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BEAR ENVIRONMENT

THE MAGAZINE OF THE SOCIETY OF ENVIRONMENTAL AUTHORS & JOURNALISTS

Cover image: The old Celtic oak forest of Ceunant Llennyrch, Wales

CONTENTS

P1	Editorial and Society News
P3	Report on the UK's National Emergency Briefing
P4	Helen Hagon gains inspiration from the Trent Aegir
P8	Richard Villar on a changing landscape
P11	Dr Jonathan Frost has a simple solution for flooding
P13	Steve Shelley bids farewell to the sun
P14	Robbie Cheadle just loves the Ground Hornbill
P16	Robert Tansey talks bears
P18	Laurie Marker reports from the Namibian savanna
P21	Babette Gallard finds restoration a bit unsettling
P24	Robert Tansey takes us to Walsingham
P27	Steve Shelley goes in search of old oak forests
P29	Geoff Lepard finds positivity in butterflies
P30	Lauren Lustig tries to love ticks
P33	Elizabeth Kelch discusses psychology and climate change
P37	Jonathan and Angela Scott share their love of birds <i>(Reprinted courtesy SWARA Magazine, Kenya)</i>
P42	Jan Spencer's route towards a paradigm shift
P46	Paul Vivian finds a 're-estranging' relationship with old stones
P49	Karin Westdyk offers a solution to the problem with plastics

Editorial

Welcome to our latest edition of 'Bear Environment' coming out at the end of the hottest British summer for years. Well for the sceptics of global warming, if there are any left, apart from a few political fanatics, what's next? We can but wonder. We have had so many warnings and have let them go by almost unheeded: floods, droughts collapsing river systems, mass movement of peoples from continent to continent, Arctic regions melting and displacing their inhabitants. Racial hatred building up to unacceptable levels. People at war for unacceptable reasons, tensions rising everywhere. Is this normal or not, sadly it seems not! Mankind (humanity) has caused natural activity to accelerate its speed. We can't change nature, but we can slow down the speed at which it moves or changes.

We (mankind or womankind) have major responsibilities towards our planet, it's for us to dictate which way we go, forwards or backwards. Or do we let nature take its course? We can either step aside and let things flow as normal (be it at an accelerated speed), or try to alter the course of events by changing our actions and not destroying our planet. Or tinker around the edges, to pretend we are changing course when we're not.

In reality we have to accept that those huge conglomerations of big business and money-making industries have the upper hand, and that we are very small fry indeed. You can get an idea of how serious it is from our report on the UK's National Emergency Briefing below.

Well, onto our small contribution to trying to help the world become a better place. Thank you to all of you who have taken the time and effort to contributing to this edition, much more than normal. We welcome pieces from regular contributors Robbie Cheadle, Babette Gallard, Helen Hagen, Jan Spencer, Steve Shelley and Dr Jonathan Frost. New contributions from Richard Villar, Dr Laurie Parker, Geoff Lepard, Lauren Lustig, Elizabeth Kelch, Paul Vivian, Karin Westdyk and of course from Jonathan and Angela Scott two of our earliest well-known members.

We are aware that all of you have busy lives, all doing your bit to make this world that little bit better, please keep up your good work and if you can find a little time please continue contributing to our society magazine.

Submission guidelines

This is a magazine by and for our members, so there are no rules. Several new members have indicated they are open to critique, so we invite you to let us know what you like about some of these submissions and, if appropriate, some constructive advice about others. The aim is to provide a credible platform for publishing members' articles but also to give newer writers the opportunity to be seen alongside those more experienced and to gain some feedback. As you can see, there is no typical word count: they vary from not much more than 300 words to 1,800. You will also see a great variety of topics and styles, all loosely united by the term 'environment' (whatever that means!).

The content is intended to showcase your writing and your particular area of interest or research. Feel free to say a bit about yourself and to include links to your website or other media. Also feel free to share the material around. It can be reproduced with acknowledgement of the author.

If you wish to publish in an academic journal, or to cite your article, please use the following format example:

Hagon, Helen (2025). The Trent Aegir in Literature. Bulletin of the Society of Environmental Authors & Journalists, Retford, England. September 2026.

In other news

We now have in stock several sweatshirts and baseball caps emblazoned with our society name and bear logo look out for our advertisement on the society front pages. Also look for our article about our Writing Awards activities for young aspiring environmental writers and professionals alike.

We have been saddened by the recent deaths of Bill Oddie of Springwatch fame and Dolly Parton country singer who in their own way promoted young people to read books and learn about wildlife. Peace be with them!

GlobalBirdFair Podcast

Steve, Esther and I, assisted by Steve's wife Rose, attended the Global Bird Fair in Rutland, UK. Again we were based in the main event green room enclosure where we interviewed a number of well-known wildlife personalities and filmed several on stage programmes. You can see the results on the official channel we run for the event: <https://www.youtube.com/@GlobalBirdFair>, as well as on globalbirdfair.org.



National Emergency Briefing

Report by Steve Shelley

A film presented by Chris Packham is doing a tour of communities around the UK in an attempt to pressure government to level up with people and publicly accept we're in the midst of a climate emergency. A big change in the way we live is no longer optional. And yet the UK, like many countries, is woefully unprepared.

A series of eminent scientists explains the facts. And the facts are, frankly, terrifying, even as some people prefer to deny them. But physics doesn't care about opinion and politics, says Packham.

As I write, we're coming to the end of an unprecedented summer, four months of close to thirty degree temperatures. And just last night a series of thunderstorms raged across the country leaving a long list of flooded cities.

Weather extremes like this will cause floods affecting a quarter of properties in England by 2050. Heatwaves and wildfires are intensifying. And every year gets worse. The famous global temperature rise target of 1.5° is a lost cause, with projections now of 2, 3 or even 4°, leading inexorably to an uninhabitable planet.

Water quality and biodiversity indices fail to reflect us as a mature developed country taking care of its people and its environment. "We can't even process our own sh*t", said Jennifer Saunders.

Tipping points relating to oceanic currents and melting ice caps are forecast to be reached before 2030. A future scenario of -20° in London in winter lies in the bounds of possibility.

All of this likely means harvest failures and food shortages, exacerbated by civil unrest. In turn, we can expect widespread health risks and a threat to our national security.

As Prof. Hugh Montgomery stated: "We need transformational change now if we're going to survive." It's as simple as that.

In terms of economics, there are two big issues which are slowing us down towards a green transition. Market rules are not driving the right outcomes, and the old world is not making way for the new. Yet the costs of inaction far exceed the cost of inaction.

A National Security report published in 2024, but withheld by government, presented climate change as a 'threat multiplier'. Lt Gen Richard Nugee said that the climate crisis is now shaping strategic and military competition and that competition for water, food and land is rising.

Energy policy and fossil fuel consumption underpins the story. Around half of the UK's recessions since 1970 have been caused by fossil fuel price shocks. Skyrocketing energy bills have been a major factor driving inflation and the cost of living pressure. An energy system shift should be based on sun or wind, which is free forever, whereas the price that we pay for a barrel of oil is determined by a cartel of petrostates or dictators. And as you burn it, you need to pump out more.

In a surprise to the audience, it was explained that a typical petrol car only uses about 25% of the energy in its fuel to actually move its wheels. Most is lost as heat, and the fossil fuel system as a whole wastes about two thirds of the raw energy that goes into it. Renewables are vastly more efficient than fossil fuels.

Summarising, Prof Mike Berners-Lee said the situation is not yet hopeless, but we do have our backs right up against the wall. We need emergency legislation, investment and job creation. And none of that is possible without a campaign of public information and engagement.

The organisers ask that we show the Public Emergency Briefing Film to as many people in our communities as we can, arrange viewings and spread the word, engage with political leaders – ask them to be accountable and to take action. Search for National Emergency Briefing on YouTube.

For our part, the Society of Environmental Authors & Journalists is partnering with environmental action groups to do just this and multiply our own influence.

What can you do where you are? Who can you introduce us to? What resources or information might you need?

Saving the planet may often seem like a hopeless cause, but if so we'll go down fighting to the last.

Aegir Inspiration

The Trent Aegir in literature, by Helen Hagon

Our Old Town is a strange, rambling, twisting, dreamy-looking place: portions of it are very ancient, and the principal streets are built in the form of a cross—a sure sign of great antiquity. A beautiful navigable river flows beside it, and runs for miles through a rich pastoral country, then empties itself into an arm of the sea.

From *Our Old Town* by Thomas Miller

At the point where it reaches Gainsborough, forming the boundary between Lincolnshire and Nottinghamshire, the River Trent is a force of nature to be reckoned with. Its waters have sustained life in the town for centuries, if not millennia, but it has also reclaimed too many of those lives along the way, because of its deceptively strong currents and its tendency to flood. Before the advent of the railways, it additionally provided the people of Gainsborough with vital communication, transport and trade, with all kinds of ships and boats carrying people and goods to and from the midlands, or to Northern Europe, via the Humber.

The Trent, with its notorious mood swings, has been a source of inspiration to countless generations of writers. Shakespeare had Hotspur complaining, in *Henry IV Part 1*, about the ‘smug and silver Trent’, as it cut some of the best land from his territory, and Walter Scott mentions ‘the hundred-armed Trent’ in *Heart of Midlothian*. Daniel Defoe, in his ambitious *A Tour Thro’ the Whole Island of Great Britain*, noted an interesting fact about the cheese trade on the Trent, telling his readers, ‘Tis calculated that there is about four thousand ton of Cheshire cheese only, brought down the Trent every year.’ The Trent’s literary heyday, however, was probably during the 19th century, when the likes of Adam Stark, Thomas Miller, Thomas Cooper, George Eliot, and Charles Moor set some of its majesty and capriciousness down on paper for posterity.

The Trent’s size, strength, and precarious nature would have been more than sufficient to fire creative imaginations, but the Aegir (also spelled *Heygre*, *Hygre*, *Ægir* or *Eagre*) adds an extra dimension to the drama. Because the Trent is a tidal river, its flow changes direction twice a day, a phenomenon interesting enough on its own. At certain times of the year, though – usually around the equinoxes – the incoming tide brings with it an extra level of excitement.

Writing in 1840, Gainsborough historian Adam Stark explained it thus:

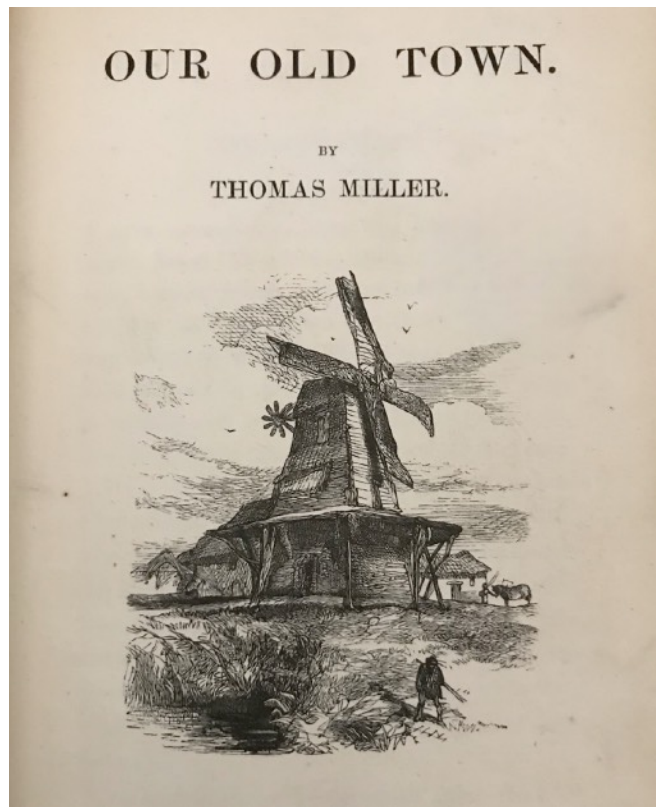
A curious phenomenon is observed in the Trent, called the Eagre or Hygre. At spring tides, the water rises on the surface of the river to the height of from six to eight feet, and rolls on in a large mass from the mouth of the Trent considerably above the bridge... it has a grand and imposing appearance.

The Trent is one of only two rivers in the UK which have a tidal bore, the other one being the Severn. The bore on the Trent takes its name from Ægir, the Norse God of the Sea, revealing the town’s Viking connections. In *A History of Gainsburgh*, Charles Moor, who was vicar of Gainsborough from 1894 to 1901, describes the arrival of the sea god accompanied by his daughters and handmaidens, the Nixies:

When the in-coming tide rushed tumultuously up the long reaches of the Trent, even as it does to-day at Morton Corner, he [the northern sailor] thought: “It is Ægir the Terrible! He brings with him the Nixies, his daughters and handmaidens!” And his warning cry, “Ware Ægir!” echoed all along the bank to Gainsburgh.

But let a man be ware of those Nixies that cry to him from Morton Corner! They have a secret sorrow! There is a wild grace in their onward movement, but they are deceitful as the grave. God has not given them a soul! Only by gaining the life of the sons of men can they, like Undine, obtain reality of life! That is the reason why the white billows that follow in the wake of the Ægir are more dangerous than the first great wave himself. They are Nixies, and they seek the life of man! And if he pity their distress, and listen to their

wailing cry, they will drag him down beneath the wave. Yes indeed! Men should be greatly ware of the Nixies of the Trent!



Thomas Miller (1807-1874) is remembered particularly fondly in Gainsborough for his book *Our Old Town*, which describes life in the town in the first half of the 19th century. Among the many interesting, poignant and often amusing anecdotes he recalls from his years growing up in Gainsborough, there are, of course, frequent references to the river. He describes the destructive force of the tidal wave, saying that:

...vessels would break from their moorings, and be carried away headlong by the strong tides and dashed against the bridge, where their masts would 'snap like carrots' as they lay 'foul' of one another.

Many of the older townsfolk today will testify that the rushing water of the Aegir was often heard before it was seen, and Thomas Miller describes this sound as:

...the roaring of the tide as it came rushing up from the sea, like some huge enraged monster.

Miller is not the only writer to have compared the Aegir to a monster. In 1859, Mary Ann Evans, who is better known today by her pen name of George Eliot, paid a brief visit to Gainsborough and took a boat trip along the Trent. The following year saw the publication of her novel *The Mill on the Floss*, about a town called St. Ogg's and its river, the Floss, which are clearly modelled on Gainsborough and the Trent. Early in the story, we are told how the main character, Maggie, liked to go for walks along the river with her brother, and the Aegir puts in an appearance:

...above all, the great Floss, along which they wandered, with a sense of travel, to see the rushing spring-tide, the awful Eagre, come up like a hungry monster...

Thomas Cooper, the childhood playmate and next-door neighbour of Thomas Miller, grew up to become a writer, lecturer, lay preacher, and Chartist. In his autobiography, *The Life of Thomas Cooper, by himself*, he briefly describes the Aegir:

The “Heygre” was our great excitement on the Trent. It used to be a very stirring sight when the tide was at the full. The huge rolling waves then dashed the shipping from their moorings, if they were not well moored and managed; and boats were often crushed to pieces.

This description is not dissimilar to Miller’s, although without the carrot-snapping imagery. Cooper had his poetical side, too, and the Aegir features in his long poem *The Baron’s Yule Feast*. This work describes the Yuletide festivities at Torksey Hall, just a short distance upstream from Gainsborough. To this day, the ruins of the hall stand on the very edge of the water, making it an ideal location for observing the comings and goings on the river.

*Romara’s skiff is on the Trent,
And the stream is in its strength,—
For a surge, from its ocean-fountain sent,
Pervades its giant length:
Roars the hoarse heygre in its course,
Lashing the banks with its wrathful force;
And dolefully echoes the wild-fowl’s scream,
As the mallards are swept by the whelming stream;
And her callow young are hurled for a meal,
To the gorge of the barbel, the pike, and the eel:
The porpoise heaves ‘mid the rolling tide,
And, snorting in mirth, doth merrily ride,—
For he hath forsaken his bed in the sea,
To sup on the salmon, right daintily!*

Sadly, the sight of the porpoise feeding on salmon is not such a common sight on the river any more, and shopping trolleys and discarded bicycles rival the fish population in the water at Gainsborough, but there are still plenty of wildfowl to be spotted, including regular visitations from cormorants.

For the benefit of readers unfamiliar with the Aegir, Cooper also includes an endnote, explaining the reference:

The tide, at the equinoxes especially, presents a magnificent spectacle on the Trent. It comes up even to Gainsborough, which is seventy miles from the sea, in one overwhelming wave, spreading across the wide river-channel, and frequently putting the sailors into some alarm for the safety of their vessels, which are dashed to and fro, while “all hands” are engaged in holding the cables and slackening them, so as to relieve the ships. To be in a boat, under the guardianship of a sailor, and to hear the shouts on every hand of “Ware Heygre!”—as the grand wave is beheld coming on,—and then to be tossed up and down in the boat, as the wave is met,—form no slight excitements for a boy living by the side of the Trent.

The most enduring story connected with the Aegir, though, is also the least verifiable. In 1013, King Sweyn Forkbeard arrived in Gainsborough with his longships and declared it the capital of England and Denmark. It retained this status for a whole forty days until Sweyn died under mysterious circumstances and his son Canute was named king. Canute left Gainsborough shortly afterwards, but there is a possibility that the legend of Canute’s attempt to turn back the tide originated in Gainsborough, and that the Aegir itself was the inspiration behind the story. According to Henry of Huntingdon’s account in his *History of the English* (translated from the Latin by Thomas Forester), it was on the sea-shore where Canute uttered the words:

“Thou, too, art subject to my command, as the land on which I am seated is mine; and no one has ever resisted my commands with impunity. I command you, then, not to flow over my land, nor presume to wet the feet and the robe of your lord.”

In this version, the tide did not obey his instructions, and Henry tells us that Canute used this as a means of demonstrating the supreme power of God. However, this came at a time of political and religious upheaval in the country, and while Henry paints a portrait of Canute as a good, Christian

ruler, other sources describe him as a murderous, pillaging invader. Given the uncertainty of the story's origin, Gainsborough folk like to cling to the possibility that the seed of this story might have first been planted on the banks of the Trent in Gainsborough.

Unfortunately, in the present day, the Aegir is not as impressive a sight as it once was, as a combination of environmental factors such as excessive floodwater and lack of dredging leading to a build-up of silt, has reduced the bore to a small ripple at best. Onlookers waiting on the riverbank at the predicted times are becoming increasingly resigned to the expectation that nothing will happen, and mutterings of 'too much water at the moment' or 'not enough dredging' accompany trips down memory lane to recall tales of roaring waters, waves that were 'yea high', and even a spot of surfing. Whether the Trent and its Aegir will continue to inspire local wordsmiths in the future remains to be seen, but the writings from the past serve as a record of the town's complex relationship with its river in a now bygone age.



The Trent at Gainsborough

When a Hay Meadow Becomes a Floodplain

by **Richard Villar**

There are few sights more evocative of the British countryside than a traditional hay meadow in midsummer. Grasses ripple beneath a light breeze, buttercups and oxeye daisies brighten the field, and bees hop from flower to flower. For centuries, these meadows have provided winter fodder for livestock while supporting a wide diversity of plants, insects and birds. They are among the most treasured landscapes, shaped by generations of careful farming. (Fig. 1)



Yet not all is what it should be. Recently, I stood beside a hay meadow to learn that instead of producing hay, the boffins had declared it should become a flood-storage area. The plan was to deliberately fill the hay meadow with water during periods of heavy rainfall, thereby protecting communities downstream.

Superficially, the proposal seemed sensible. Flooding is a regular feature of life and is becoming more evident every year. (Fig. 2)



Each winter brings images of rivers bursting banks, roads disappearing beneath muddy waters, and

elderly folk being manhandled into rubber dinghies. If a hay meadow can help prevent this, surely it is worth considering? But this is not a simple problem.

A changing landscape

Rivers have always overflowed after prolonged rain. The difference now is that many of the natural downstream features that once slowed the movement of water through a landscape have disappeared. Wetlands have been drained, rivers have been straightened, peat bogs have been damaged, and more. Housing estates, roads and car parks now occupy land that once absorbed rainfall. It seems commonplace these days to build new properties on floodplains. With less available to absorb the water, rivers fill up more quickly than they once did and then flood.

Climate change is a major contributor to flooding. Warmer air holds more moisture, thus making intense downpours more likely. Long dry spells are followed increasingly by torrential rain, so that drains, streams and rivers are overwhelmed. The landscape sheds water when it should be storing it.

Small things make a difference. A healthy meadow, with its deep-rooted, tangled grasses and undisturbed soil, absorbs rainfall far better than compacted ground. Woodland slows rain before it reaches the soil. Peatlands are essentially giant sponges and slowly release water over time. (Fig. 3)



Working with nature

For many years, the management of flooding focused on engineering. Rivers were straightened, embankments were built, and channels were

dredged to move water away from a flooded area as quickly as possible. Such engineering still remains essential. Today, flood barriers, levees, and embankments protect many homes and businesses. Increasingly, however, there is a view that nature should also play a part. (Fig. 4)



Enter the phrase Natural Flood Management (NFM), which is now widely used. The principle is simple. Why not give back to the rivers some of the upland space they once occupied? Space that was sacrificed in earlier times to make way for more grazing.

Meanwhile, healthy peatland traps rainfall high in the catchment, woodland intercepts rain and improves soil structure, and wetlands store floodwater naturally. Meandering rivers spread water more effectively than straight ones. Even leaving grass longer in gardens, parks and roadside verges can slow runoff and allow more water to soak into the ground. Each of these is a form of NFM. None will prevent every flood, but together they reduce the speed at which water moves through a catchment.

The difficult question

As for the hay meadow, making it act as a floodplain is attractive, or so an engineer might say. During periods of exceptional rainfall, the flooded meadow can provide somewhere for excess water to spread, thereby reducing flooding downstream. However, a farmer may have different ideas.

A hay meadow is productive agricultural land. It provides fodder, supports wildlife, stores carbon and represents generations of accumulated farming knowledge. Flooding it can damage crops, delay haymaking and alter the character of a landscape.

Many traditional hay meadows have disappeared this way - 97% in practice. The dwindling number of meadows that remain are among Britain's richest

wildlife habitats and an important part of the country's rural heritage.

The question is simple, the solution not so. Should a small number of farmers bear the burden of protecting multitudinous homes downstream? They may be homes the farmer has never seen, while the homeowners may be unaware the farm even exists. (Fig. 5)



Society should look closely at the decisions that created the problem in the first place.

Looking upstream

The lesson is clear. Floods do not begin where rivers burst their banks, but further upstream, where rain falls on hillsides, fields, woods and moorland.

Floods also begin with planning decisions. Indeed, as I write this, I can hear the deep-throated drone of construction machinery from my study window. Four houses are being built on what locals have long seen as a floodplain. At times the surface flooding has even needed sandbags.

Perhaps the most effective flood defence is not always another wall, embankment, or flooded hay meadow. It can be as simple as deciding not to build where rivers have flooded for centuries.

Living with rivers

There is no universal answer. Flood mitigation involves a series of measures, rarely one action alone.

Some communities will always need engineered flood defences. Elsewhere, restoring wetlands, planting woodland or reconnecting rivers with their floodplains may be better choices. Every catchment is different. What works in one valley may be unsuitable in another.

Walkers are fortunate to see all this first hand. Their routes cross meadows, follow rivers, climb

through woodlands, and walk over peat-covered fells. Most hikers admire a landscape's beauty without appreciating the work it does every time it rains.

The hay meadow I visited may remain precisely as it is. After all, it has been a hay meadow for multitudinous years. There is little chance that turning it into a floodplain will, in isolation, stop any downstream flooding. The meadow should form part of multiple projects, if it is to form part at all. Eliminating the meadow may make some boffins feel proud, but how about the farmer? They may be greatly troubled, as the hay will disappear, the livestock will vanish, as will much of the meadow's biodiversity. (Fig. 6)



A flood has two stories - a downstream one that is headlined, but an upstream one that may go unnoticed. Likely out of sight of the flooding, there may be a farmer whose life has been turned upside down when a hay meadow is abolished. That meadow represents centuries of hard work and planning, all because downstream mankind has got it wrong.

Leave the meadow alone. Unless you are certain that flooding it will make a difference.

Figures

1. Hay meadows pre-flooding (courtesy AI)
2. Flooding is a regular feature of life (Photo by Chris Gallagher on Unsplash)
3. Woodland slows rain before it reaches the soil
4. A levee (Photo by Justin Wilkens on Unsplash)
5. House building on a floodplain with water beside the foundations
6. Are you really going to flood this?

Could the Hills Save the Valleys?

A simple idea that slows water down before it becomes a flood.

By Dr Jonathan Frost

Central Sheffield seems to flood every couple of years.

Worldwide, the rain had stopped hours earlier, but the stream was still rising.

Downstream, roads disappeared beneath muddy water. Homes flooded. Fields were stripped of topsoil that had taken generations to build.

Yet, just a few kilometres away, another hillside looked remarkably different. Instead of racing downhill, the rainwater lingered. It spread gently across the slope, soaked into the soil and slowly disappeared underground.

The difference wasn't the weather.

It was the landscape.

The Problem Isn't Just More Rain

Climate change is increasing the frequency of weather extremes in many parts of the world. In some regions, longer dry spells are followed by short, intense downpours. Rivers that once rose gradually can now swell within hours, while communities experience floods and droughts in the same year.

For decades, much of our response has focused on moving water away as quickly as possible through drains, channels and flood defences.

But what if the better question is:

How can we keep more rain where it falls?

The Bloody Obvious Idea

Across the world, farmers, foresters and land restoration practitioners have used contour swales—shallow level channels—and berms—raised banks formed from excavated soil—to slow runoff on sloping land.

Instead of allowing rainwater to rush downhill, these earthworks temporarily hold and spread water, giving it more time to infiltrate the soil.

It's a simple principle:

Slow it. Spread it. Sink it.

This approach has been used in forms of regenerative agriculture, watershed restoration and landscape design for decades. The techniques vary

depending on climate, geology and slope, but the underlying goal remains the same: reduce rapid runoff and increase infiltration where conditions are suitable.

Why It Matters

Slowing water near the top of a catchment can create benefits beyond flood reduction.

Where appropriate and carefully designed, contour earthworks may:

- reduce the speed and volume of surface runoff
- lessen erosion and soil loss
- increase soil moisture for vegetation
- create opportunities to establish trees and perennial crops on degraded hillsides
- encourage groundwater recharge in suitable geological settings
- extend streamflow during dry periods by releasing stored groundwater more gradually
- improve habitat for wildlife
- increase the resilience of farming systems during drought.

Rather than treating rainfall as something to remove, the landscape begins functioning more like a sponge.

Already Working

Elements of this approach are already being used in many parts of the world.

Regenerative farmers use contour earthworks to improve water retention.

Watershed restoration projects have slowed runoff by reconnecting rivers with floodplains and restoring natural hydrology.

Large-scale landscape restoration programmes in countries including China, Ethiopia and Niger have demonstrated that restoring vegetation and improving water infiltration can dramatically improve degraded land.

None of these projects alone proves that every hillside should contain swales and berms.

But together they demonstrate an important principle:

Land management can change how water moves through a landscape.

Could We Think Bigger?

Imagine if every suitable hillside, mountain catchment and degraded slope were assessed for opportunities to slow water before it became destructive.

Not everywhere.

Not blindly.

But wherever soils, geology, ecology and local communities indicated that contour water management would be beneficial.

Such a programme could become one of the largest ecosystem restoration efforts ever attempted.

Its goals would not simply be flood defence.

They would include restoring groundwater, improving soil health, supporting biodiversity, increasing resilience to drought and creating productive landscapes for future generations.

What Stops It?

The biggest obstacle is unlikely to be engineering.

It is coordination.

Every catchment is different. Swales are not appropriate on every slope, every soil type or every geological formation. Poorly designed earthworks can increase erosion, destabilise slopes or damage sensitive habitats.

A global programme would therefore require careful local assessment, hydrological modelling, ecological expertise and long-term maintenance.

It would also require governments, landowners, farmers, scientists and local communities to work together—something that is often harder than digging the earthworks themselves.

Could Your Community Copy It?

Every community has a watershed.

Every watershed has places where water speeds up and places where it can be slowed.

The first step isn't to build thousands of kilometres of swales.

It's to understand how water moves through your local landscape.

Could degraded hillsides be restored?

Could contour planting improve infiltration?

Could natural flood management become part of local planning?

Sometimes the most effective flood defence begins many miles upstream.

One Thing You Can Do This Week

Find the highest point in your local catchment after heavy rain.

Watch where the water flows.

Ask a simple question:

How much of this water are we trying to get rid of... instead of helping the landscape keep?

That question might not solve flooding overnight.

But it may point us towards a future where hills once again become part of the solution.

Because perhaps the most valuable flood defence isn't a higher wall at the bottom of the valley.

It's a landscape designed to hold on to the rain long before it gets there.

Goodbye to the Sun

by Steve Shelley

The day of the eclipse, the temperature peaked somewhat above thirty, like it did yesterday and as it is forecast again for tomorrow. It's too hot for my brain and body to function. We're into the fourth month. Records have been broken month after month. Is it just another hot summer like 1995 or 1976? Well, if it's the hottest year ever for the fourth year in a row, elementary statistics would help you plot a trend curve that suggests runaway warming. It must be serious: even the government is beginning to talk about it.

They're not worried about an out of control climate, though. It's the country's lack of adequate capacity to tackle hundreds of wildfires that bothers them. And the water companies' inability to supply water, any water, let alone clean water, to its long suffering customers. Food shortages are tipped to become a serious security threat. Farmers can't dig potatoes out of solid earth and they can't plant next year's seeds. And, talking of hot potatoes, they still can't stop mass migration which is substantially driven by people's inability to live in places where the temperature routinely hits fifty degrees.

I suppose this is what I had in mind when I wrote my book *The End of the World As We Knew It* back in 2019. None of us thought then that the political establishment would so openly dismiss climate change as an issue they don't want to face up to.

This time last night, a lone swallow came over to say goodbye. After a week of chattering and swooping overhead, they've all gone now. Seems a bit early. The swifts left overnight at the end of July. Heading for, I was going to say, sunnier climes, but that's not the case. Africa is not this hot. I can't help feeling they know something.

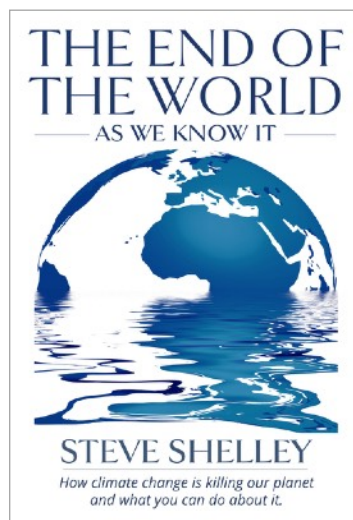
Tonight though, there's a glider overhead, up from an airfield somewhere across the Trent in Lincolnshire. He'd be looking for thermals. But the air is too dry for cumulus to form. He'll have to rely on his rate of climb indicator instead. The fields of scorched stubble are putting up one big thermal. He'll be up for a while. If not, he'll be landing in the dark of the eclipse, something to tell his grandkids.

Looks like he's had a close encounter with a low flying RAF Globemaster. Is it just me, or are there more military planes in the skies these days? Like the swifts, they probably know something we don't.

High above, this is a busy hour for flights out from Manchester. There goes Ryanair to Tirana. And Jet2 to Antalya. Orange-bellied EasyJet to Corfu. They're not leaving contrails today. No moisture to condense. Someone asked on Facebook why they're not seeding the clouds to break the drought. There aren't any.

The eclipse, when it came, was, if that's fair, a bit of an anti-climax. The first for many decades, it seemed to just fade the daylight a bit, drop the colour saturation, shine like a new moon for a minute or two, and then bring up the lights back to normal for a few minutes before the usual sunset. It says something that with just 5% of the sun left showing, it's still, well, daylight.

The astrologers are out in force though. Planetary alignments on top of an eclipse, zodiacal constellations moving one house to another. If this is a shift, I'd like to put in a few requests. The world is at a turning point, so please let it just happen. The era of psychopathic leaders is already overrunning. So let's just get this done, and move on to a new tomorrow.



Southern ground hornbills, a.k.a. Thunderbirds

by Robbie Cheadle

I was very excited to see a flock of nine southern ground hornbills during my recent trip to the Kruger National Park in South Africa. These birds are classified as endangered in South African, Namibia, Lesotho, and Eswatini (previously Swaziland) and are listed internationally as vulnerable by the IUCN. I have only seen these birds once before in a national park and it was from a distance so I couldn't get good photographs. I may never see another one of these birds so I will treasure these photographs.



Male southern ground hornbill on the run

Hearing the low
resonating rumble
you expected a lion
not a flock
of thunderbirds
Dominant pairs
performing
a deep-base duet
The bright red
balloon-like wattle
below their bills

acting like a drum
The echoing sound
amplified
by natural air pockets
inside their head bones
which magnify
their low, booming call
allowing it to carry
for over four kilometers
across the veld
Predators with feathers
small animals lie low
when a party
is out foraging
They snap up
lizards, small birds,
tortoises, rodents,
and even snakes
as big as puff adders
Endangered due
to slow breeding
a pair raising
only two chicks
in a nine year cycle
one of which
will survive
Not a lion
something much better

Interesting facts about Southern Ground Hornbills

The southern ground hornbill is the largest hornbill species on Earth.

These striking, turkey-sized birds stand up to 130 cm tall, weight between 3.3 and 4.4 kgs and have a wingspan reaching nearly 2 meters.

These birds can fly up to 18 miles an hour.

Their jet-black feathers, yellow eyes and bright red throats make these birds highly recognisable.

Ground hornbills have lived up to 70 years in captivity. This makes them one of the world's longest-lived birds.

These birds are highly territorial with family groups of up to 10 individuals protecting large areas of territory.

Ground hornbills are monogamous and pair for life unless their mate dies.

BEARS IN AFRICA

Dr Robert Tansey

Recently Steve and I were discussing our logo the Bear, since it had been suggested to us that that we might consider changing it to an animal that could be found on every continent of the world.

We were until then quite happy with our choice, which we had used since we began the society several years ago. But the question raised gave us something to think about, so I decided to look at our choice. Bears! The bear is to us a symbol of hope and resurrection, an animal that is often on the edge of extinction but is often rescued. The bear could be a Polar Bear which is on the critical list due to climate change. It could in fact be any bear, even the Sun Bear, why not Paddington Bear. The Bear represents something we all understand, an animal of the wilds not our toy bear interpretation of it.

In reality, bears are still found on many continents; although they may not always be recognised as bears, they may be related to the wider bear family.

The question was posed by a lady friend, so I checked up to see why there were no bears or bear-like creatures on the African continent. What did I find, the Atlas Bear that could still be found in Africa until relatively recent times. It inhabited the Atlas Mountains from Morocco to Libya. It is believed to have become extinct in 1870. This bear is known as (*Ursus arctos* Crowther) it was brown-blackish in colour with no other colourations, other than reddish tinges on its underparts.

Like other bears, the Atlas Bear is thought to have eaten mainly roots, acorns and nuts. As an omnivore, it would probably also have consumed small mammals and birds. The remains of Atlas bears studied indicate that it had low nitrogen levels which point to it having a high ration of legumes and heaths. It also indicated that it never ate fish which were commonly found in the localities where it lived, which is strange.

Some differences were clear. They had small paws and long claws which would be adept for climbing trees etc.

The more I looked into the question of why do bears appear to be limited to specific continents, I found out that bears were present almost everywhere in the world in one form or another a few thousand years ago. The prehistoric record presented a different picture to the one we see today. Even here in England there were bears, the Roman 'Plutarch' tells us they transported even grizzly bears from England to Rome. Bears eventually died out in England in the eleventh century.

The image portrays an alleged Atlas Bear but is not dissimilar to the European Brown Bear. I feel its head is larger than I would expect it to be.



The Atlas Bear

World Bear Day held on the 23rd of March 2027

World Bear is a National Day when we can all reflect on the state of the world's population of bears. We can reflect on the cruelty imposed upon bears world-wide, specifically in Asia where bears are kept for years in cramped cages, and have their bile taken. Bears are certainly not the cute animals we portray them as, so to keep a wild bear in captive conditions can be cruel.

There are many organisations throughout the world set up to protect multiple or single bear species. Google them, perhaps you might support one of them.



*Polar Bear (*Ursus maritimus*) threatened by declining ice fields*



Volunteers and Veterinary Surgeons at work protecting bears

FROM CONFLICT TO CLIMATE RESILIENCE

How Restoring Working Landscapes Benefits People, Wildlife, and the Planet

by Laurie Marker, DPhil (OXON), Founder/Executive Director, Cheetah Conservation Fund, Otjiwarongo, Namibia

Can we save a species by changing the way humans live with nature? What the cheetah teaches us about replacing “wildlife versus people” with “wildlife + people + healthy landscapes.”

Across Namibia’s rangelands, the future of the cheetah is being decided beyond national parks. More than 90 percent of Namibia’s cheetahs live outside protected areas, often on farms where cattle, sheep and goats share space with wildlife. Here, conservation cannot be separated from human life. It must make an entire landscape work, for farmers, livestock, wild prey, predators and an uncertain climate.

This is the foundation of the Cheetah Conservation Fund’s approach. Since 1990, CCF has treated the cheetah as part of a living social and ecological system. The species cannot survive if farmers must bear intolerable livestock losses, and farms cannot remain productive if drought and bush encroachment diminish water and forage. Lasting conservation must reduce conflict while restoring the land.

From conflict to coexistence

For a rural household, the loss of even one animal can be serious. When a carnivore is blamed, retaliation can seem like the only practical response, even when the responsible predator is unknown. Climate stress increases risk by reducing water and grazing and bringing livestock and wildlife into closer contact.

CCF’s response begins with evidence and prevention. CCF’s scientists study soil, vegetation, prey and carnivore movement, while field teams work with farmers to understand losses. Herding, livestock health, secure nighttime enclosures, water placement, grazing pressure and wild prey can all influence conflict.

One of CCF’s best-known solutions is its Livestock Guarding Dog programme. Anatolian shepherd and Kangal dogs are raised with goats and sheep and become bonded to the herd. Their presence and bark deter predators before an attack occurs. A 25-year CCF study, drawing on more than 1,500 farmer surveys, found that 91 percent of respondents with guarding dogs reported reduced livestock losses.

That result changes more than farm economics. Safer livestock means less reason to kill carnivores. Cheetahs remain alive, livelihoods become more secure, and conservation produces a visible benefit.

Guarding dogs are part of a wider system. Through its Future Farmers of Africa programme and Model Farm, CCF demonstrates predator-friendly husbandry, herd health and grazing management. Its Predator Early Warning System uses data from collared cheetahs to alert farmers when an animal is nearby, allowing livestock to be protected before conflict occurs. Coexistence becomes possible when people have practical tools, reliable knowledge and a stake in the outcome.

Restoring the working savannah

Conflict prevention protects individual animals; habitat restoration protects the system that sustains them. About 45 million hectares of Namibia are affected by bush encroachment, in which once-open savannah becomes increasingly dense with woody vegetation. The change reduces grass for livestock and wild grazers, restricts sightlines and alters the way predators and prey use the land. For a high-speed hunter adapted to open country, the consequences can be profound.

On its reserve and partner lands, CCF has tested selective bush thinning to restore a balanced mosaic of grasses, shrubs and mature trees. Carefully thinned sites can have longer sightlines, lower woody density and better conditions for grass growth. This can improve forage for livestock and wild ungulates while reopening cheetah hunting habitat. Some harvested bush is processed into Bushblok fuel logs, (a high heat, low emissions eco-log) connecting restoration with employment and enterprise.

This is not a license for indiscriminate clearing. Trees and shrubs are essential parts of healthy savannahs, woody plants regenerate, and poor grazing management can undo restoration gains. Nor should removing bush automatically be claimed as a carbon benefit. The strongest climate case lies in careful, long-term management that restores ecological function, keeps land productive and helps rural communities withstand drought and uncertainty.

Why an African landscape matters everywhere

The same natural systems that sustain Africa's landscapes are connected to the stability of our shared planet. Grasslands, savannahs, forests and soils store carbon, shape water cycles and influence regional climate. When they are degraded, they become less able to buffer drought, support biodiversity or sustain human livelihoods. The immediate damage is local, but the consequences—food insecurity, economic pressure, displacement and instability—do not remain neatly within borders.

Africa therefore has three vital global roles. It is a “guardian of biodiversity”, holding some of the planet's most important remaining ecosystems and species, a living library of adaptations and relationships shaped over millions of years.

Africa is also a “teacher of coexistence”. Across many of its working landscapes, wildlife, livestock and people share the same land. CCF's experience shows that conservation cannot be separated from communities: the future of nature depends on finding ways for people and wildlife to thrive together. That is not an African question alone. Every region must find ways to produce food, sustain communities and protect nature at the same time.

Finally, Africa is a “partner in climate resilience”. Healthy landscapes help regulate carbon and water, maintain fertile soils and preserve ecological options in a changing climate. Restoring them is not only an investment in Africa's future; it is an investment in the resilience of the planet.

What the cheetah teaches us

The cheetah's survival depends on connected habitat, healthy prey populations and the willingness of people to share space with a predator. Protected areas remain essential, but they cannot succeed alone. Conservation must also work on farms, in communal conservancies and across the wider landscapes where people live and wildlife move.

CCF's work offers a practical shift in thinking. The choice is not wildlife or people. It is wildlife, people and healthy landscapes, supported together through science, education, partnership, good husbandry, restoration and sustainable enterprise.

When we protect the conditions that allow cheetahs to survive, we also protect living landscapes; water and soil; rural communities; biodiversity; and climate resilience. The cheetah becomes more than the beneficiary of conservation. It becomes a guide to rebuilding the relationships that hold a landscape together, and a reminder that a healthier Africa strengthens our shared and living planet.

About Dr. Laurie Marker

Dr. Laurie Marker is a Conservation Scientist and one of the world's leading cheetah experts. She founded Cheetah Conservation Fund (CCF) in 1990 as the first predator conservation program outside of a protected area, setting the stage for her research into cheetah biology, ecology, conservation and integrated livestock, wildlife, and rangeland management techniques to mitigate conflict and issues surrounding the illegal pet trade. In 2023, Marker helped with the reintroduction of cheetahs to India, where they had been extinct for over 70 years. Through her work in Namibia, as a global model, she now works to develop range-wide research and community-based programs. Marker holds a DPhil in Zoology from Oxford University in the UK, is an A.D. White Professor-at-Large Emeritus at Cornell University in New York. She has more than 170 peer-reviewed scientific papers and four books on cheetah. Marker's awards include the President's Award for Conservation (2020) and the Lowell Thomas Award (2010) from the Explorer's Club, the Tyler Prize for Environmental Achievement (2010), the E.O. Wilson Biodiversity Technology Pioneer Award

(2015), the recipient of the 2026 Namibia National Centre for Research, Science and Technology Lifetime Achievement Award, and a Hero for the Planet from Time Magazine.

About the Cheetah Conservation Fund

The Cheetah Conservation Fund (CCF) is the global leader in research and conservation of cheetahs and is dedicated to saving cheetahs in the wild. Today's global cheetah population is approximately 7,000 individuals, found in less than 9% of its former range, with about 1,200 individuals in Namibia. CCF has created a set of integrated conservation programs to address threats to the cheetah and its ecosystem. Founded in 1990, CCF is an international non-profit organization headquartered in Namibia with a field base in Somaliland. CCF is the longest running cheetah conservation organization. The CCF's Research and Education Centre is based on a 58,000-ha private wildlife reserve/conservancy and model farm, veterinary clinic and genetics laboratory. In 2017, CCF set up a now 300ha field base in Somaliland to care for confiscated cheetah cubs from the illegal wildlife pet trade and have developed programs in the Horn of Africa to help stop the illegal wildlife trade. Visit www.cheetah.org to learn more about CCF's work and how you can help protect cheetahs in the wild.



Dr. Laurie Marker with an Anatolian Shepherd puppy. Marker set up the CCF Livestock Guarding Dog Program in 1994 and has placed over 800 dogs on Namibian farmlands seeing the reduction of livestock loss to predators by over 80%.

The Violence of Restoration

by **Babette Gallard**

I grew up on the Welsh border, a colonial line marked in field boundaries, place names, and the slow disappearance of a language the land still speaks in ways the English can never reach. For this reason, when I came to South Africa, I thought I knew something about contested ground. And yet, coming here and owning a small piece of it, I find myself doing something that still feels colonial, but is also much older, wider and deeper.

Wherever we humans go, we alter the landscape and leave our indelible mark. We divert or drain water, erect buildings, impose animals on spaces they were never designed for and compact the soil just by walking the same path twice. This will never change, and so the question is not whether our presence causes damage, because of course it does, but what we do with that knowledge. Restoration is one answer, and one I've espoused for most of my life, though more recently I've been forced to understand that it is not always the gentle, benevolent work I had imagined.



After some years in Johannesburg, my husband Paul and I moved to a reasonably cultivated hectare of land with a house and stables for our horses. We had imagined a bucolic change of lifestyle, growing vegetables, looking after chickens, our goose Daisy, and of course our horses (actually a mule and one horse to be strictly accurate). However, I quickly understood that we hadn't looked closely enough at what this new kind of existence might actually mean.

First it was the trees. I think, like most of us, I had grown up believing trees were a good thing. It made me happy to see more being replanted in the middle of previously barren European agricultural land and even happier to see spinneys that would have been removed now lovingly preserved and carefully coppiced. Our piece of land in South Africa was full of trees of all kinds, which together with an incredible unbroken view of the hills beyond made my heart sing... for a while.

The syringa trees were elegant and shady, like a clutch of Victorian ladies gliding past on their way to play croquet. The blossoms smelt wonderful too. The guavas, more below stairs if we're keeping the Victorian analogy, were squat, fecund survivors that fed the birds and seeded new versions of themselves like kids invading a playground. I was happy to see such abundance and told friends I was living in a growing paradise, until I learnt that what I'd been calling abundance was something else entirely.

In some contexts, and here I'm talking specifically about invasive plants, abundance can quite simply mean theft. The taking away, or exclusive use, of the elements that keep us and every other form of life alive: water, sunlight, nutrients, air. Syringa trees, I learnt, are among some of the worst offenders. Their roots drink deeply and lower the water table, so that nothing is left for the grasses and indigenous shrubs that would like to grow alongside them. The guavas seed so prolifically that they smother everything else growing more slowly and selectively and feed insects and birds that have depended on for millennia. Even the shade that I had loved at first seemed more like a monopoly of light controlled by a mafia and denied to whatever else might need to grow beneath.

Yes, I'd read about invasive species and their negative effects on water, soil, native biodiversity. But the knowledge remained abstract until I really looked into the cavities and shadows of the natural conurbation we were living in and saw, instead of paradise, a very quiet, very green kind of erasure.

This was my first lesson. The second was even harder. While I accepted that the syringa and guava trees had to go, I wasn't sure that I could be their

executioner. I thought about it for a long time, and agonised to the point that Paul changed the subject as soon as I began. So I did the research on my own, and discovered that repairing ecological damage also requires inevitable destruction.

In the end, no amount of reading prepares you for the physical reality. Paul bought me a chainsaw for Christmas. I watched YouTube videos on how to fell a tree, then left it in the shed until the season for felling was almost over, at which point he told me that if I didn't do it now, I never would. So I picked it up, eventually got it started, and selected my first victim.

When the trunk I was cutting began to lean, I stepped back and immediately understood that I was not really in control of what I had started. And when it finally fell, branches and leaves scattering in what I can only describe as tiny screams, I burst into tears. Perhaps I should have called a tree cutter. But I also felt that I needed to be responsible for what I had set in motion and that outsourcing the violence would have been its own kind of dishonesty.

Afterwards I stood at the edge of the bare, compacted circle of earth and saw it properly for the first time. It was as pale as a starved Oliver Twist orphan and hard as old concrete. Nothing grew there. The tree had taken everything. The space felt simultaneously open and damaged. A clearing that was also a wound. The thief had been removed, but even as I stood there I knew the felling alone wouldn't be enough. The stump still had to be painted with a bright, almost cheerful blue herbicide to stop regrowth because without it, the roots would push back up within weeks, as if nothing had happened at all.

The difficulty is that invasive plants rarely arrive with a warning label and are, to the untrained eye, invariably beautiful, which, in their correct indigenous surroundings, they undeniably would be. Often these changelings arrive as gifts. A seed carried in by a bird, or a seedling brought by a friend who tells you it grows easily and quickly, with plenty of flowers.

One of these gifts was a mimosa that arrived as an ornamental shrub. For a while I loved it, because it was everything my friend had promised: fast-growing, colourful, and when it blossomed, covered in butterflies. Then I discovered that once mimosa

escapes its garden boundaries, it moves in under the cover of being something desirable and then takes everything else, just like the colonialism I had been trying not to repeat. I cut it down too, because like so many invasive species, it is quite literally a coloniser of the understory.

And so the work continued, and the changes, though gradual, became visible: more insects, more butterflies, more birds arriving to feed on the plants that had moved into the spaces the trees had vacated. From the silence I had previously almost accepted as normal, the natural world began to speak again.

Encouraged by what we saw, we built a pond with a small island in the hope of attracting more wildlife. And to our huge excitement, a pair of Egyptian geese came to inspect it and seemed, for a while, to consider staying. But then we made a disastrous mistake.



At a local market, where we used to browse for locally grown vegetables, we also found two ducks in a wire cage. Their feathers were dull, their eyes half-closed, and their fate was already written as a juicy dinner for someone. We brought them home in a cardboard box, named them Napoleon and Josephine, then released them like liberators.

The next morning we woke to an empty pond. Every indigenous water plant we had carefully sourced and arranged for the ducks, and for whatever ecological neighbours we had hoped to welcome, had vanished overnight. Napoleon and Josephine obviously had their own ideas about aquatic landscaping, and those ideas did not concur with ours. Within a week, the geese were gone too. The wild birds, with their dignified wariness, wanted no part of what we had made.

The island still sits empty, and this is what I think of as my third lesson: that even careful, well-intentioned intervention can produce consequences you cannot call back. “We’ve rescued two vandals,” I told Paul, though I couldn’t help noticing how, in their blunt and feathered way, they reminded me of us. A pair of well-meaning but slightly clueless immigrants, still learning the rules of an ecosystem that had been getting along perfectly well without them.

Some months later, we decided to install an owl box. The idea came from more YouTube tutorials and earnest blog posts assuring us that we would be supporting biodiversity by installing one. The phrasing was comforting, suggesting that despite our mistakes and inevitable impact, we were still part of an effort greater than ourselves. But here is the uncomfortable truth: the owl box came from Temu. I had sworn never to buy from that sprawling bazaar of instant gratification, but I couldn’t find anything locally as well-made, so it arrived wrapped in plastic and shame.

The owl still has not come.

So what have I learned from all of this?

First, that restoration is not the gentle, redemptive process I had imagined. Nor is it the softness the soft word *rewilding* suggests. It’s not the hopeful act of replanting either, nor any of the other names we find for when we want to believe we are giving something back. Restoration is, at its core, a violent process. A chainsaw. A blue herbicide. A decision about what lives and what doesn’t, made by someone who arrived late and knows much less than she thinks, however much solid, learned research she relies on, because that research comes from a human point of view, which is to expand and thrive, just like every other non-indigenous invasive species.

And beneath that there is something even harder to accept. Humans consume beyond survival, beyond need, beyond any logic the land itself can answer or absorb. We always have and always will. Perhaps that is why we believe we rule the world. And perhaps ruling the world has always meant taking without asking, though dressed up variously as progress, or management, or stewardship, or, in my case, restoration. But I know that the land keeps its own accounts, and sooner or later, with or without our help, it will balance them.



RELIGIOUS SITES IN ENGLAND

by **DR ROBERT TANSEY FLS**

I am taking you on a journey to visit the of the Shrine of Our Lady of Walsingham in Norfolk in England. This is not a tract of religious pilgrimage but of a place of great interest and historicity. For me there is an element of it being of a spiritual journey but that's for me and me alone. I am concerned that there are few places that offer what can be found at Walsingham, it's a place that's difficult to become tired of or bored with. You can feel the atmosphere in the very walls of the old structures of the village you can feel that you are treading the cobbles of hundreds and thousands who have travelled that way before you.



Little Walsingham

So where is Walsingham, or in reality Little Walsingham? It is a small village inland of Wells-Next-The-Sea which is on the North Norfolk Coast and looks across the Wash to Skegness. It's a busy area for visitors and there are many attractions to keep families' attentions for quite a while. Seaside, Museums, Amusements, Music Festivals, Carnivals etc. Near by is Holkham Hall home to the Earls of Leicester well worth a visit. There are many nature reserves RSPB and local Wildlife Trusts. All within easy reach of Little Walsingham.

A visit to Walsingham could have you drive through it and not notice anything special. This is my second trip to the area, the first visit was a little mundane but pleasant. We did go to the site we thought of the old priory and walked around a bit but left a little underwhelmed. Our second visit was last year, when we rented a cottage for a week just a few yards from the Anglican Shrine of Our Lady of Walsingham a stone's throw from the Roman Catholic Church of the Annunciation. It's quite difficult to work out what's Anglican and what's Roman Catholic until you have studied the history of the village and the relationship between the churches. There are several other denominations with small churches or house churches in the village, along with several religious orders. Overall, the general atmosphere is of open friendliness, members of differing denominations mix and gel together.

About a mile or so to the south-west of the village is the Roman Catholic site of the Slipper Chapel, it's here that for hundreds of years pilgrims left their shoes and footwear to walk the rugged path into Little Walsingham to celebrate mass at the Catholic Church.



The Roman Catholic Slipper Chapel

The Catholic site around the Slipper Chapel has a modern church has an outdoor and indoor area for services and Mass. Alongside this a café and well stocked shop with religious books and artifacts of importance to most catholic visitors.

From the Slipper Chapel we either walk or drive into the actual village of Little Walsingham. Parking is a little restricted, but several places can be found to park if you take your time to look around.

In Little Walsingham on the right is the main entry to the old priory grounds, around the main ruins many religious services take place, and several pleasant walks can be undertaken. There is a small museum, and an early court, still exactly as it was when it was used. There are many photos of Little Walsingham as it was over the last two hundred years and you will note that very little has changed, the village layout is as it always was.

There are several religious shops that sell many books and artifacts, and a delightful café.

There are two local public houses, one was closed for the week we were there, the other is okay but not great. The meals about average but nothing to shout out about. There are several places that you can stay at if you wanted to around the centre of the village. There is also accommodation at the Catholic Church centre.

On this visit we spent many hours in the vicinity of the Shrine of Our Lady of Walsingham, just a few yards from our cottage accommodation. This is the Anglican Church, and its grounds have many interesting facets including a copy of the Tomb of our Lord Jesus Christ built into the walls of the beautiful gardens.

This Anglican property is absolutely endowed with a main church body surrounded by many small chapels dedicated to the Saints. It has to strong feeling of being Roman Catholic, the smell of incense is forever present, and peace is everywhere. Why is this wonderful place so ‘almost Catholic’? Its because its founder was Father Alfred Hope Patten an Anglican but of the Anglo-Catholic tradition. He recreated this church and Shrine in 1931, after the whole of the areas religious history was destroyed by Henry the VIII. There are several Holy Wells situated in the village including at the Shrine of Our Lady of Walsingham.

But the original foundation of Little Walsingham as the site of such religious fervour was because the Lady of the Manor, a certain Richeldis de Faverches, in 1061 had a number of dreams and visions that directed her to build a copy of the House in Nazareth where the Annunciation took place. These directions were given to Richeldis by Mary the Mother of Jesus. And it does appear that she complied with those instructions as best she could.



The Anglican Shrine grounds

In the grounds of the Anglican Shrine there is a small museum along with the history of the building of this wonderful property and peaceful grounds. There is accommodation here also for those who wish to spend a few days in the serene peacefulness of the area, and there are many retreat activities. Alongside this is the Norton's Café and Bar where visitors can enjoy a drink or meal at very realistic prices.

A few hundred yards to the north you will find the preserved railway line to Wells by the Sea.

We went to Wells by this route but found the station at Wells was about an hours walk to the actual seaside. A bit much for the elderly, but okay for the young and fit.

I hope some of you will visit this little village one day and enjoy its homely delights, be you religious or not.



The Little Walsingham and Wells by the Sea Railway

In Search of Old Celtic Oak Forests

by Steve Shelley



The eclipse, last week as I write, heralded a change in the weather. After blocking weather patterns for the best part of four months, the Atlantic jetstream twisted south and allowed a warm front to sneak in beneath it to cloud these islands with a cooler, moister air mass.

I've come to Wales, where in my experience it nearly always rains. Today, a warm mist has settled over the hills and last night's view of Snowdonia is blanketed in a white haze. I've come in search of rain forests so I suppose a bit of moisture is likely to be part of the deal. They say it rains here 200 days a year but the past 100 days have been completely without. Can a rain forest survive without rain? Or is that why they're disappearing, the inevitable consequence of a long term change in rainfall patterns, a.k.a. climate change?

The dams around here, Trawsfynedd and Llyn Celyn, are at their lowest. They remind me of a trip we made around Northern Spain four years ago. I thought those dam levels unusual but it seems the drought has migrated north and extended indefinitely. They're already forecasting a worse El Niño year in 2027, though whether it will be

excessively hot, or excessively wet, or just excessive, they can't yet tell.

In spite of our traditionally notorious weather, rain forests have been disappearing from Britain for a long time. Mere fragments survive, tucked away in inaccessible gorges or cloaking the sides of steep cloughs. Forests we have, looming rows of commercial pine trees beneath which nothing grows. Woodlands we have, bits here and there. But what I'm looking for is a bit specific and there is very little left: old Celtic oak woods, nurtured by the mist, drizzle and frequently pouring rain washing in from the Atlantic seaboard. This particular patch, Coed y Felenrhyd y Llennryrch lies on the western side of the Afon Prysor as it runs for a mile and a half through the Ceunant Llennryrch (gorge of the glades) between the Trawsfynydd dam and the Vale of Ffestiniog (*see cover image*).

Rhaeadr Ddu, the Black Falls, a once famous attraction, are so low they've become a slippery expanse of the black rock they're named for. Water has a mind of its own. It's gone underground.

These ancient Welsh names hint at a connection with the land we English have forgotten. Place

names commonly include words like Coed (wood), Llyn (lake), Nant (stream) or Bryn (hill). In England, you are more likely to find Saxon and Viking suffixes like Ham, Thorpe and By, the result of waves of invasion that drove out the indigenous 'Wealas' into the western marches.

England has a mixed history when it comes to forests. Oak woods once covered much of the country. An extensive Hampshire forest was cut down to build ships for the navy, replanted as the so-called 'New Forest'. Sherwood Forest, that once covered much of Nottinghamshire, is now confined to a small patch abutting the town of Edwinstowe. The famous 'Major Oak', reckoned to be 900 years old, was recently declared to have died of old age.

But if this 310ha patch of Welsh Atlantic oak constitutes the largest remaining woodland of its type in Wales, then this particular ecosystem is in trouble, especially if it continues to be faced with prolonged drought.

Amongst the oaks grow hazel, chestnut and silver birches stained gold with age. Moss is as deep as a cushion and ferns decorate the branches. Out of the wind, hawthorn bushes grow to the size of trees. It's the full splendid fruiting season for the rowan. Overhead, a raven croaked a Welsh greeting, circling above as we stopped for a break.

There were a few beeches in the woods too, though less common here than in the chalky English downs. If it was oaks that swathed England and Wales, it was vast beechwoods that once covered much of Europe. Now they're slowing retreating to upland areas like the Pyrenees and the mountains

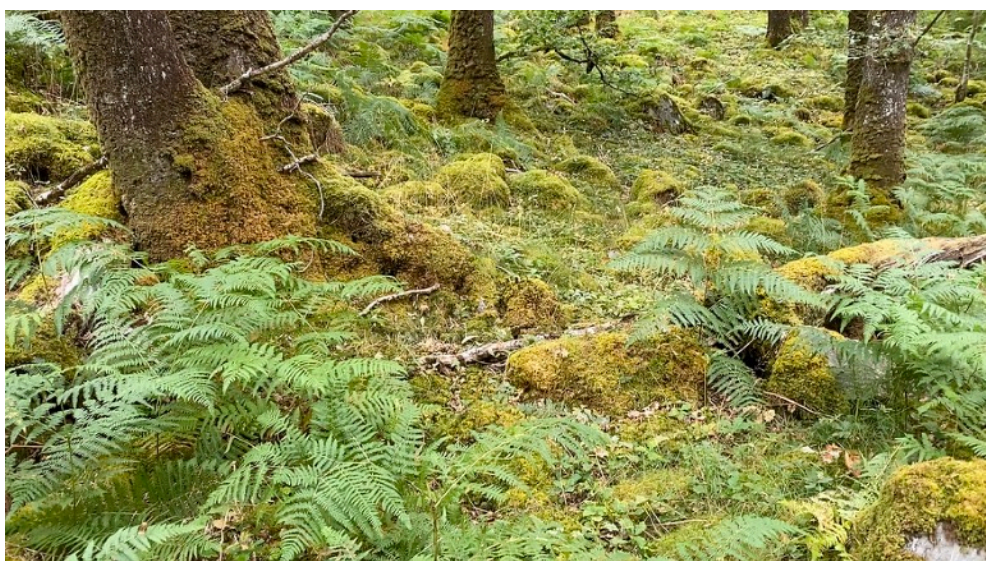
of Galicia and Asturias. Beech woods are migrating in response to a warming climate.

On another day, we ventured in search to the neolithic stone circle called Bryn Cader Faner. Between an inexact Ordnance Survey map and a lack of local signage, we failed to locate it. But we did find spectacular views of what must be one of Britain's finest mountain landscapes. And we stumbled across several more old oak forests. Here, as before, they nestle in the cliffs and cloughs where farmers are unlikely to want to reclaim the land for grazing and sheep are less likely to chew out the acorns. Bare moorlands are the consequence of centuries of sheep grazing.

Against expectations, I was disappointed by the old oaks. Rather than appearing as an endearing spectacle, isolated and rare as they are, they felt more like a sad reminder of a world that is passing in front of our eyes. Like Cerrig Pryfaid, a neolithic circle of stones we finally located in the saddle of a glacial ice age valley, high up in the fastness of Snowdonia. But even here, the spirits of the stones had the last laugh, conjuring up a rainstorm to chase us away and drench us as we ran for the car.

There is a plethora of ancient remains up here, close to a crossroads between the North Wales Pilgrims Way and the Cambrian Way, and the route of a Roman Road heading towards Anglesey.

A lot was going on five thousand years ago. That too has passed.



Taking the Positives

by Geoff Lepard

My dad was a ‘bug hunter’, or entomologist as he liked to think of himself in his later years and when he wasn’t being self-deprecating. Much of my childhood, especially holidays was outdoors with a butterfly net chasing down one variety after another. We – my brother, father and me – caught many a selection which dad would consider and, if worthy, kill and set. It seems barbaric now but to two knobbly-kneed boys in the 1960s, it was epic.

Back then the varieties were many – we lived in the New Forest in the southern part of the UK and were spoilt with many different prey. Fritillaries were many: silver-washed, high brown, pearl bordered, Duke of Burgundy; white admirals and small coppers; skippers and blues; the annual influx of clouded yellows from France.



Dungeness spit, circa 1964, awaiting clouded yellows.

Did we think about losses, stressing the species? Not my brother and me and probably not dad, not then.

But we moved on, we still enjoyed trips out but as teenagers and later as the often absent university students we had less time.

And dad moved on. He began to breed more and more, restocking depleted species.

He was especially passionate about the marsh fritillary. This particular butterfly survived on the southern part of the Isle of Wight, in the undercliff facing France, not far from the Needles. Every year in June for several years we would catch the ferry and visit the breeding grounds. Even to one so insular as a preteen I could appreciate the erosion taking place. After a few years as the scrubby cliff top came closer to the road, dad speculated that the fritillary might soon lose its habitat. And he began collecting and breeding his own selection. Free from predators, the dreaded ichneumon flies especially, he had a remarkable success rate. And now he had two trips a year. One to collect and one, paying the extra fees for his car, to deliver the emerged or soon to be emerged butterflies to breed again. He became adept at judging the best time to collect, based on spring weather. It was his passion.

It was a short step from there to breeding other varieties both butterflies but especially the magnificent hawkmoths he adored. The year he was gifted a death’s head hawkmoth caterpillar and brought it through to its emerging, to hear the famed squeak will forever be a family highlight. He was suffused with delight at that, almost as much as he was at the first pint after a long hot walk of his favoured Ringwood ale.

This year it is parched here in south London but we have had the best year for butterflies in a while. Dad, if he was still around would be saddened by the diminishing numbers but would always look to the upside. If he could.

I still have a moth trap, which I roll out every so often to see what’s about.

We still have five varieties of hawkmoth here in the fringes of the city: elephant, poplar, lime, bee and eyed. Long may that be the case. I think the old man would like that.

Taking a Second Look

Learning to Appreciate the Things that Bother Us

by Lauren Lustig

On Memorial Day Weekend this year, Marylanders looked outside ruefully from raindrop-streaked windows. My plans for a rigorous series of hikes were foiled but my husband and I couldn't resist venturing to a local wildlife preserve to enjoy the intermittent breaks in precipitation. Amongst the ferny undergrowth, chattering birds, and misty streams, it felt like we had stepped into a prehistoric forest. Unfortunately, we also brought a deadly prehistoric predator back to our home.

This little predator managed to remain obscured until we showered, whereupon my husband found her crawling up his arm. Doctors recommend the calm removal of ticks via tweezers. Unfortunately, panic set in for my insect-averse spouse and the immediate reaction was a violent assault. I retrieved the specimen from a droplet of water and secured her to a piece of tape, then dropped both into a jar. The plan was to surrender the body to the army entomologists at Fort Meade for identification and disease testing. The next day, out of morbid curiosity I peered into the jar. I was flabbergasted! The tick was up walking around and seemingly uninjured. Imagine if a monster the size of a sky-scraper beat the ever-loving sense out of a human, left them to drown in a waterfall, and then condemned them to a sticky trap, only for the person get up a few hours, dust themselves off, and go on their merry way. How could I not be strangely impressed? And when something impresses me, I give it a second appraisal.

Ticks seem to rile humans to the same extent as mosquitoes, if not more so. We classify them as pests, which seems rather subjective, if not pejorative. At least "parasite" is actual taxonomy. Every creature has its place, and I personally don't believe that any of them need to justify their existence to the bunch of naked primates currently subjugating the planet. So even though I've never been a fan of ticks (or really, any other arachnid) I felt it was important for me to try and appreciate their existence, starting with my captive. Using the white spot on her dorsal shield and general anatomy, I identified her as an approximately 2 year old female lone star tick. The CDC describes lone stars as a "very aggressive" species, and I concur given her previous actions. I dubbed her She-Devil.

She-Devil was an unfortunate victim of her looks, because I think if she were prettier we would venerate her as much as we do any other violent predator. She may not have had the beautiful stripes of a tiger, the penetrating gaze of an orca, or the majestic movements of a cobra, but she had an enviable arsenal of survival instincts and tools at her disposal. She could, for instance, go more than a year without eating and survive weeks of being submerged in water unable to breath. She could identify her prey not only by sight and shadows, but scent, body temperature, and humidity changes. She-Devil was also equipped with one of the most sophisticated jaws in the world, capable of burrowing like a frac pump into flesh. Her saliva was a scientific marvel — no less impressive than a Komodo dragon's. Not only did it contain anesthetics and anti-histamines to help her clandestinely feed, but it also contained "cement-making" proteins. Essentially, the saliva would caulk the space between the jaw barbs and skin, making her secure once attached. While Dracula may have to rely on sex appeal to assuage his prey, obligate vampires like She-Devil and her ilk depend on cold, hard, extensively evolved science.

There are all sorts of the ways ticks are fascinating to the scientific community. But these incredible discoveries only seem to fuel the fear and hatred we have for them. It's understandable; ticks have become shorthand for the spread of diseases which terrify us. We don't always take time to analyze what their presence means beyond its immediate inconvenience to humans. But to be good environmentalists, I think we need more neutrality in our perceptions of individual species; we should not ask why they are bothering us specifically, but whether their presence is a consequence of things far beyond their control (and perhaps, more so in ours). These little creatures can give us amazing insights into the health and history of our ecosystems and corresponding anthropocentric activities.

Many people in the USA (including myself) have assumed lone star ticks are Southern, and are now running amok in the East and Northeast due to unnatural environmental changes. This is inaccurate and oversimplified. In the 1750s, the renowned Swedish naturalist Peter Kalm penned the first recognized report on lone star ticks. In his records to the Swedish Royal Academy of Sciences he wrote a scathing, hateful description of the lone stars, alleging that he and his men were overwhelmed with 50 to 100 bites at one time. He stated they were plentiful in Maryland, Pennsylvania, New Jersey and even possibly farther north. Far more north than what today's general public would assume. Kalm was genuinely concerned with the excessive numbers invading "New Sweden". He gleaned from local records that lone stars had been present in the Eastern colonies for as long as anyone knew, but their population seemed to be burgeoning as of late. He found that this shift coincided with massive changes in forestry and hunting practices over the last century, as well as with the ethnic cleansing of the Native Americans.

Before the Europeans arrived to what would become the United States, there was approximately 1 billion acres of forest land (most of which was east of the Mississippi River). These forests were home to what I consider a trifecta - white-tailed deer, lone star ticks, and humans living in balance with their surroundings. White-tailed deer are lone stars' preferred host, and in a healthy forest, ticks provide population control of their hosts. The Native Americans kept both tick and deer populations in check with proper hunting and forest management. Many tribes performed controlled burns to remove excessive leaf-litter, which would have removed nesting grounds for tick infestations. As Europeans settled, they disrupted the trifecta in multiple ways. Besides attempting to eliminate the Native Americans (even Kalm noted the measurable reduction of the tribes in New Sweden), the settlers aggressively pastoralized the East. The deer populations dropped drastically due to habitat destruction and excessive hunting. Around 100 years before Kalm, another Swedish explorer, Peter Lindeström, had stated "there is no thickly grown forest [in New Sweden], but the trees stand far apart, as if they were planted." Interestingly, at this time, locals noticed that the lone stars began receding from the area. So how did they come back so strong a century later when Kalm was exploring?

Agriculture in the East was much more difficult than settlers had expected; the soil wasn't amenable to extended farmland, and the dense forest tended to be tenacious in reclaiming territory. However, the second growth forest was of a completely different compilation. It was heavy in oak, which created a great deal of leaf-litter compared to the original chestnut trees. Ironically, the colonies made the undergrowth even worse by banning controlled burns of the forest, thinking that it would cause damage to property. There were also hunting restrictions put in place to restore the deer population and to keep the market for hides and venison profitable. It isn't really surprising that the Lone Stars came back with a vengeance by the time Kalm arrived in the New World.

The pendulum of mismanagement swung again in the next hundred years though. By 1870s, the demands of Manifest Destiny had reduced the forests to about half of their original size and the white-tailed deer were nearly hunted to extinction, experiencing a 99% drop in their population. If not for conservationists, naturalists, scientists, hunters, anglers, and even politicians, Americans would have neither forests nor white-tailed deer. Amusingly, we also wouldn't have lone star ticks. Cold comfort, if you ask me. But for a time, lone stars were really only viable in the South due to the strangled forests elsewhere.

Now, the pendulum swings once more. While the deer and much of the forest have recovered, we have not successfully dealt with newer ecological hurdles. Due to fewer freezes (courtesy of climate change), decreased bird and reptile population (both from climate change and poor hunting management), and lack of consistent forest management (like controlled burns or removal of invasive plant species), we have created an environment ripe for tick infestations again. And through all this, She-Devil came into my life; the luckless symptom of a problem she did not create, yet must bear the consternation of.

During my days researching, I got rather attached to She-Devil. I'd watch her walk up and down the glass walls and wonder if she had any thoughts about where she was. I even contemplated making her a terrarium to live in, but couldn't offer another creature – and cowardly, not myself – to provide her last supper. So finally I agreed to surrender her to Fort Meade, and she, like so many great women of science, became a sacrifice on the alter of knowledge. It might sound sentimental, but I admired her will to live in world not built for her convenience, one that would probably terrify me. Honestly, I could write a lot more about her

and those like her, but I think its best I wrap it up here. The whole point of my sharing this is to encourage you, should you come across a living thing you revile, to take a moment to peer past the disgust. Don't just get angry when you see a "pest"; ask why they're there in the first place, and what it means about your ecosystem, and if there is anything you and your community can do to make it better. Everything on this planet wants to live, and it isn't meant as an affront.

When you think on it, environmentalists are a little like ticks anyway. We're resilient and impossible to eliminate. As the climate changes, we keep coming back in larger numbers and infecting more people with our ideas. And we will keep going until our environment comes back into balance.



Lone Star Tick (Amblyomma americanum), courtesy xpda, Wikimedia Commons

Psychology of Habits in the Face of Climate Change Data

by **Elizabeth Kelch**

Have you seen the data about the planet warming effects of things like natural gas, the beef industry, and plastic waste? Have you seen that data and said to yourself, “I should act on that” and then, with the best of intentions, didn’t make the changes you planned on in that moment?

Recently, I was out with a friend I don’t get to see often. She asked, “What’s new with you?” I shared about how I’d been pondering why folks don’t choose more sustainable behaviors based on data about our climate and environment. There is plenty of data comparing the carbon impact of the production of the different agricultural products. I shared about how dairy and beef production are exponentially worse for our climate than all the plant agriculture. I’ve been pondering why folks don’t see data like that and change their habits. My friend, who knows all about my treehugging ways, kind of shrugged and agreed it was a good question. Lots of folks understand how important it is to mitigate the carbon and plastics going into our environment. However, many of us don’t know where to begin to make the changes needed.

Scientific American reported a study (<https://www.scientificamerican.com/article/what-makes-people-act-on-climate-change-according-to-behavioral-science/>) about what makes people act on climate change. They used behavioral science to draw some conclusions. They found that simply educating people about the need is dreadfully ineffective. We’ve all read the articles about how we should exercise more, yet so many people don’t. For decades now, we have all heard about how smoking was a bad idea, yet people continue to do it. These are demonstrations of how fruitless education is when trying to modify the changes people are so resistant to.

There are plenty of smart people studying how to influence folks to make more sustainable choices. Many consider what the barrier is to the needed changes. The study of psychology has long known resistance to change is normal human behavior. Psychologists define these challenges in 5 descriptions (<https://www.psychologytoday.com/us/blog/cutting-edge-leadership/202408/why-are-people-so-resistant-to-change>).

1. Fear of the Unknown. Demonstration - I'll just buy the grocery item I've always bought. I don't know what the other one tastes like, and I don't feel comfortable experimenting with it.
2. The “Moral Force.” Demonstration - We've always done it this way, and it's always worked just fine, so we'll continue doing it this way. It must be the right way.
3. Fear of Failure. Demonstration - If I buy this new product, what if it works out terribly.
4. Apathy. Demonstration - I'll just continue doing what I've done all along because it's easy.
5. Lack of Faith in Changemakers. Demonstration - The person telling us to make a change is just an idiot. Why would we do what they say?

Considering these oppositions to change helps us understand why people don't choose more environmentally friendly behaviors. People often fear the unknown. “If I don't eat meat, what will I eat? Will I be hungry?” Another factor is that people get set in their routines so strongly and they hold on to the old ways so tightly, they, in fact, believe the old way is the best way. There’s also the fear of failure. “What if I try this new way and it turns out badly”? Then there is apathy. “I simply don't want to try this new way”. And lastly there is the idea that whoever is pushing this change is simply wrong. Some people simply lack faith in the changemakers.

People resist change due to the fear of the unfamiliar or strange. Imagine the unknown is something like eating a plant-based diet. How do you feel about giving up familiar foods that have been a staple of your diet all your life. Many folks don't understand where to get plant-based protein. They don't know how to make plant-based recipes and menus. People believe plant-based diets will leave them hungry or unsatisfied. To

fight this resistance to change we need to find a way to show how it's not all that strange. For years the rooftop solar industry demonstrated how little life will change when the source of electricity is the sun. They've done a pretty good job putting solar in place in a way so that people see little change in their homes and lives.

Change is also hard because it means a change of routine, a routine they've had for many years, some might even believe generations. People believe these routines have served us well. They believe these behaviors must be the right way to do things. To fight this resistance to change we need to demonstrate these changes have not served us so well. In the early 1900s the practice of burning coal in the UK had led to terrible air quality. People recognized the pea soup fog was not due to more water vapor in the air. People recognized the routines they used had not served them well. With the end of burning coal to warm every citizen's home, air quality improved. Today fossil fuel industries pour many millions of dollars into marketing to keep people believing burning fossil fuels serves them well. The catastrophic effects of climate change are demonstrations that our burning fossil fuels has not served us well.

I know a young couple who spent a great deal of money to have natural gas piped into their average value home. The streets had to be excavated, city gas pipes were tapped into, and their kitchen had to be dug up. All so they could cook on a gas stove. I also wanted the sensitivity cooking with gas can provide. I choose to look to the future, now the past. In our world of innovations, I found induction cook-tops have the same responsiveness as gas stoves.

Fear of failure is another common resistance to change. People might think "If I tried to eat a plant-based diet and can't find food I like or don't get the nutrition I need, my experiment will have been in vain. Why should I even try"? Fighting this resistance to change will be in doing well with changing to more sustainable behaviors. Many years ago, there were only a few vegetarians around. Most people thought they were odd or ate vegetarian for religious reasons. In the world we live in today a great many more people are vegetarian and even vegan. It's become much more mainstream. There are a great many more vegetarians in the world than there were 20 or even 10 years ago. As more and more people change to a plant-based diet, a great many more folks are making the change too. Now it turns out those are the healthy folks, living longer and with more wellbeing. Those living with this change to a plant-based diet are the demonstration of how this way of eating is successful.

While people may recognize there is a need for, change takes effort and some people are apathetic. A great many folks say meat tastes good, and they don't feel like letting it go. They simply don't want to put in the effort to find something healthy for the planet and yummy also. It's too hard to find clothing made from natural fibers or take the bus instead of a personal car. Fighting this resistance to change is significantly harder because people simply don't want to change. To inspire change in these people we need to inspire the will to change, to help them find interest or passion.

Some people resist change because they believe the voice's calling for the change are simply wrong. People lack faith in the scientists and engineers reporting the need for the changes. Fighting this resistance is an uphill battle. The fossil fuel companies, plastics industry, beef and dairy lobby, fast fashion, etc are pouring many dollars into discrediting the scientists and engineers telling us about the need for change. Forbes reported on a study about why some people just don't care about climate change. The study found "Those most skeptical of climate change scored higher on scales associated with narcissism (self-importance), Machiavellianism (manipulativeness), and psychopathy (callousness)." (<https://www.forbes.com/sites/phildeluna/2025/07/01/new-science-shows-why-some-people-just-dont-care-about-climate/>). These people's thoughts may only change as they experience the painful effects of climate change firsthand. The good news is these folks are a very small minority. We can make the needed changes without them getting on board.

So, what are the factors making people change? What makes folks act on the changes needed to mitigate planet warming behaviors? The Scientific American study found two effective tools: financial incentives and social comparison. Paying folks to make the changes or an increase in savings due to the change motivates people to change behavior. The number of people who bought electric cars or even hybrid cars when tax credits were in place skyrocketed. Another, and even more effective tool is highlighting other people's behavior. Keeping up with the Jones' seems to be a good push to influence behaviors. If an electric bill shows power usage, folks feel unmotivated to change. However, if the electric bill shows your power usage

compared to your friends and neighbors, people are more driven to make changes. It's, apparently, normal human behavior to follow social norms.

While most of us don't have the means to pay people to choose more sustainable behaviors, we do have the power to set a social norm. As more of us make sustainable choices, more of us will feel motivated to do the same. If highlighting other people's behavior is so valuable, my climate story is to be the demonstration of better behaviors for folks. Be the change you want to see in the world and demonstrate it loud and proud for all the world to see.

The article that follows – ‘**For the Love of Birds**’ – is reprinted with permission from SWARA, the magazine of the East African Wildlife Society, copyright Jonathan and Angela Scott. Image captions follow.

Lilac-Breasted Roller primarily feeds on insects, including grasshoppers and beetles. Play a crucial role in controlling insect populations, including locusts, which can be agricultural pests. Often described as Kenya's unofficial national bird, due to its wide array of feather colours: green, white, black, yellow, turquoise, dark blue, reddish-brown, and lilac. The colours are supposed to reflect the national pride of Kenya in its colourful mix of communities. Also said to symbolise, freedom, wild beauty, and rain. Masai Mara.

Village Weaver (male). Males weave intricate, hanging nests from strips of grass, palm leaves, and reeds. Each nest is carefully crafted into a rounded chamber with an entrance tunnel, dangling from tree branches—an unmistakable hallmark of the species.. The female decides if the nest is to her liking. Also known as the Spotted-backed or Black-headed Weaver. Found in much of sub-Saharan Africa. Talek River, Masai Mara, Kenya.

Southern Ground Hornbill (male). Spectacular, large, carnivorous, ground foraging bird endemic to Africa (2 species), feeding on insects, snakes, other birds, amphibians, and even tortoises. Adults are around a meter tall, and can live up to 30-40 years in the wild. Females have bluish patch in the red wattle, below the mandible Typically produce only one brood of two chicks every nine years, with only one chick surviving. They have a deep, resonant call considered a harbinger of impending rain, hence the name "rain birds" or "thunderbirds". Southern ground hornbills are listed as Vulnerable globally by the IUCN, and Endangered within their Southern African range, facing serious population declines due to habitat loss, poisoning, electrocution, and persecution. Masai Mara, Kenya.

Pied Kingfisher (female). Males have a double band across the breast, while females have a single broken breast band. A water kingfisher widely distributed across Africa and Asia; one of the 3 most numerous kingfishers in the world. Feeds mainly on fish; will take crustaceans and large aquatic insects such as dragonfly larvae. Usually hunts by hovering over clear lakes and rivers to detect prey, before diving vertically bill-first to capture fish. It can consume prey without returning to a perch, often manipulating it with its bill and swallowing in flight. Masai Mara, Kenya.

Grey Crowned Crane. National bird of Uganda, famous for its elaborate courtship dances: leaping, bowing, calling and wing flapping, that strengthen the pair-bond. Breed primarily in wetlands during rainy seasons, when water levels and food availability are highest, building nests in dense vegetation. Typically lay 2-4 eggs. Classified as an endangered species in Kenya due to a significant population decline attributed to shrinking wetlands. Conservation efforts are ongoing, including ecological restoration and population tracking techniques to monitor and protect the species. The last census conducted in 2023 recorded approximately 8,300 cranes. The cranes are particularly concentrated in counties such as Uasin Gishu, Nyandarua, and Trans Nzoia. Masai Mara, Kenya

Little Bee-Eater. Smallest African Bee-Eater, hawking primarily flying insects from a perch, especially bees, wasps, and hornets. Resident in much of Sub-Saharan Africa. Breeds in open country with bushes, preferably near water, and uses its powerful bill to dig a tunnel into sandy riverbanks or termite mounds for nesting. The female lays between 4-6 eggs, which are incubated by both parents for 3-4 weeks. Despite its common presence, the little bee-eater's population is suspected to be in decline due to pesticide spraying for tsetse fly control. Masai Mara, Kenya.

Cattle Egret. A small social heron, originally found in tropical Africa, Madagascar, and southeast Asia, now present in temperate, tropical, and subtropical regions around the world, including North America, South America, Australia, and New Zealand. It reached southern Europe by the 1950s. Has made a comeback in recent years, with established populations in the UK and other regions, largely due to increased cattle farming and its ability to adapt to agricultural landscapes. Inhabits wetlands such as lakes, rivers, and marshes, feeding on small fish, amphibians, and aquatic invertebrates. Flocks gather to follow cattle and wild herds (such as wildebeests, buffalos and elephants in Africa), sometimes riding on their backs, darting forward to catch frogs and insects disturbed by their movements. Masai Mara, Kenya.

Sapphire-vented Puffleg Hummingbird, Ecuador, that holds the world record for the highest bird biodiversity per sq km, with over 1,600-1,700 species packed into a relatively small area of 283,561 sq km, less than half the size of Kenya.

Immature Fish Eagle contesting possession of a catfish (trapped in marshy ground during the rains) with a Marabou, considered the world's largest stork, reaching a height of about 5 feet (1.5 meters) with a wingspan up to 10 feet (3 meters): native to sub-Saharan Africa. African catfish appear in marshes and floodplains during the rainy season when water levels rise. They migrate to these areas to spawn and feed on abundant prey. During the dry season, they return to deeper waters, but their presence in marshes is crucial for their life cycle and population dynamics. Masai Mara, Kenya.

Martial Eagle. Heaviest African eagle, preying primarily on medium-sized mammals (hares, hyraxes, young antelope, monkeys), birds (guineafowl, bustards, francolins), and reptiles (monitor lizards, snakes). Capable of killing prey up to 37 kg, such as duikers, though most prey weighs under 5 kg. Intentional poisoning, shooting, habitat loss, and electrocution, are primary causes of a 60% decline noted over a 20-year period. Considered "one of the most persecuted bird species in the world". Masai Mara, Kenya

BIRDING

For the Love of Birds

Five decades across East Africa show how birding enriches lives, shapes conservation ethics, and reconnects us to the natural world.

STORY & PHOTOS BY



ANGELA SCOTT



JONATHAN SCOTT

Each morning at around 05:30, we head out of our front door and into the darkness, the liquid song of White-Browed Robin Chats serenading the dawn, accompanied by the plaintive trilling of Montane Nightjars in the winter months. By the time we return home, the Hadada Ibis are calling overhead, spiralling out of the sky to perch on the rooftops, a flash of crimson wings signalling the dazzling presence of the pair of Hartlaub's Touracos that come tapping at their reflection in the bathroom window, sometimes with young in tow, much to Angela's delight.

Later in the day, an Augur Buzzard or African Harrier will likely swoop in to drink and freshen up in the bird bath at the bottom of the garden. And on a clear sunny day, when northern climes are transformed by the icy chill of winter, flights of swifts, swallows and sand martins, all a twitter, flit low across the lawn hawking insects on the wing.

I grew up on a farm in England, feasting on wildlife magazines and documentaries

such as *On Safari* with Armand and Michaela Denis, and then fell in love with the African continent all over again, travelling across the continent from London to South Africa in 1974. I never looked back.

Angela, meanwhile, was born in Egypt and brought up in Tanzania, relishing childhood days spent on safari in iconic wilderness areas like the Serengeti and Ngorongoro Crater. Little wonder that birds have been a source of endless fascination and joy to us both. We could show you 50 species within an hour of wandering through our wildlife garden at home here in Nairobi. We love to name things, but as Angela often reminds me, by seeking to put a name to everything, you can lose sight of the interconnectedness of all of life, how each individual is a vital element within the larger community.

Back in the 1970s, guidebooks did little more than help identify what you were looking at, to give it a name. The illustrations were often flat and lifeless, and some bore





Kenya is one of the best birding destinations in the world.

little resemblance to the animal or bird they depicted. The desire to know more about the individual character and habits of the spectacular assemblage of wild creatures we encountered on our travels prompted us to write and illustrate a series of Safari Guide Books to East Africa's Mammals and Birds - with photographs rather than paintings.

As intriguing as a Lilac-Breasted Roller or Narina's Trogon might sound, we wanted to help driver-guides and visitors to enquire beyond the name - to discover what a particular animal or bird fed on, its gestation period, how many young it gave birth to, its height and weight, and how long it might live in the wild. We also wanted to promote "Safari Etiquette", encouraging driver-guides and

guests to prioritise the well-being of wildlife and to enhance the sense of privilege of being on safari, without it being just entertainment or about getting the shot at any cost.

Kenya is one of the best birding destinations in the world. There are over 1,100 species, with 500 of them recorded in the 1,510-square-kilometre Maasai Mara National Reserve, which has been our second home for much of the past 50 years. The Mara boasts over 60 different birds of prey, including spectacular Martial and Long-Crested Eagles, six vulture species, and many Palearctic migrants arriving between November and April. The record for the number of birds seen in Kenya in a 24-hour period - a "Big Day" - stands at a staggering 342 species, set on November 30, 1986, by our good friends Terry Stevenson, John Fanshawe, and Andy Roberts. The team used two aeroplanes, along with other vehicles, to achieve this remarkable count, and for the next 28 years, their achievement held pride of place in the Guinness Book of World Records.



We have been delighted to share our work in East Africa (and as far afield as Antarctica) at the annual British Bird Fair, a premier event for birdwatchers and conservationists that ran each July/August from 1989 to 2019 at Rutland Water near Oakham. Due to the COVID-19 pandemic and subsequent financial, environmental, and structural concerns, the new Global Birdfair was launched by one of the original founders, the irrepressible Tim Appleton and his partner Penny Robinson - known affectionately as the “dynamic duo.” It is the perfect family weekend to celebrate the natural world. Like its predecessor, it features a lineup of popular guest speakers, workshops, a multitude of stands offering camera gear, binoculars, outdoor apparel, wildlife art, and nature tourism holidays, and stalls offering a variety of food and drinks. Aside from any commercial opportunities, its primary goal is to raise significant funds for international bird conservation projects while celebrating biodiversity. In 2025, the event raised \$140,000 for Safeguarding Ocean Species, supporting the challenging work of BirdLife International’s Pacific region team. This year, fundraising is centred on their Preventing Island Extinctions project, focusing on the conservation of the Dwarf Ibis, a resident of



the island nation of São Tomé and Príncipe, with a population probably fewer than 2,000 individuals.

The Birdfair has a truly international flavour, and our friends from Nature Kenya are regular exhibitors. A highlight for visitors is witnessing the encyclopaedic display of knowledge by four eminent ornithologists as they battle it out for the title of Bird Brain of Britain. In that respect, it is worth remembering that many bird species possess truly remarkable memories, often far exceeding human abilities in spatial recall and facial recognition. Corvids (crows, jays), for instance, can remember thousands of hidden food locations for months, and a single chickadee can hide and relocate between 50,000 and 80,000 food items each year. Urban birds like crows, ravens and magpies can recognise specific human faces years later, particularly those that have threatened them. We “oldies” can only marvel at these avian powers of recall as we turn the house upside down in search of the car keys, or stare blankly at the person standing in front of us who has stopped to say hello, struggling to remember their name!

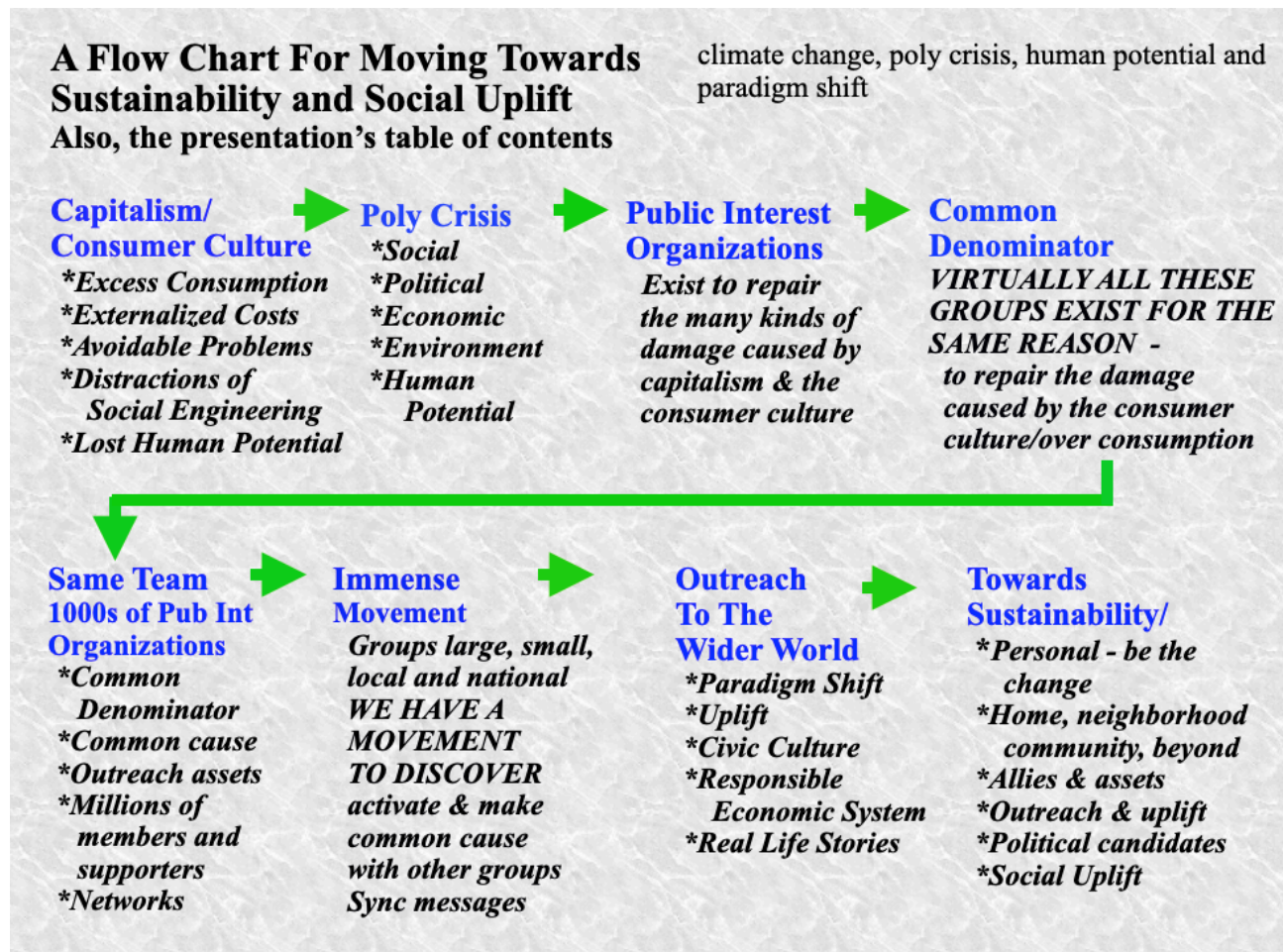
So what does a love and appreciation of birds tell us? That they are capable of rekindling a sense of the sacred in nature. Whether taking note of a new species of bird perched on your windowsill or marvelling at the variety of waterfowl on a neighbourhood pond, birding is free to all who wish to participate. No membership is required to get started; birds are ever-present and accessible to all. You just need to keep your eyes open

and a good pair of binoculars to hand (like our trusty Swarovskis!). Worldwide, there are approximately 10,000–11,000 distinct bird species, with 50 billion or more individual wild birds. That is roughly six birds for every human. Birds are ambassadors for the natural world. They create a visible connection between earth and sky, wind and water, trees and flowers, heralding the changing seasons: nature’s boundless creativity made audible and visible. Who doesn’t feel their spirits soar at the sound of birdsong or the mesmerising sight of a jewel-like kingfisher perched along a riverbank? Our feathered friends inspire us to rise above life’s uncertainty, to live in the moment with gratitude, to reach for the sky and treasure peace on earth. ●

Jonathan & Angela Scott are the only couple to have won the Overall Award in the prestigious Wildlife Photographer of the Year Competition as individuals. They have written and illustrated 40 books and presented numerous television series, the latest being Animal Planet’s Big Cat Tales. In 2021 they founded the Sacred Nature Initiative to help reconnect people to nature.

A Time Line for Paradigm Shift

by Jan Spencer



This article describes a time line starting with current historic, economic, social, political and environmental challenges, often referred to as the poly crisis and moving through several dynamic points on that timeline to common denominator, team, Movement, paradigm shift and towards sustainability. Used here, paradigm shift is the movement towards a society that takes care of its needs within the boundaries of the natural world, a society that places a high value on building uplifted civic culture and a society that is served by an honest and responsible economic system.

This article is oriented towards the US but can apply elsewhere. It also provides a look at how an American views his own country.

A sustainable society will be very different in almost every aspect of lifestyle such as food, energy and shelter, transportation, recreation, employment and even social relationships. With an enormous amount of luck, we will be spending a lot of time learning new social skills to repair the social and

environmental damage caused in the past 100 or so years of human over consumption of resources and energy. A sustainable society will call on us to recognize and put to use a surprising number of positive opportunities that have been there all along.

Here are several important words used in this time line and paradigm shift: capitalism, public interest organizations, sustainability, common denominator, the same team, enormous horizontal social Movement, communication assets and outreach.

Check the graphic time line that comes with the article. Let's take a look at parts one through 8.

The time line starts at 1, where we look to capitalism and its consumer culture based on over consumption of energy and resources. This virtual cult of over consumption is the common denominator of nearly every familiar social, economic, public health, political, environmental

and even spiritual problem and challenge that confront us at this point in history.

Those problems manifest in the food we eat, the car centric transportation system, the money spent on the military and much more. Ironically, the waste and excess is what makes our society so wealthy - nature turned into money. The products that cause the problems and the efforts to address the damage are very profitable. Millions of jobs exist to repair these mostly avoidable problems.

At number 2, those problems and issues can receive a name such as the poly crisis - a dynamic condition where adverse outcomes of over consumption are deepening and hard to predict as they interact with each other. Those problems include remarkable social, economic and political dis equity, climate change, a shortage of affordable housing, deepening class antagonisms and much more.

The Common Denominator

At number 3 in our sequence is understanding that thousands of public interest organizations, large, small, local, national nearly all exist to address the many problems caused by capitalism and its consumer culture.

They are all trying to fix the problems caused by capitalism.

Next at number 4 is the common denominator. Almost impossible to over emphasize, virtually all these public interest organizations exist for the same reason, to repair or mitigate the damage caused by capitalism and its consumer culture. That is a very important common denominator even when these organizations have such very different specific issues. These groups are all kin. Paradigm shift will gain traction when these organizations see themselves more as a team and allies.

Also important, entities that do not have a traditional structure of organization such as occupy wall street, black lives matter, climate justice groups and advocates of indigenous rights are also team members. These groups count many millions of people sympathetic to their work. Faith groups and labor can also be powerful allies to paradigm shift.

Next at number 5, because these organizations have a common denominator, they are on the same team. Being on the same team has enormous implications for making common cause. Forward movement for one is almost certainly forward

movement for all to weaken the hold big business has on our society. The sum of working together as a team is far far greater than individual groups working alone.

Same Team to Immense Movement

The next understanding in this sequence at 6 is that when we take a more strategic look at the common denominator - the number of team members amounting to tens of thousands, these organizations have tens of millions of members, all with related interests, we can rightly call this a Movement. This Movement has the capacity to change the course of history.

This is how the Encyclopedia Britannica defines the term social movement: "A social movement is a loosely organized but sustained campaign in support of a social goal, typically either the implementation or the prevention of a change in society's structure or values. Although social movements differ in size, they are all essentially collective."

For all these organizations to achieve their goals, a significant change in the structure of our society will be necessary for living within the boundaries of the natural world. The reasons for all the problems is the over-consuming lifestyles of the great majority of people. The economic system will not change itself but it will respond to proverbial market forces.

If excess consumption is no longer profitable, those products will go away. That means people changing their food choices, transportation, housing, recreation and more. Basically, a boycott of large sectors of the economy. When we prioritize our own time and money, we buy products that help bring about uplift and sustainability.

When we avoid unhealthy products, we avoid the need to repair the expensive damage they cause. We invest in paradigm shift and sustainability instead.

The purposeful change can take place as individuals, friends, neighbors, communities reduce eco footprints and build civic culture. This purposeful change is paradigm shift. For this historical change to take place at a scale large enough to make a significant difference in our current trajectory will require a widespread Movement.

Number 7 on our flow chart is outreach to the wider world. All these public interest organizations communicate with their members and the wider world to explain what they do, why their cause is important and to attract funding and more members. All these organizations have outreach assets such as websites, social media, newsletters, perhaps a monthly hard copy magazine. They all have networks, they may host or attend conferences and interact with the media.

For the change needed by humanity to fit within the boundaries of the natural world will take thousands of public interest organizations to explain to their members and the wider world the need to downsize lifestyles and help build a culture and society that is truly sustainable, democratic and inclusive.

Number 8 is moving towards sustainability. These organizations can better support each other. They can explain to their members that paradigm shift and sustainability will help these groups achieve their goals. Organizations can use their outreach assets to tell the stories of people who are living the change of paradigm shift in their every day lives. Organizations can profile their own members who

are being the change as a way to set an example for others to follow.

The real stories that show and tell what moving towards sustainability can look like is one of the most powerful assets we have to advocate for an historical leap forward in the human experience. These stories include transforming suburbia, empowering young people, protecting and restoring the environment, worker owned business, financial mechanisms to invest in local projects that fit paradigm shift, turning apartment complexes into eco villages and much more.

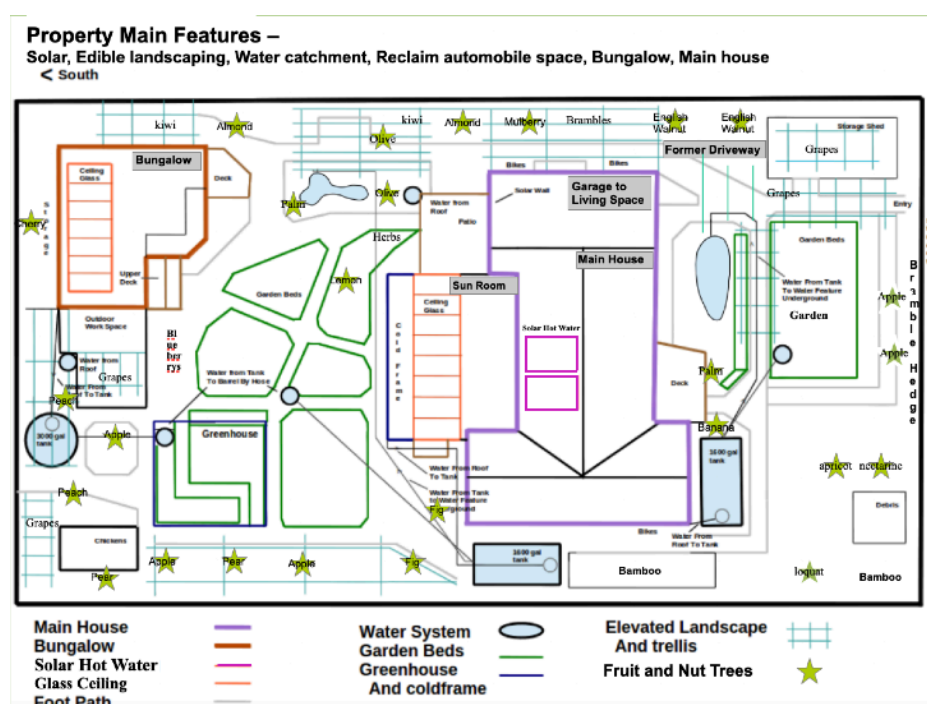
These organizations are a Movement. That awareness can be very empowering

Moving beyond capitalism and the consumer culture, reducing eco footprints and making time for building civic culture is a task of every person who cares about people and planet. We have a Movement ready to discover itself. There is a place for everyone to participate. We start by being the change we want to see. We prioritize our own time and money for moving towards sustainability and civic uplift. No permission needed.

Image captions

1] This time line (above) shows the idealized movement from the consumer culture to paradigm shift and moving towards sustainability. You can find a companion video on youtube <https://www.youtube.com/watch?v=p1gCFYSfSHE&t=39s>

2] Jan's particular interest is urban land use. This image is a graphic that shows 25 years of permaculture transformation on his ¼ acre suburban property in Eugene, Oregon. He produces significant amounts of food, water, energy and aesthetics on site.



3] Thousands of people have visited over the years to see what suburbia can look like. The view is Jan's backyard and passive solar ADU he built. Jan rents 3 bedrooms in his house and gives a break on rent to housemates who don't have a car.



4] Kailash Eco Village in Portland, Oregon is an excellent example of urban repair that shows what paradigm shift can look like. This was a run down, drug infested 35 unit apartment complex. Twenty years later its a thriving eco village with the next door larger apt complex now in its 5 year of transformation. See kailashecovillage.org



Jan Spencer's website, aprimerforparadigmshift.org contains extensive practical and usable information about paradigm shift. The site is a primer for paradigm shift and includes a critique of capitalism, be the change, reduce eco footprints, building civic culture along with many visuals that show what moving towards sustainability can look like in real life. You can find many videos from Jan on youtube, search Jan Spencer Primer. Also search Jan Spencer at resilience.org and Jan's media page on his website.

Strange Stones: Re-estranging the Prehistoric Landscape

by Paul Vivian



On 28 January 2023, while visiting the 4–5000 year-old stone circle of Swinside in the southern Lake District (above), I encountered an unusual airborne sound apparently originating from within the monument. It was an experience that resisted immediate explanation. Viewed through one cultural register, it resembled something from folk horror: the familiar landscape suddenly made strange. Through another, more spiritual register, one might say that the stones had spoken. Neither seemed adequate. More significant was the uncertainty produced by the encounter itself. The event offered no reassurance about what the monument was, what had occurred, or what relationship I was supposed to have with it.

That uncertainty became the starting point for an extended practice of field recording at Neolithic and Bronze Age sites across Britain. Since 2023, I have investigated the acoustic and seismic behaviour of prehistoric monuments, developing recording methods attentive not only to airborne sound but to vibration transmitted through stones and the ground beneath them. As methodology and comparative recording have developed, the research has moved from isolated anomalous sounds towards a broader question: whether prehistoric sites possess persistent material and acoustic behaviours that exist irrespective of human presence, interpretation or intention.

This distinction matters. Prehistoric monuments are surrounded by systems of human interpretation. Archaeology categorises, dates and reconstructs them; folklore narrativises them; heritage preserves and manages them; while contemporary spiritual and wellbeing cultures increasingly approach them as places through which connection might be recovered with ancestors, community, the self or an imagined natural world. Stone circles become places to meditate, heal, undertake ritual, experience energies or seek ancestral connection. Such practices should not simply be dismissed. They do, however, raise a question: to what extent are prehistoric landscapes being required to answer distinctly contemporary anxieties about ecological crisis, alienation, secularisation, individualism and disconnection from nature?

Relieving ancient sites of this burden as antidotes to twenty-first-century unease, I propose a different encounter with the prehistoric monument. Rather than asking what these sites might restore to us, what happens when they are permitted to remain strange? Strangeness here is not dispassion, but a recognition of otherness: of alterity. At Swinside, what affected me was not reconnection but its opposite: an encounter whose cause and significance remained unresolved. The experience seemed closer to the pre-conscious intensities described through theories of affect than to an interpretative encounter with archaeological heritage. The landscape temporarily ceased to reassure. The monument became less, rather than more, familiar.

I describe this process as re-estrangement.

Re-estrangement offers a counterpoint to the contemporary language of re-enchantment. Where re-enchantment can imply the recovery of meaning, spirituality or connection from a supposedly disenchanted world, re-estrangement allows the material world to retain an independence from these human requirements. It asks whether stone, geological substrate, groundwater, vibration and atmosphere might be approached not simply as the setting for human history, but as participants within an assemblage whose behaviours exceed it.

My acoustic research consequently occupies an uneasy position between empirical investigation and philosophical enquiry. Repeated recordings have identified persistent spectral and resonant structures at particular locations and across repeated visits. These findings do not demonstrate prehistoric acoustic engineering, nor establish intentionality on the part of those who constructed the monuments. Instead, they open another possibility: that what is encountered may emerge through interactions between monument, geology and environment that continue independently of human presence.



This relocates the research within a wider more-than-human question. Rather than attempting to make prehistoric stones speak for us, can we attend to material behaviours without immediately converting them into human meaning? The prehistoric monument might then be understood neither as a mute archaeological object nor as a therapeutic conduit to a lost ecological past, but as a materially active and partially unknowable thing. The sound encountered at Swinside was significant not because the stones ‘spoke’, but because, for a moment, it rendered the familiar monument strange: I could not confidently say what it was doing.

More recently, researching at the Merry Maidens stone circle in West Penwith, I was struck by the problem of naming. Its name reaches us through folkloric mediation: oral narratives collected and curated largely by nineteenth-century antiquarians, clergy and folklorists. What we inherit is therefore not an unmediated local voice but a cultural record filtered through those who recorded it.

This mediation has a history. James Fergusson's *Old Stone Monuments* (1872), for example, makes comparatively little use of folkloric naming. The term ‘folk-lore’ itself had been coined only in 1846 by the antiquarian William John Thoms, partly from concern that oral traditions were disappearing under industrialisation. Earlier antiquarians, including William Stukeley, had collected local customs and traditions, but nineteenth-century anthropology increasingly changed their intellectual status. E. B. Tylor's *Primitive Culture* (1871) positioned apparently residual customs, beliefs and stories as evidence through which earlier cultures, ritualistic practices and religion might be interpreted. The establishment of the Folklore Society in London in 1878 further institutionalised their collection and study. Folklore consequently became one of the frameworks through which ancient monuments could be made culturally legible.

Naming forms part of this wider anthropocentric process: ambiguous monuments become attached to human stories, identities and moral narratives, frequently with a striking gender bias. To refuse, even temporarily, to name these places is to return to them something of the ambiguity they richly deserve.

A short distance from the Merry Maidens lies St Buryan, an unexpectedly significant location in folk horror cinema. Sam Peckinpah's *Straw Dogs* (1971), adapted from Gordon M. Williams's *The Siege of Trencher's Farm*, was filmed in and around the village. Its middle-class couple retreat into a rural Cornwall that becomes increasingly threatening. This landscape is emphatically not therapeutic. It provides neither escape nor reconnection; instead, it becomes unfamiliar, hostile and resistant to the expectations projected upon it.

Folk horror therefore provides a useful lens through which to return to uncertainty and re-estrangement. From the writing of M. R. James and Arthur Machen onwards, it repeatedly disrupts the reassuring idea of the ancient or rural landscape as capable of resolving contemporary problems. Its landscapes do not necessarily heal, reconnect or offer spiritual guidance. Frequently they do the opposite: destabilising the human subject and exposing the limits of our ability to make landscape meaningful.

The genealogy of our desire for reconnection is considerably older than contemporary wellness culture. It can be traced through Romantic responses to industrialisation and landscape, nineteenth- and early twentieth-century occultism and esotericism, the counterculture and New Age philosophies of the 1960s and 1970s, and the therapeutic and ecological discourses of the late twentieth century. James Lovelock's Gaia hypothesis, once absorbed into popular culture, could become detached from its scientific context and incorporated into a broader imaginary of Earth as an interconnected living system. By the twenty-first century, connection, embodiment, nature and wellbeing had acquired considerable cultural authority.

Such thinking has also attracted criticism. Slavoj Žižek, for example, has criticised forms of New Age spirituality for substituting intuition and imagined wholeness for the contradictions of modernity, while wider critiques have addressed the appropriation of scientific terminology from neuroscience to quantum mechanics to legitimise claims lacking empirical foundations. More politically troubling intersections between esoteric spirituality and far-right thought have also become the subject of recent cultural criticism. These critiques matter because apparently benign ideas of recovering a lost natural or spiritual order are neither historically nor politically neutral.

Yet alongside the ascendancy of the therapeutic landscape has come a striking resurgence of folk horror. Robert Eggers's *The Witch* (2015), Ari Aster's *Midsommar* (2019), and Andrew Michael Hurley's novel *Starve Acre* (2019), among others, return us to landscapes distinctly unencumbered by the requirement to function as sites of wellness. These landscapes resist, disturb and withhold reassurance.

Within the therapeutic genealogy, prehistoric people are frequently positioned as an imagined counterpoint to modernity: ecologically balanced where we are destructive, communal where we are individualised, spiritually connected where we are secular, and intuitively attuned to natural forces from which modern life has supposedly estranged us. Yet 'prehistoric people' become remarkably homogeneous. Neolithic and Bronze Age communities separated by millennia, geography and radically different material circumstances are compressed into a single figure: the 'connected ancient'.

The archaeological record offers little justification for assuming that such qualities were consistently shared across these diverse societies and epochs. More importantly, our desire for them to have possessed these qualities may reveal considerably more about the anxieties of the contemporary observer than about those who constructed the monuments. The question, then, is not whether prehistoric landscapes can provide meaning for the present, they clearly can, but what might become perceptible if, for a moment, we stopped requiring them to do so.

The Problem with Plastics – and the Solution

by Karin Westdyk

Bakelite was the first synthetic plastic developed in 1907 from phenol-formaldehyde resins, but had limited use. It was a hard and inflexible material and only useful to make such things as telephone cases and jewelry and was mostly abandoned after WW II with the rapid growth of plastics developed from petroleum-based materials. Natural materials once used in manufacturing most products were subsequently replaced by plastics and since the early 1950s, we have been surrounded by plastics; it is used to make furniture, clothing, electronics, building materials and packaging. But in the last two decades the production of plastic products has greatly increased and approximately 50% of all plastics ever produced have been developed since the year 2000.

Indeed, the production of plastic has increased exponentially, from 2.3 million tons in 1950 to 448 million tons by 2015 and is expected to double by the year 2050. Today plastic pollution is found in the water we drink, the food we eat, the air we breathe, the soil we grow our food in, and now is found inside our bodies. Plastic waste does not biodegrade, but instead breaks down into smaller pieces.

According to Prof. Dr. Dick Vethaak, esteemed professor of ecotoxicology at the VU University in Amsterdam, “We are now dealing with a human health issue as well.” Micro- and nano-plastics are found in human blood, brains, hearts, lungs, livers, sperm, placentas and mother’s milk.

Approximately 10 million tons of plastic are dumped into our oceans each year negatively affecting fisheries, coastlines, tourism, marine life, and the fish we eat. Contrary to what most people believe, plastic is basically indestructible and within the next few decades there could be a larger tonnage of plastic in the ocean than there are fish. This is predicted in a report titled “The New Plastics Economy” researched by the Ellen MacArthur Foundation and the World Economic Forum. Sea, sunlight, wind, and wave action continually work to break down plastic waste into smaller and smaller particles -- the size of one thousandth of one-one thousandth of a millimeter.

The UN Environmental Programme estimate that between 75 and 199 million metric tons of plastic are already in our oceans and this is increasing every year, either from rivers and waterways flowing to the ocean or from dumping directly into the ocean. These tiny fragments are ingested by fish and other animals, making their way up the food chain to us.

Plastic microfibers, meanwhile, have been found in municipal drinking water systems and drifting through the air. When consumed in drinking water or food, these carcinogenic microplastic particles can migrate through the intestinal wall and negatively affect our lymph nodes as well as other organs of the body. They have already been found in an estimated 93 percent of humans at the top of the food chain.

The conveniences plastics offer has led to our throw-away culture, and today, single-use plastic accounts for nearly half of the plastic produced every year. Though these products, such as plastic bags, bottles and food wrappers, have very short life spans for use, they persist in the environment for centuries.

Many deaths to sea animals are caused by entanglement or starvation from plastic items. Seals, whales, turtles, and other animals are strangled, due to throw away six-pack rings or plastic bags as well as by abandoned fishing gear. More than 800 species are already known to be affected by marine plastic pollution.

Though there have been attempts to mechanically gather up larger plastic items floating in inland waterways, plastic out in the oceans is virtually impossible to recover once the plastic breaks down into microplastics and drifts throughout the water column in the open sea.

Though recycling programs have been implemented, less than 9% of plastic is actually recycled; these programs seem to be a losing battle. Compounding the problem is the fact that much of the plastic produced today is not even recyclable.

The Solution — What We Can Do

We can easily wean ourselves from disposable plastics such as water bottles and shopping bags by replacing them with re-useable versions. Bring your own bags to the store, leave some silverware at your workplace, and use travel mugs for coffee and a re-useable container for water. When ordering food out, bring your own re-useable lidded containers for your food to avoid getting it placed into Styrofoam containers. Recycle all recyclable plastic items. Most are labelled with a 1, 2 or 5. Support a bag tax or ban.

Some other suggestions include avoiding products containing microbeads. Many facial products, body scrubs and even toothpaste contain these tiny beads which marine animals can mistake for food. Purchasing used items via thrift shops and online markets avoids the plastic packaging accompanying new items.

The four Rs of plastics often touted by environmental groups are: Reuse, Repurpose, Recycle and Refuse. Though there are many good ideas for individuals to repurpose plastic, it is even more important to put pressure on the manufacturers and other companies to be smarter about their packaging; companies can be very responsive to consumer demands.

In the 1990's a group of students in one New Jersey high school environmental club launched a national campaign to convince McDonalds to stop packaging their hamburgers in Styrofoam containers. They communicated with other school environmental clubs across the US and each wrote letters and conducted peaceful protests at local McDonalds restaurants carrying signs and banners, some dressing up in clown costumes wearing name tags saying Ronald McToxic. And it worked. Since then, McDonalds has been putting their hamburgers wrapped in paper or in paper containers.

But perhaps a new industrial revolution for plastics is the most promising solution for the future. Bioplastics is a new kind of plastic made from renewable sources. Agricultural feedstocks such as corn, soybeans, industrial hemp, or sugarcane all have demonstrated promising results. The starches, oils, and sugars from these feedstocks are extracted, modified, and used as the chemical building blocks for new bioplastic products. This is valuable because these feedstocks are sources of “new”

carbon as opposed to old carbon from petroleum-based products. The amount of new carbon in a product can be an important measurement for the product's sustainability.

So far, industrial hemp is proving to be the best choice for bioplastics for a number of reasons: (1) it is the most environmentally friendly, (2) two crops of hemp can be grown in the same time it takes to grow one crop of corn and in warm climates, there could easily be 3 or 4 harvests a year. (3) hemp can be grown on marginal land that is not suited or needed for food crops and it needs far less water, little if any fertilizers, and no pesticides, (4) as a canopy crop, it protects the soil from sunlight and erosion -- unlike corn, which leaves the soil exposed, and (5) hemp regenerates the soil while corn depletes it.

The Hemp Plastic Company, based in Colorado is already providing eco-friendly bio-composite and bioplastic solutions in volume, helping to reduce carbon emissions and promote sustainable production of plastic products.

The Hemp Foundation of India is a hemp plastic manufacturer & wholesaler of hemp bioplastics. In 2019, after 3 years of research and development, the company began producing and marketing plastic made from organic Himalayan hemp to plastic sheeting, injection molding, packaging companies, and the automotive industries.

An Austrian company, Zellform, has developed a hemp-plastic resin called Hempstone, for use in musical instruments, loudspeakers, and furniture. Hempstone can be carved into almost any shape, making the number of applications unlimited.

Though hemp bioplastics are in the very early stages of development, the global hemp-based packaging market is projected to approach or exceed \$1 billion by 2035, driven by increasing demand for biodegradable alternatives to petroleum-based plastic packaging. In addition to being far better for the environment, the production of bioplastics from industrial hemp supports local farmers rather than big oil companies. Industrial hemp plants actually capture carbon dioxide and turn it into oxygen. For every ton of hemp produced, 1.63 tons of carbon is removed from the air. These plants also enrich the soil. The deep roots prevent soil erosion and actually clean contaminated soil so that marginal

land can be converted to farmland for growing food crops later.

According to André Leu, director of Regeneration International, there is no better rotation crop than hemp as it improves the soil and eliminates the need for toxic weed killers that deplete the soil.

When we are confronted with a situation like plastic pollution and understand its devastating effects on the environment and our health, there is only one solution. We must stop making it, using it, and discarding it or find another way to make it safely.

Karin Westdyk is the author of Flidgywumper Saves the Seas, an award winning children's book designed to entertain and educate, but most importantly to inspire children (and the adults in their lives) to care and act.

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