

# Reading Nature as a Text – Goethe's Science Today

By Margaret Colquhoun

## Goethean Science in the Landscape

"Our task is the transformation of the earth", wrote Rudolf Steiner (1861 – 1925) in 1909 in his book, *Knowledge of Higher Worlds*. A century before, Novalis (1772 – 1801) had said "We are called upon to shape the earth" and Goethe (1749 – 1832), his contemporary, declared how to do it – "as if nature had done it herself".

How is this possible today, in our 21st Century world of virtual reality and technological achievement, which allow for a wilful manipulation of just about anything natural? In this context, it is hard for us to discriminate between what is appropriate, right, and ethical. In earlier centuries the church, our parents and the social norm more or less provided ethical boundaries within which we lived. We seem now to have entered an age where these boundaries have broken down to a large extent. We have to have huge debates, from the local school or village community to the global government level, on what is right. Does this reflect a need within the world society to find new ways of judging nature, compatible with and able to deal with the enormously demanding technological advances of our time? How can we develop a capacity to experience both one another as human beings embedded in vastly different cultures the world over, as well as our ability to read the language of the natural, sub-natural and super-natural worlds, and hence make morally responsible decisions about how to act with this knowledge?

These questions are posed in the realisation that, hand in hand with modern developments in technology and an escalating manipulative ability on our part, there is a ground roots movement, which rails against the transformation of all things natural and longs for the simple life of yester year. Many people in both movements are also experiencing a new consciousness in morality, either forced on them by the media or by shock of their own deeds, or out of an innate enhancement of their own 'listening' abilities within the natural world. I would like to share a few thoughts on Goethe's gift to humanity and its potential to unite variant views of the world toward a 'wholeness' of common experience.

## Journey into Landscape: The Wider Context

I would like to begin with a journey into landscape – into the immediate surroundings in which I live and work in East Lothian in South East Scotland. To the South lies an embracing arc of rolling rounded hills, the Lammermuir hills, which were once the Lapetus Ocean, when the large plates of the earth's skin were moving northwards from the South Pole. Later on, these two sections of the earth's armour collided and the erstwhile ocean became folded rolling mountains only to be smoothed and scoured by ice

many centuries later from an ice centre south of these hills in the uplands of Britain.

To the North lies the plain of Lothian stepping down in generous layers to the edge of the Firth of Forth. Beyond are two 'Paps of Fife' and the Ochil Hills slightly west (Fig. 1). On a clear day one can see the Trossachs beyond them and the Highlands due North. This wide-open shining land to the North is quite "another place" than those dour, dark curves that enhance our Southern horizon. What is it that makes these two landscapes that are so near to one another so extremely different?

## The Borders

At first we can only gaze in awe. One might imagine oneself as an early traveller driving cattle through the hills of the Borders Region – or even an intrepid Roman soldier almost at the Northern-most limit of the empire in this land they described as "hostile and inhospitable to man".

The people who live in the Borders region (from the Tyne Valley near Newcastle, to the edge of the Lammermuirs looking across the Firth of Forth) think of themselves as 'Borderers'. They are neither Scottish, nor English but something 'in between' (as was once the land they live on). To travel in the Borders is an interesting experience. There is a strong sense of place. People often do not travel far. The towns are strong and clear and quite individually characteristic – and yet throughout the region there is a sense of timelessness, as if one is in an ancient place being rocked in a boat and the landscape rolls in waves around in all directions.

## The Garden of Scotland

On the other hand, emerging over the edge of the Lammermuirs is always a strongly awakening experience (Fig 2). One feels humbled by the vast expanse of sky suspended over the silver finger of the sea pointing to the west. On the old maps this was shown as a real threshold and impassable except by ship. Now we know the edge of the two large Firths – of Clyde and Forth – as being the most heavily populated areas of Scotland sitting on a rift valley. The wide fertile plain of East Lothian has the most valuable land in Scotland, and is known as the "Garden of Scotland". Soft fruits, potatoes and grains grow well here. Cattle have been replaced by barley for the brewing industry and the moors have been given over to grouse.

Living is easy here – on that which was once a soupy marshland. One can still become 'bogged down' in business and then have very clear set opinions. It is a land of brightness, clarity and original thought on one level, like the volcanic intrusions which rise out of an erstwhile swampy sea. (Many philosophers originate in this area.) At the same



time there is a somewhat 'stuck' historical tradition that often prevents people from changing, in comparison to the light, social fluidity of its people in the West.

In a country that was once richly diverse in its agricultural life and rural activities (there used to be abundant woodland too), the main husbandry activities have been reduced to one man on a tractor managing hundreds of acres on the plains, neglected copses of once worked woods and very casual visitors to the grouse moors of the hills behind.

How can we live in this landscape today? How can we bring life and responsible care and development to a place on the edge of two such diverse landscape regions? How do we listen to the land, try and hear its voice, who it really is and let it share with us something of its history? This might give us a clue as to how to help it grow into its own future in a way which marries the best of human intentions for sustainable ecological action, with what the land itself is trying to become?

### Learning to lead a landscape from the past into the future

Over the last 12 years small groups of people have been studying the piece of land which is called *Pishwanton Wood*, on the edge of the landscapes described above. Using Goethe's scientific method as the basis of a consensus design process, this has led to the creation of new, ecological buildings and the transformation of a rather neglected piece of land.

Pishwanton Wood (Fig. 3) lies at the foot of the north-facing slopes of the Lammermuir Hills some 20 miles east of Edinburgh and 12 miles northwest of Dunbar. It is approximately 200 metres above sea level. The underlying rock of Pishwanton is Old Red Sandstone overlain by a variety of glacial deposits. The 60 acres of undulating land are topographically highly varied and include a range of

habitats such as open marsh, bare hilltop, wooded valley, steep slopes, sheltered streams, plantations and scrub with both expansive and enclosed views in sudden and strong contrast to one another. The diversity of aspects with hilltop, valley bottoms and steep and shallow slopes, together with a multiplicity of soil types provides for a remarkably varied flora representing in microcosm the historical flora of southern Scotland; e.g. mixed, mature, natural woodland, both deciduous and coniferous, mature birch stands and vigorous birch regeneration on both heath and mire ground flora, damp alder wood flora, and rich wetland and bog areas containing many medicinal plants.

It has, in living memory, and probably for many generations before this, been a worked wood. The surrounding area has been well-populated in the past by a farming community; earlier by the Celts in even larger numbers. In these times part of Pishwanton may have been used as some sort of ceremonial site, certainly a burial place. A stone cyst was found there earlier this century and half a mile to the south is a very large early Celtic hill fort, of which there are many others in the surrounding area scattered along the shelf of the hill foot of the Lammermuirs.

Today, there are few mature trees left and the wind sweeps through the southern fringes of the place. Within the wood there are many sheltered areas; warm, sunny pockets resounding in peace. In our study exercises, we have sought, through careful, methodologically sequential study, to approach the accessible physical phenomena through different levels of basic human experience; in order to gain some insight into the spiritual being of the place (Pishwanton Wood), i.e. to approach what is commonly known as the *Genius Loci*. Moving through the levels of experience we encounter thresholds or borders to our knowledge, which provide valuable encounters with the edge of knowing. If surmounted we can move through to a new level of experience. These levels of human endeavour may be experienced in terms of the four elements, earth, water, air and fire.

One of the most important steps in the whole journey into landscape (or any aspect of nature) is that of becoming open in wonder to the first impression. "To wonder at it I am here", said Goethe. To open ourselves to this mode of seeing, we walk, in silence, within the area of study, each person trying to become as open and aware as possible: to look, listen, feel and generally open both senses and soul to this first encounter. Afterwards we record our experiences from memory in whatever way seems appropriate, either sharing verbally or in some other way such as a mood map, where the colours used represent the inner mood of the place and may or may not be the same as the outer physical colours.

These experiences, shared briefly, produce highly varied responses flavoured by the individuals that we are:

*"It's an island in a sea of modern agriculture but at the same time it has bits of everything in it – it's a world in itself".*

*"It's been influenced on many levels by mankind but everywhere one can witness nature's healing response."*



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Fig. 1. Looking across the Plain of Lothian from the Lammermuir Hills.

*"It's a place of peace and healing but it's been raped."  
"Dramatically lush growth but it feels precarious. A little  
interference could destroy the abundant life."  
"It's longing for healing and redemption."*

Within our first impressions of something are often hidden great depths which only reveal themselves again after a long journey through the different levels of its being. Jochen Bockemuhl, whose work and writings have more than inspired this work, calls this experience an "Intuitive Preconception" (*Intuitive Vorgriff*). Once we start to look more closely at the facts the first impression fades only to reappear more solidly as a consciously won intuition later on in our journey.

### Meeting the Physical with an 'Earthy' Mode of Seeing

General facts are shared first such as height above sea level, aspects of slopes, orientation in the points of the compass, prevailing wind direction, rainfall, soil types, underlying geology and such essential basic information. At this stage it can be useful to make maps. We constructed a general one of the whole area together and then smaller areas are surveyed by individuals or groups of people in more detail.

For this part of the process we often divide the whole place into over-seeable areas, trying to cover as many as possible of its aspects with those people who are participants in the process.

The choice of an area of research may be through a person being drawn to a particular place, or even experiencing antipathy toward it, of someone having specialist knowledge about something or it may be quite arbitrary such as the need to fill a gap. People worked as individuals or as small groups and we tried to overlap areas so that each sub-place is seen from another place. By this means we became intensely aware of the boundaries, and thereby the integrity, of the different sub-areas we are studying.

At this stage, the aim is to collect as many physical

phenomena, details and facts as possible in the time available by measuring the area, charting trees, shrubs, rocks, artefacts, noting species, size, colours, forms and so on. We also draw the place from without and from within looking out, record sounds, smells, temperatures – anything we can experience with our senses. Records are in the form of diagrams, lists, annotated and coloured sketches.

At each stage of the process, our findings are shared. Sharing the physical facts takes the longest as does the collecting of them. For some people it is a considerable discipline to exclude non-physical factors such as feeling responses or ideas for the future. For others it is hard to move beyond the stage of collecting facts – they could go on for weeks!

### "Living into the Becoming" – A Watery Affair!

The next step is to move beyond the threshold of the physical facts and to study the time processes of the place. How have our places and indeed Pishwanton as a whole come to be what they are today? While the formative processes of geological and ancient times can only be guessed at, more recent evidence such as ordered lines of trees and stumps, old bridges, marks of tracks or fences, dropping of grazing animals and the history recorded in the shapes of trees or land forms and the downwind spread of plant species give firmer evidence in a variety of time spans. Consultation of old maps can often confirm findings read in ancient tree stumps or the residual flora of an



Fig. 2 From the edge of the Lammermuirs.

erstwhile wood; e.g. the southern slopes above the western marsh reveal a species list typical for an alder wood. There are no signs of trees there now apart from some ancient alders along the burn side but an old map from last century shows this slope to have once supported a separate wood which disappeared at the beginning of the century.

A young reseeded area of birch with scattered large tree stumps of both soft and hard wood species throughout has obviously once been a large and varied mature wood, much



longer ago a raised bog forming peat and perhaps before that a small glacial lake! Dating the felling suggests a post First World War clearance for the larger trees. The young birches have arisen since then, the oldest being some 30 years old and nearest to the mature birch stand. (Later, this



Fig.3 Pishwanton Wood looking South towards the Lammermuir Hills.

was affirmed when we met the man who felled the birches for firewood 35 years ago!) In the northern west-east orientated valley, we find remains of an ancient track bounded by several hundred year-old beeches and sycamores, and on the opposite side of the burn, a mill lade. Exploring further afield, we find traces of routes toward very old 'settlements' to the east and toward the hill fort to the south. We realise then that this part of Pishwanton has been much used by mankind and a 'way through' for a very long time – much longer than the oldest trees there now.

Once each person has reconstructed as much of the history of their own place as possible, we try together to build imaginative pictures by living within the stream of time of both our separate places and of Pishwanton as a whole. It helps to have heard other people's findings as they always enrich one's own pictures. Slowly the whole place starts to become alive in its 'becoming'. The images may be condensed out into a sequence of little pictures at differing time intervals but usually this part is done inwardly. Once inserted into the stream of becoming of a place one's imagination starts to flow quite naturally into the future. We 'see' our places going through the seasons, growing and changing. How will it be next year, in ten years? What will happen with different types of management, minor intervention such as fencing, grazing, or tree thinning? What about major intervention such as a caravan site, clear felling of trees, draining the wetlands for barley and so on? Perhaps you can experience how slowly a sense begins to emerge of what is 'right' for a place and what not? – out of our inner feelings.

#### **"Seeing Being": Light-Filled Airy Revelations**

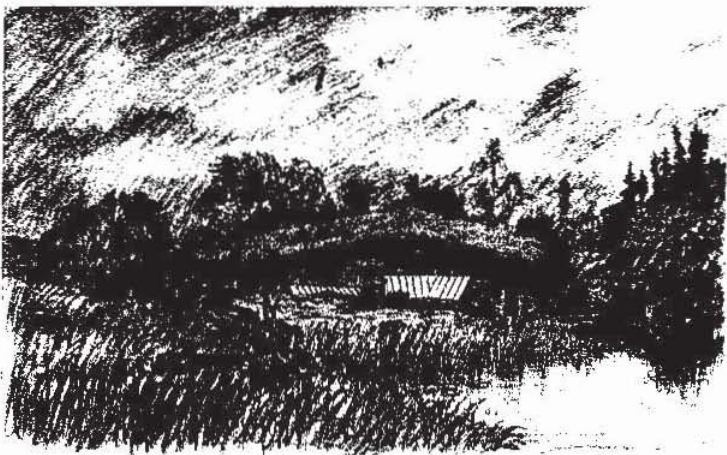
The effects of a "heart-felt getting to know", as J. Böckemuhl describes this next level of

experience, of our places is what we now try to capture, describe or record by some means. What words sound forth from this place? What colour or soul expression? What activity or inner mood does it suggest and how is this reflected in the land-form, the vegetation and so on? If the quality we have come to in each place has truth in it, then it will ring true to all who are open to it, and especially to those who have accompanied the process that each individual has gone through in 'getting to know' their place.

At this stage, we might experience an extraordinary purging of our own personal feelings, wishes or desires, and, when freed from these, the most profound experience can be 'inspired'. We approach the 'Spirit of the Place' and, given space and a listening ear, it will speak within us. Many people can only express something of this in music or poetry or another art form.

Sharing experiences at this point, the strongest impressions of all are polarities: polarities between shelter and exposure, between valley bottom and hill top, between being embraced by the hills in the south and open to the wide expanses in the north, of being held and cherished but at the same time being able to look out, of being abused but still maintaining the life forces to react and respond in a healing way.

It should be mentioned here too that one of the most powerful impressions in many of us in the first workshop was the experience of the human form in terms of activity within the landscape. Almost before we began to share at this level, we were referring to the ridge up the centre as the 'spine'. This culminated in the dome of the highest place, bare and clear, with the superb views all around; a place for quiet and contemplation where one lived in the sight and sounds of the surrounding world. Near the road in the extreme south we experienced an area of exceptional activity. It was warm, humming with insects, sheltering a kind of spiral of activity visible in the vegetation. Between these two poles was the only area where one could see out through the trees to both east and west from different places. When moving through, a soft, breathing experience was





felt here, and the south-facing slope nearby embraced one with a warm heart quality!

Of the place as a whole we felt the abundance of water here from the numerous springs throughout the site (which gave the place its name) has contributed both to its being forgotten and neglected, and to its life and light-filled charm in comparison with the surrounding areas of intense agricultural effort. In contrast to the surrounding acres of barley, this place seems to still possess abundant life-force reflected in its capacity to react to and heal the various incursions by mankind over the ages. Both this and the variation in the topography is reflected in the multiplicity of what mankind has been able to take from it in the past – water (it houses the spring which provided the main water supply for the nearest village until quite recently), wood, agricultural extraction and its use as a burial site – are echoed in its potential for the future.

### **“Becoming One With” the Genius of the Place – warms the heart and fires the will to action**

Whatever humanity has or has not done in the past, whatever we do or do not do in the future is imprinted upon and will be imprinted upon our surroundings. We have formed the land we live on and we will go on transforming it. We have to learn to do this in a responsible way. In his book, *Dying Forest; a Crisis in Consciousness*, Jochen Bockemuhl says: “The creative act should neither consist in imposing on nature a preconceived plan, nor in allowing things to run their own course in a haphazard way”.

Having learned how to ‘listen to’ the being of the place, and in the process become more fluid in our thinking, we are now, with all the facts gathered together at our disposal, ready to begin the second half of our journey. It is at this point that we realise how very connected each of us has become with their ‘own place’ – it is painful even into one’s own body if someone suggests something inappropriate. I am warmed through and through by the encounter. I have ‘become one with’ it. I identify with something in this place and it reflects something of myself to me.

The moment of realisation that I have met something of myself in a place – when I recognise an outer mirror of an inner aspect of my soul – is an experience that is far more common than most of us would dare to admit, especially if we are trying to be scientists, and thus objective about the world. The immersion in the being of another and the conscious bringing together of our outer experiences of the world with our inward understanding is that which Rudolf Steiner refers to as “the True Communion of Man”, – in *Goethean Science*, Ch. IV, Steiner’s introduction to Goethe’s scientific writing, which he edited over 14 years in Weimar, Germany. Steiner writes:

*In as much as thinking takes possession of the idea,*

*thinking fuses with the primal ground of world existence; what is at work outside enters into the spirit of man; he becomes one with objective reality in its highest potency. Becoming aware of the idea within reality is the true communion of man.*

Every scientist knows these moments; usually granted us by grace. Striving for understanding of the world around us has been a common human experience. Spinoza, the Dutch philosopher, was one of the most important guides in Goethe’s life. In Spinoza, Goethe had met someone who thought like him. George Sessions in *Deep Ecology* writes:

*...the highest level of knowledge, for Spinoza, is direct intuitive knowledge of individual things and this is clearly a mystical kind of knowing. The subject / object distinction disappears – actually, one goes beyond all conceptual knowledge, and experiences the ‘union that the mind has with the whole of nature,’ and only at this level is there ‘understanding’...*



*The ‘Central Bowl’ in summer.*

At this level of ‘understanding’ I touch the source of something; I literally stand within (or under) something. ‘I am one with’ my place and yet my neighbour is also ‘one with’ the same place. The most extraordinary experience is that when I reach this level of knowing or understanding something, it lights up what I hear my neighbours say. He or she has found their own aspect of a universal truth, or lawfulness of nature, that is objective and at the same time subjective – a lawfulness which lights up as an inner knowing – inside me – and also inside you – and it’s the same knowledge, the same truth!

Jacob Needham discusses this:

*“...every seminar student of modern science knows those moments when the intellectual grasp of a lawful pattern in nature freed him from his own subjective perception of what is before him, embroiled as these perspectives are in the tormented machinations of the ego. This brief release from ordinary thought, which is a foretaste of inner freedom, occurs when the mind is touched by a relatively objective idea. Why then did modern man*



forget that so much of the value of apprehending scientific laws lies just in this quality of direct self-knowledge which such apprehending brings? How did he not see that if a general law of nature is objective, it is also a law of man's own nature?" in *A Sense of Cosmos* (New York Doubleday 1975), and Einstein says:

*"To these elemental laws there leads no logical path, but only intuition, supported by being sympathetically in touch with experience". And:*

*"Only intuition, resting on sympathetic understanding can lead to (these laws)...the daily effort comes from no deliberate intention or programme, but straight from the heart".*

The path to intuition, as throughout the ages, we have to tread ourselves. It is incumbent on each one of us as individuals in this very modern age of a new and wide awake consciousness that we find our own truths (the children of today are showing us how to do this in that many of them will not stand for stories or untruth) and yet that subjective truth we find for ourselves is at the same time an objective truth about a universal law of nature.

In these moments of intuition the being of a place speaks – the language of the Genius Loci that we have read in the words of the individual landscape components, start to become a text full of meaning. Having arrived, as a group, at a common experience of the inner being or truth of our landscape, we are in a position to let it grow – at first very tentatively within us. Taking these experiences in full consciousness, we can enter now into a creative design process where, as a group of individuals, we have common ground.

Within any group of people, becoming aware of the Idea or common ideal is no easy task, but it is absolutely essential if this Idea is to find a place on earth within which it can have a home. In this step, we share our vision – for a centre for Goethean study – a place where people can learn, practise, and thereby teach a method of studying and handling Nature which is not only sustainable, but which can enhance what is already there, and take it further in the direction of becoming, manifesting out of the nature of its own essential being. This is Goethean Science taken into the Art of earthly creativity. Again we are reminded of the words of Novalis, which stand like a star above our work:

**"Zur Bildung der Erde sind wir berufen": "We are called upon to build the Earth"**

Ten years later, after four years of fundraising to buy the land, a huge journey with the planning authorities and an awful lot of very hard work, we now have a beautiful building, the Craft Workshop (Fig. 4), in which to work,

hold festivals, meetings, plan future buildings (such as the Seed Building) and a diversification of the landscape which has truly become an outdoor classroom and a place of work and worship.

Whatever we do, or do not do, we are responsible in some way, directly or indirectly, for that part of the earth with which we interact and it is hard work to figure out all the ramifications and consequences of our actions. Becoming conscious of ourselves and our impact on our surroundings seems to be the task we are being asked to take up today, in order that we can take full responsibility for the handling, care and future evolution of the earth, with which we are so intimately bound up and co-dependant upon.



Fig. 4 The Craft Workshop.

*Our task is the transformation of the earth – therein lies the only reason for seeking higher knowledge. The earth as we know it with our senses depends on the spiritual world, and this means that we can truly work on the earth only if we share in those worlds where creative forces are concealed.*

Rudolf Steiner, *Knowledge of Higher Worlds*

#### Endnote:

It is within this building and its surrounding 60 acres of growing landscape that the Petrarca International Summer Landscape Conference will be held, led by Dr. Jochen Bockemuhl, leader of the Natural Science Section in Dornach, Switzerland for many years, and instigator and guide of nearly 20 years of summer landscape conferences. To book on to this conference, which will be held from 26 July – 2nd August 2003, contact Sarah Smith at the Life Science Trust, Pedlar's Way, Haddington Road, Gifford, East Lothian, EH41 4JD, tel. 01620 810 259, or e-mail: lstrust@gn.apc.org

One year ago, the first course to be held in the almost finished building was *The Pre-Hibernian Way*. Now launched beyond Pishwanton, the Life Science Trust will be starting the next cycle of New Hibernian Way Courses in N. Ireland in early July. This is a journey of four nine-day seminars over two years, integrating Goethean Science and Art, travelling through the four countries of the British Isles, in the four seasons of the year to explore the four kingdoms of nature. It will be facilitated by Margaret Colquhoun, Hansjorg Palm and Richard Ramsbotham. For further information on either the Conference or New Hibernian Way Courses, contact The Life Science Trust, Pedlar's Way, Haddington Road, Gifford, East Lothian, EH41 4JD, tel. 01620 810 259, or e-mail: lstrust@gn.apc.org

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*(All illustrations in this article are by Margaret Colquhoun, Christopher Day and Axel Ewald).*