, 1792), 5.

disagreeable,” such that it is necessary “to dress and adorn” it to ensure aesthetic pleasure:

When a rawness of such a gash in the ground is softened, and in part concealed and ornamented by the effects of time, and the progress of vegetation, deformity, by this usual process, is converted into picturesqueness; and this is the case with quarries, gravel pits, etc., which at first are deformities, and which in their most picturesque state, are often considered as such by a *levelling improver*.<sup>5</sup>

But matter and memory disturb this agenda of improving the land by levelling traces of extraction. Traces in the landscape that index other spaces and times when nature was anything but untouched serve as reminders of human alteration of the land and their political and economic imbroglios. At the Fingringhoe Wick Nature Reserve, a 50-acre former extraction site on the Colne run by Freshwater Sand and Ballast Co. from 1928, different “negative deposits” have resisted erasure and disturb any ideal of pristine nature or wilderness. If it is the “muddy, unconsolidated mixture of man-made and natural materials that best captures ... our being-in-the-word as an industrial creature, a creature that has incessantly waged war against nature” and humankind, then the Wick

exemplifies this.<sup>6</sup> Its topography includes remains of gun emplacements and rectangular rifle pits left by the army’s use of the gravel pits as simulacra for combat scenarios during World War II. After the war, aggregates from the Colne served another end. From 1951 to 1959, 250,000 cubic yards of gravel shipped south to the Isle of Grain on the Thames Estuary helped build a BP oil refinery.<sup>7</sup> The refinery later drove another fossil fuel facility, the adjacent oil-fired Grain Power Station—the largest of its kind in Europe at the time of its 1970s construction. When it acquired the site in 1959, the Essex Wildlife Trust made attempts to restore to “nature” this “corrugated landscape of humps, bumps, trenches, gullies and holes” by ripping out its metal infrastructure and bringing in the Navy to detonate its concrete bunkers and

[5] Uvedale Price, *An Essay on the Picturesque as Compared with the Sublime and the Beautiful; and on the Use of Studying Pictures, for the Purpose of Improving the Real Landscape* (London: J. Robson, 1794), 168–169.

[6] Sepahvand, Rosol and Klingan, “MUD: All Worlds, All Times,!” 24.

[7] Laurie Forsyth, *Island of Wildlife: The Story of Fingringhoe Wick – A Gravel Pit Nature Reserve* (Colchester: Essex Wildlife Trust, 2005), 17. The refinery was commissioned by Anglo-Iranian, almost immediately rebranded as British Petroleum or BP. It closed in 1982.

jetty.<sup>8</sup> Matter resisted, leaving concrete ruins behind, aggregating trace fossils to a post-natural landscape shaped by extraction, war and fossil fuel combustion. Rather than ignore these ruins, information boards at the nature reserve identify the concrete bunkers and jetty, providing visitors with a history of extraction that acknowledges the human and non-human agencies that have shaped the landscape.

This phenomenon speaks to the Anthropocene claim that the idea that nature is unstaged or unmediated by human intervention is untenable. Future stratigraphy will necessarily focus on human impact on the land, as chicken bones become the key trace fossil of modernity and concrete “the most abundant anthropogenic sedimentary rock on the planet” that will endure in a robust form over millennia.<sup>9</sup> Alongside new strata, in the geology of the future the “negative deposits” left by extractive industries, boreholes and underground architecture, will also be palaeontological imprints of civilisation.<sup>10</sup> Human intervention into the Earth’s metabolism has generated jumbled assemblages of matter that exceed neat taxonomic divisions. Their mingling gives material form to the feedback loops and in-distinctions between the human and the natural, between industry and wilderness, which unpin the grounds of “place” as a stable

local configuration unaffected by remote processes of conflict and economy. In this context, the desire to erase traces of industrialisation to “restore” nature to some original state is an illusory one. “There was no *there* there that was no already aware of *another there*,” as Timothy Morton puts it in *Ecology Without Nature: Rethinking Environmental Aesthetics*.<sup>11</sup> Place and the landscape are already commingled with history, otherness, elsewhere.

[8] Forsyth, *Island of Wildlife*, 15.

[9] Damian Carrington, “How the Domestic Chicken Rose to Define the Anthropocene,” *The Guardian*, 31 August 2016. Colin Waters and Jan Zalasiewicz, “Concrete: The Most Abundant Novel Rock Type of the Anthropocene,” *Encyclopedia of the Anthropocene*, vol. 1 (London: Elsevier, 2018), 75–85.

[10] Jan Zalasiewicz, Colin Waters, Mark Williams, David Aldridge, Ian Wilkinson, *The Geology of England, Proceedings of the Geologists’ Association* 129, no. 2 (2018): 482–491; Mark Williams, Jan Zalasiewicz, Colin Waters, Stephen Himson, Colin Summerhayes, Anthony Barnosky and Reinhold Leinfelder, “The Palaeontological Record of the Anthropocene,” *Geology Today* 34, no. 5 (2018): 188–193.

[11] Timothy Morton, *Ecology Without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA.: Harvard University Press, 2007), 200.

The artist Robert Smithson speculated as to the malaise induced by industrial decay, writing that “in the technological mind rust evokes a fear of disuse, inactivity, entropy, and ruin. ... The breakup or fragmentation of matter makes one aware of the sub-strata of the Earth before it is overly refined by industry....”<sup>12</sup> Land Art eschewed the picturesque tradition in favour of a non-representational mode of engaging with the landscape, but picturesque aesthetics regain relevance amid questions of how we might apprehend a post-natural landscape that does not erase traces of industrialisation to restore an illusory sense of place.

This is the case only if we recognise that the apparently “natural landscape” attributed to iconic picturesque scenes like John Constable’s *The Hay Wain* (1821) was always already industrial and anthropogenic: a “taskscape” of humans and non-human actants moving matter around in economic and ecological flows.<sup>13</sup> Despite the associations of the term “flow,” the processes it entails—particularly in extractive settings—are by no means smooth, but involve labouring bodies (including that of the artist working *en plein air*), pummelled materials, waste matter, and changing economies. Gilpin’s assertion that roughness, not “ideas of *neat* and *smooth*” must underpin the picturesque suggests that

this aesthetic mode might still have something to offer, even if as a residual, fragmentary ingredient that returns spectrally as a reflux in contemporary scenes.<sup>14</sup> If texture is intrinsic to the picturesque landscape, then its contemporary forms in the (post) extractive present would resist petrifying the economic and ecological flows that shape the land, and instead conjure them as part of shifting scenes. An ecological picturesque rising like a mud, aggregating gashes in the land, metabolising aesthetic traditions, regurgitating organic and mineral matter. Landscape as flow and reflux.

As aggregates extraction winds down on the Colne, questions emerge around the future of the landscape’s physical and aesthetic forms. Geology and industry are always interconnected through extraction and it is in that mingling that Michel Serres’ call to rethink the Earth’s flux through

[12] Robert Smithson, “A Sedimentation of the Mind: Earth Projects,” *Robert Smithson: The Collected Writings*, ed. by Jack Flamm (Berkeley: University of California Press, 1996), 106.

[13] Tim Ingold, “The Temporality of the Landscape,” *World Archaeology* 25, no. 2 (1993): 152–174.

[14] Gilpin, “On Picturesque Beauty,” 8.

industrial obsolescence has particular bearing. "I invite you to visit the places where the history of technology is read the best: ship graveyards, railroad yards, downgraded cranes," he writes. "Let's pass from these iron scraps, hard as dirt, to streaming liquids, water. ... the hardest mountains flatten, grain by grain, under the soft force of the drops."<sup>15</sup>

*Aggregate Flows* is a research collaboration that responds to that call through an exploration of de-industrialising river spaces and their mutating ecologies. This work in process is an opening to experiencing the organic processes of decay affecting extractive infrastructure as it becomes obsolete and attuning to the geostories that sand, gravel and mud might tell. What are the afterlives of post-extractive landscapes? What does the desire to restore them to "nature" say about the affects attached to the picturesque tradition? How does the river's rising mud remake the landscape as a fluid ecology without nature? What aesthetic forms might render landscapes in flux?

The Colne's ecology aggregates centre and periphery, past and present, nature and culture, subject and object in its flows. There, the many meanings of "aggregate" open a space for thinking about the landscape not as a fixed form,

but as bodies and matter in flux. "Aggregate" is a shape-shifting word. It names unstable structures formed of masses of fragments where granular textures are at once disparate tatters and smooth concrete. It describes a modern industry that digs deep into the geological past, sifting through ancient residues and creating new landscapes and topographies, spanning residual silt ponds and modern constructions. As it designates the action of gathering and clustering, it signals a method and epistemology of probing flows of matter, times, agencies and forms in the landscape. And, as a mode of display and curatorial process, this same action of gathering points to a re-staging of layers of meaning that deposits matter, image, and text, while courting omission, serendipity and archival aberration. Aggregating layers that mix diverse space-times and agencies shares in the idea that the imaginary of geology too is a contrived construction traversed by strata of speculation and fiction— "a kind of *thought-experiment* in which a tract of country is imagined as it would appear if it were sliced vertically along some particular travers of the topography."<sup>16</sup>

[15] Michel Serres, *Biogea* (Minneapolis: University of Minnesota Press, 2010), 190.

Flows of aggregates, aggregated flows: these are the un-makings of a conception of the landscape as a fixed form that holds nature and culture as discrete categories. "Thinking, when it becomes ideological," writes Timothy Morton in *Ecology Without Nature: Rethinking Environmental Aesthetics*, "tends to fixate on concepts rather than doing what is 'natural' to thought, namely, dissolving whatever has taken form. Ecological thinking that was not fixated, that did not stop at a particular concretization of its object, would thus be 'without nature.'"<sup>17</sup>

Something similar can be said of research methodologies when they solidify into silos that do not allow for fluidity and mixture. This makes transdisciplinary collaborations fertile grounds for entering the muddy zones of ecological thinking where thinking can slow down and the senses re-engaged. Here, collaborative practice research as a mode of theoretical reflection invested "anomalies, paradoxes, and conundrums in an otherwise smooth-looking stream of ideas" and not in the production of conclusive texts or finished artworks.<sup>18</sup>

In these processes where cognitive, material and aesthetic forms become muddled, embodied practice offers a means of *spacing out* in different ways. Spacing out signals a mode of

distracted sensorial attunement to the environment, a critical absorption that assumes "involvement in the world is a negation process, a dissolving" where the "synaesthetic mixture of 'half-conscious' hearing and soft gazing and 'careless' physical absorption" opens up a perceptual dimension that is embodied, critical, and aesthetic all at once.<sup>19</sup> This sensorial immersion in the environment erodes the idea that we are separate from it, allowing meaning to emerge through haptic and optic routes. Walking enables the *spacing out* of ideas as practice research—a making and thinking articulated in motion, leaving room for detours and chance occurrences that unstick routine and confound expectation. In somatic encounters with the physical world, the body plays a central, active role in *making sense* through the senses. This does not equate to a loss of rigour but an expansion of process and method, whereby "intuition initiates and

[16] Martin Rudwick, "The Emergence of a Visual Language for Geological Science 1760–1840," *History of Science* 14, no. 3 (1976): 149–195, 164. Emphasis added.

[17] Morton, *Ecology Without Nature*, 24.

[18] Morton, *Ecology Without Nature*, 12.

[19] Morton, *Ecology Without Nature*, 163.

commands, abstraction follows it, and finally proof sorts things out and sets them down, in its pedestrian way, as it can."<sup>20</sup> The experience of thinking in the open, in motion, materialises process. This is important for ecological thinking that does not see nature as object, since it entails the distinction that "life is not *in* things, things are *in* life, caught up in a current of continual generation."<sup>21</sup>

As the sands of industrial time funnel out of the rusting infrastructure that stores them on the banks of the Colne, they mark the ending of the river's use as a resource for aggregates extraction. As this sand drains, mud rises. Each tide brings in suspension silt that is deposited on the river banks and bed, spreading the river wider. As the amorphous matter that remakes the de-industrialising river, "mud is an un-form, which informs."<sup>22</sup> Sticky, cloying, clayey. With the Colne's tides, mud flows in and out in turbulent vortices, producing temporal confluences that are textures of the present.

Since the end of dredging, the river has returned as landscape architect and archivist: a force that dis-places, making here reappear there, bringing ancient sediments into contemporary flows and mixing them with rotting barges, disused jetties,

leisure boats, plastic bottles, shopping trolleys... Amid aggregate flows and tidal movements, the Colne's landscape eddies in material (re)fluxes, "where a certain *after* flows back and again becomes the *before*; where the *outside* enters and becomes the *in* that, in turn, and partially, goes out... So, through and across the fleeing flow, I can, a little, hold in my hand the time of now...."<sup>23</sup> Mud slips through fingers, and it sticks to skin.

[20] Michel Serres and Bruno Latour, *Conversations on Science, Culture, and Time* (Ann Arbor: University of Michigan Press, 1995), 68.

[21] Tim Ingold, "Earth, sky, wind, and weather," *Journal of the Royal Anthropological Institute* 13, no. 1 (2007): 19–38, 31.

[22] Sepahvand, Rosol, Klingan, "MUD: All Worlds, All Times!," 29.

[23] Serres, *Biogea*, 184.



## STORY LAND AND EARTH LAND

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### **The Agency of Nature**

Alienation from nature has contributed to environmental problems in today's world. Until fairly recently in human history, our daily lives have been intertwined with living things. Now we are increasingly suffering from an extinction of experience. David Suzuki says, "we must find a new story," and Thomas Berry writes "we are in between stories. The old story, the account of how we fit into it, is no longer effective." Observation today can bring much needed respect, and if we are lucky, we will find that animals, birds and places intercept us in our wanderings, helping to bring forth distinctive and personal stories of the land.

This story and knowledge creation from local circumstances has been called ecological literacy. Some have called this traditional knowledge, but this remains problematic—many moderns

suspect it implies a backward step, knowledge that is only superstition. Traditional, though, is best thought of as not a particular body of knowledge, but the process of coming to knowing. Our lives involve the continuous writing and rewriting of own stories, by adjusting behaviour and by being shaped by local natures, and so our knowledges must be undergoing continuous revisions. Ecological or land literacy is not just what we know, but how we respond, how we let the natural world shape us and our cultures.

An acquisition process like this inevitably leads to greater diversity of cultures, languages and stories about land and nature because close observation of one set of local circumstances leads to divergence from those responding to another set of conditions. This is a critical element of knowledge for sustainability – its local legitimacy, its creation and recreation, its adaptiveness, and its embeddedness in social processes. This knowledge ties people to the land, and to one another. So when landscape is lost, it is not just a habitat or feature. It is the meaning for some people's lives. Such knowledges are often embedded in cultural and religious systems, giving them strong legitimacy. This knowledge takes time to build, though it can be rapidly lost. Writing

of American geographies, author Barry Lopez says, "to come to a specific understanding ... requires not only time but a kind of local expertise, an intimacy with a place few of us ever develop. There is no way round the former requirement: if you want to know you must take the time. It is not in books."

Such expertise remains a central part of the lives of the world's indigenous people. For 300,000 generations, hunter-gatherers with predominantly oral cultures survived natural selection despite the greater brawn and speed of other predators. Our large brains gave us great advantage, and our transmission of knowledge and capacity to learn new things helped us to survive. Remnants of these contexts remain amongst the six hundred or so hunter-gatherer peoples spread across the world, living today mostly in landscapes on the edges of agricultural heartlands. In these predominantly oral cultures, the values of stories and relations with the land are important.

These tell us something about what ecological literacy really is. It is not just knowing the names of things and their functional uses (or values), but placing ourselves as humans as an intimate part of an animate, information-rich, observant and talkative world. They do not see the world as inanimate, with

natural resources to be exploited, gathered, shot and eaten. These things are done, but only in certain ways, and the world is respected and treated with care. Indigenous people believe that if they cause harm to nature, then they will themselves come to harm, whether it is speaking without respect of certain animals, or whether it is over-fishing a lake or hunting out a certain type of animal. This is something that the industrialised world seems to have lost, and perhaps needs to remember. We have come to believe that harm to the world is inconsequential, or at the very least if something is lost then it can be replaced. We no longer think the consequences will come back to haunt us. When we stop listening and watching with care, our literacy about the world declines, and the landscapes no longer speak to us.

For the Western Apache, says Keith Basso, wisdom sits in places, and landscapes are never culturally vacant. Animals, places and whole landscapes have meanings, sometimes sobering, sometimes uplifting, but always with a moral dimension. Ecological literacy is not just about knowing, it is about knowing what to do, and when to do the right thing. Places and things “acquire the stamp of human events”, or memorable times, and people wrap these into stories that can be myths,

historical tales, sagas or just gossip. Every story begins and ends with the phrase, “it happened at...,” and this anchoring of narrative to places means mention of a place evokes a particular story, which in turn carries a moral standard, and implication for certain types of social relations. Some Apache dialogues comprise only of a sequence of place names. After one such interaction, an elderly woman explained, “we gave that woman a picture to work on in her mind. We didn’t speak too much to her. We didn’t hold her down.”

Basso concludes that of cultures living close to the land that there is an assumed courtesy in not speaking too much, in not demanding that the listener sees the world as the narrator wishes. Too many words can smother the audience, and thus an effective story-teller seems to open up thinking, letting people travel in their minds to natural places. Stories are also never definitive, varying over time and are regularly changed in detail.

The Apache have a particular kind of arrow stories, designed to have consequences on behaviours. They are fired like arrows, and contain morals that are intended to guide people over long periods of time. One old woman says, “the land is always stalking people.” “Stories make us live right,”

said another man. For the Apache, places look after people, and so themselves must be treated with respect. The names of places do not lie, but if younger generations do not know the places or the stories, then the names will no longer evoke respect and understanding.

### **Progress and Land**

The notion of the inevitable benefits of all material progress is a modern invention. Hunters and foragers, many farmers and herders too, tend not to hold that their current community is any better than those of the past or at other places. Past and future are no more or less valued than current time. But economic development too easily justifies the losses of both species and special places, as we expect losses to be offset by creating something much better. Our environmental problems are thus human problems. Disconnection from the land, in the form of non-regular contact, already has the capacity to damage and even destroy cultures. Yet many talk of the need for escape, to get away from it all.

Something important remains elusive to many moderns. It is much happiness. We do not have clear answers, but the proportion of people in industrialised countries describing themselves as happy has not changed since the 1950s,

despite a trebling of wealth. At the same time, the incidence of mental ill-health has grown rapidly. We solved, largely, infectious diseases; then came cancers. Our lives were extended and treatments improved; then came obesity, and problems of cardiovascular disease and diabetes. The reasons are largely simple: bad lifestyles, wrong foods, too little physical activity.

Yet reason and evidence have not compelled us to care enough for nature. A good future will not be a return to something solely rooted in the past: we need medical, farm and transport technology, certainly computers and modern communications. But a hybrid vigour might be created through *both-and* Zen practices rather than *either-or*. A new green economy in which material goods have not harmed the planet would be a good economy: even better if production processes could improve natural capital. The great majority of non-industrial cultures which maintain links to the land have done so through local cultural institutions, often manifesting in nature a variety of spiritual symbols and stories that command respect. If we wish to convince people to manage the planet sustainably and consume in different ways, then we will have to embed twenty-first century lifeways in a new texture of beliefs, emotions and

experience. We will need moral teachings and wisdom about the environment and our duties as individuals. Through a different kind of consciousness of the world, perhaps our impact can be changed.

In such a barbarian green economy there would be regular engagements with nature, whether in gardens or wild places, city parks or fields, many people doing things together in rituals that make these behaviours valued and worth repeating, people giving to others and making intergenerational links, and communities investing time in activities that build contentment and well-being. We may need to break the current rules, bring the wilds inside the city walls, introduce new behaviours, create different aspirations.

There is some journeying to be done. Paths to be explored, and new ones made. Each year, the pine leans a little further. After night, the dawn comes. There is mud, but the birds are singing. The waves come and go, but the ocean is still there.

**Dreaming of the Day After**  
It happened this way.

Sun rises. It was cooler. There were many people, but they seemed happier. Afraid it could all fall apart, but hoping it might not. There was

history to make, paths to walk. The barbarians had come, welcomed inside the city walls. Inventors had decarbonised economies, allowing consumers to buy goods and services that only improved nature and the planet.

Black gold was long finished. It had been a century and a half of miraculously cheap energy that was easy to transport. It had blackened the sky, expanded oceans, melted ice. But there were solutions, turning to light, wave, wind and plant for energy, packing it up, transferring it, which now all drove the environment-economy.

No one talked of the economy any more. People called it the environment. Growth in gross domestic product meant people had on average more, but so did the planet. There had been a grand rapprochement between science and spiritual traditions, whether formal institutions or indigenous. Instead of distrust, there had grown an appreciation of similar aims regarding human and planetary well-being. Diversity of cultures and beliefs had come to be valued; everyone was right, everyone was wrong.

None of this had meant the end to pain. Or of disagreement. Each place was the centre of its world, the best there could be. Communication had

become immanent. It built linkages and relationships, encouraged more gatherings and rituals in the physical world as well as in the virtual. Someone realised that giving made people happier than taking. Time spent helping others, people, animals, the planet, became a valued currency, and no longer a distraction from consuming. Thoreau long ago argued that wealth should be calculated not by how much we own but by how much free time we have.

As a result, people had come to value things that used to have no monetary value. Being in nature was known to benefit mental health, so was encouraged. Growing food and flowers was satisfying for children and adults. Walks in the country or visits to the beach were no longer seen as escapes from another busy stressful life. They were life itself.

People paused. And stopped. Took ten breaths. Looked around, noting changes from day to day, hour to hour.

Mind met land.

Each day: sun rose, and then sun set. Dreams arrived, then receded. And so it ends.

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