Needles Stone



om Graves

Needles of Stone

Tom Graves

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This version was published on 2014-04-02



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Also By Tom Graves

Inventing Reality

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Needles of Stone

by Tom Graves

This sampler-edition of *Needles of Stone* is based on the third (30th Anniversary) edition of the book, published by Grey House in 2008. Chapters highlighted in **bold** are included in this sampler-edition.

Preface and acknowledgements

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Postscript (added in second edition)

Needles of Stone

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Preface

This book is a study in ideas, an attempt to put some of the ideas that have arisen in the 'earth mysteries' field into some coherent shape or form, to place them in a context that makes practical sense at the present time.

It is not a thesis: I'm not trying to prove anything conclusively. Rather, I've tried to show where those ideas seem to lead us now, and where some may have misled us in the past. Some of these ideas may prove to be wrong, and many will and must change as new information arises: they can only be based on the present state of research into the 'earth mysteries'. But the underlying theme of the study the idea that the earth itself is alive and aware - is ageless, and indeed is being reinforced rather than proved false as time goes by.

Much of the information on which this study is based comes from my own research and fieldwork: but much has necessarily come from other sources. I know that I owe a great deal to all those who've helped me in this study, named and unnamed, known and unknown. In most cases the detailed information on the sources is given in the notes at the end of the book; but in some cases, particularly among dowsers, information was only forthcoming on the promise that the source would not be published. This attitude is at last changing, however, as more and more modern research adds weight to what so many dowsers have been saying for years: that something beyond our current understanding is active at the standing stones, those ancient 'needles of stone'.

In revising this book for its second edition, the main alteration was the addition of a new 'Postscript' chapter, discussing some of the research and other happenings of the past ten years in the context of 'earth mysteries' studies. For this third edition I have added a new review-chapter, 'Looking Back'; and some thoughts on possible futures for the field, in a new final chapter, 'Looking Forward'.

But beyond these amendments, I have left the original text largely unchanged: a few minor corrections and updates here and there, and a number of additions to the notes, but that is all. Despite its flaws and its occasional forays into the overly implausible, the text seems to have stood the test of time: it does its job. And that is what makes it all worth while!

Acknowledgements

Acknowledgment is made to Oxford University Press for permission to quote from *Megalithic Sites in Britain* by Alexander Thom; to S.P.C.K. for permission to quote from *Exorcism* edited by Dom Robert Petitpierre OSB; and to Darton Longman and Todd for permission to quote from *But Deliver Us From Evil* by John Richards. The 'Dod' cartoons were drawn and kindly provided by Ian Thomson, art editor of *The Ley Hunter* magazine.

Footnotes

Notes are indicated by a small number in the text. The respective footnote will be found at the end of the chapter.

Publishers and publication dates for books referred to in the footnotes and elsewhere are given in the bibliography. Journal titles in the footnotes are abbreviated as follows: *JBSD*, Journal of the British Society of Dowsers; *TLH*, The Ley Hunter magazine; *JSPR*, Journal of the (British) Society for Psychical Research.

Introduction

The earth is alive: living, breathing, pulsing.

It lives, but sleeps, stirring at times: and the people of the cities try to ignore it, hoping it will stay asleep.

It breathes: and the wind batters the grimy arrogance of the townsman, who dreams of 'Man's increasing control over the blind forces of nature'.

It pulses, its seasons and cycles turning in all their subtleties: and those pulses are accepted and realised in the lives of everyone and everything in the countryside.

Our problem is that we've become too civilised to accept that the earth is alive. Our whole way of life is civilised, 'citified': we think of cities and towns as the normal places to be, to work and to live. To our culture, the countryside is a sort of inter-urban space, partly just 'pretty' landscapes and partly areas where food-production for our cities goes on, now greatly improved by the resourcefulness of modern science, technology and economics. The country is a place to get away from the cares of the city when we want to: just for a drive, perhaps, or - if we're wealthy enough - to our nicely modernised country cottages for the weekend. Apart from some minor problems - soon, no doubt, to be solved by the constant progress of science, technology and economics - our world, and our view of the world, is secure: nature is tamed, and does what it is told by us to do. The old, nearforgotten war between *civis* and *pagus*, the world-views of the city and of the village, seems indisputably to have been settled in favour of the city and its Law and Order: and the victory is symbolised by the power in our culture of the schoolroom, the law-court, the laboratory and the bank.

But for all the apparent power of that image of Order, it is only an image: and a very tenuous one at that. Even in our culture, the veneer of 'civilisation' is thin: behind it, the real forces represented by the *religio paganorum*, the religion of the villagers, are still at work, no matter how hard we may try to deny their existence. Those forces are the subtle and not-so-subtle forces of nature: pagan cultures were based on an acceptance of those forces, while our civilisation is based on an artificial separation from nature, based on the belief that we can be 'above' or beyond those forces and can control them to suit our whims. In some ways that belief is correct, for compared to the old pagans our material living standards are remarkably high - but so is the level of misery in our civilisation. The richnesses of the quality of life, the dignity and wisdom that are such a characteristic of the great pagan cultures,¹ are conspicuously lacking in ours. Despite our centuries of mocking and despising them, the pagans still have much to teach us about living with the

¹Such as that of the American Indians: see T.C. McLuhan, Touch The Earth.

reality of the forces of nature.

This is hardly news: the cry of 'Back to the land!' has been a recurrent one throughout the centuries, and its present forms can be seen in the increasing number of weekend country cottages and self-sufficiency communes, and the increasing use of the 'fresh from the country' theme in advertising. This idyllic view of nature and the countryside is a false one: it's a civilised image far removed from reality. The country-cottage boom has pushed the prices of country properties way above the level that those who have to work in the country can afford: the country idyll meets with the 'market forces' of civilised greed. The average life of a supposedly 'self-sufficient' commune is apparently around six weeks: few civilised people appreciate the sheer hard work needed to survive in the country at all, let alone to pay off the bank-loan and taxes as well. Few would-be communards appreciate the reality of human nature, and those communes that do survive do so either through strict selfdiscipline, through falling back on the civilised safety-net of Social Security payments, or both. The food advertised as 'fresh from the country' is, more often than not, just another variety of factory-processed pap, carelessly grown to produce maximum profit regardless of real quality, and carefully selected and scrubbed to remove any uncivilised irregularities and dirt. In looking to the countryside to provide the quality of life that our civilisation lacks, we take our civilised ideas along with us, and are then surprised that the expected, demanded miracles don't happen. If we are to 'go back to nature' in a realistic way, we have to deal

with nature as it *is*, not how we assume it to be.

The trap is our belief that we can be 'above' nature, for we can only understand nature if we accept that we understand it, literally 'stand-under' it. That is what the pagans did. It's clear that people in pagan cultures never saw themselves merely as being 'close to the land', but as an inseparable part of it: they accepted they were part *of* nature, and could live best by working with it instead of trying to fight against it. They realised that to fight nature was to fight human nature too. For all its irrationality, paganism was a way of working with nature, a way that worked so well that even in Britain it flourished in most country areas until well into the middle of the 20th century, and still continues as the basis of most local traditions and religious festivals.² Paganism was a way of working with nature to provide quality, meaning and hope in life.

But if we are to look to paganism to help us balance out some of the excesses of civilisation, and to restore some quality, meaning and hope into civilised life, we have a real difficulty in knowing where to start. The old pagan gods just seem ridiculous in a city context, and the 'country bumpkin' and 'ignorant peasant' images of paganism that civilisation has so carefully nurtured don't help. Without a pagan awareness of nature, the old techniques of paganism can be terrifyingly destructive, particularly on an emotional level, as many civilised fools who have played with

²For examples, see the books of George Ewart Evans, such as *The Pattern Under The Plough*.

witchcraft have found out: the civilised Church, which still denies the existence of many aspects of nature, was right at least in that respect. The whole pagan worldview is different from our civilised one: it has a totally different definition of reality, one that makes little or no sense in terms of our religion of 'science'. If we are to make use of the pagan world-view to help us understand nature, and thus understand ourselves, we have to find some key point around which the pagan world-view and our civilised one can be made to make sense.

That key point seems to be the pagan view of the 'spirit' of a place, the *genius loci*. To our civilised view, places are just commodities, to be bought and sold like any other commodity; but in the pagan view, probably best typified by that of the American Indians,³ places can have a sacredness, a spiritual importance, that seems to bear no relation to the more physical characteristics of the place.

We normally look to the past to study paganism, since civilisation has made sure that very few pagan cultures survive intact; but the procedures of conventional archaeology are of little use for studying 'sacredness', for they are only suited to finding and studying objects, not beliefs or forces. As far as conventional archaeology is concerned, our knowledge of *why* sacred sites and structures are where they are has progressed little further than Defoe's comment about Boscawen-un stone circle in the seventeenth century:

³See T.C. McLuhan, Touch The Earth - particularly the first section.

'that all that can be learn'd of them is, That here they are'.4

But if conventional archaeology cannot help us in our search for a new understanding of nature, the work of researchers like Guy Underwood, Alfred Watkins, Tom Lethbridge and Alexander Thom, on the less conventional fringes of archaeology, can. Looking at their work, it becomes clear that the pagan sacred sites are not as randomly placed as they at first appear to be: there are definite if subtle characteristics, apparently natural characteristics in some cases, that go together to make up the 'sacredness' of a site.

In looking at the past in this study, we have to remember why we're doing so. We're not looking at the past for its own sake: the past is gone. Our aim should be to learn from the past, to put our studies to practical use, to understand the pagan world-view in terms of its practical relationship with nature. We have to remember that paganism *worked*, in areas where our civilisation so obviously does not.

So a good starting point for our study, our search for a new understanding of nature, would be an aspect of old pagan practice that still produces real and measurable results, but which clashes with our assumptions about reality. The dowser's art provides us with such a starting point, and if we combine dowsing with archaeology, some interesting things start to happen - not just to our view of the past, but to our view of reality as well.

⁴Quoted in John Michell's essay in his study *The Old Stones of Land's End*, in which he discusses the qualities that make up the 'sacredness' of a site.

Dowsing and Archaeology

In front of us is a level green pasture; and laid out on the grass is a grid of white tape, marking out ten-metre squares. To one side lies an odd instrument, consisting of three white boxes linked by a pole, wired to a pair of head-phones: an electronic 'soil anomaly detector', more often called a 'banjo'. Beside it there is a crazy picture-frame stuck on a long pole, trailing a cable to a control box: a 'pulsed magnetic induction locator'. Within the grid a young man is pacing up and down, using a simpler and more traditional tool: he holds two L-shaped rods, pointing forward and parallel like a pair of shrivelled cowboy pistols. Dowsing rods.

As we watch, the rods cross over each other, in a metallic squint, then open out again - there seems to be an old foundation trench below. A student, sitting at the edge of the grid, marks the position of the rods' reaction on the chart on his clip-board; while behind him, where the turf has been stripped off, leaving the soil bare, several people are working on this ancient site, patiently busy with their trowels and brushes. Above them, bright yellow, like mechanical dinosaurs, tower the tractors and excavators of the quarry that will soon swallow this site. This is another 'rescue dig', pursuing its quiet race against time.

New motorways, factories, quarries, housing estates, all demand huge tracts of land each year; and as the ground is cleared to make way for a questionable future, all traces of the past are destroyed. Archaeologists, if they want to rescue anything from this mass destruction, are faced with the monumental task of surveying the land in as much detail as possible, and as early as possible, to select the sites with the highest priority for rescue-excavation. Traditional archaeological tools and techniques were designed only for small-scale detail work, and are too slow for survey work: the five-summer dig at Cadbury-Camelot was enormous by conventional archaeological standards, but it uncovered little more than a couple of acres of the site. So in recent years a number of new techniques have had to be developed, so as to cover large areas in some detail: hence aerial archaeology, and the development of sophisticated electronic tools like the 'banjo' and the induction locator. Another tool, too, is beginning to be used more and more for this kind of rapid-search work: the dowser's rod.

The acceptance of dowsing into the realms of archaeology has been something of a quiet revolution, one that is rarely acknowledged in public. The only text-book I know that discusses the use of dowsing to locate trenches and ditches is John Coles' *Field Archaeology in Britain*. Two examples from the recent Cadbury-Camelot dig are fairly typical of the kind of dowsing work that now goes on: the dowser involved, who was one of the administrators for the dig, told me that he used a strip of flexible curtain rod as a kind of dowsing pendulum to find the outline of the cruciform trench (subsequently confirmed by excavation, and tentatively identified as the foundations for an unbuilt church), and to show that the Arthurian-period hall was not, as had been assumed, set into trenches, but mounted on large and very shallow post-holes (the only trench was for an internal partition).

Dowsing is a skill, the basics of which anyone can learn with a little practice and awareness; but the problem is that the reliability of the results depends on the skill and experience of the dowser, among many other factors. There are plenty of inexperienced and over-confident amateur dowsers about, so perhaps the archaeologists are not being too evasive when they conceal the use of dowsing, as was the case at Cadbury-Camelot, under vague phrases in their reports, such as 'probing with metal rods'.⁵

In the meantime, many dowsers are discovering the full scope of their skill for the first time, finding that dowsing can be used not only to find water, but virtually anything, anywhere, even from maps.⁶ Again, this requires practice

⁵See Leslie Alcock, *By South Cadbury is that Camelot* (the 'popular' report on the Cadbury-Camelot dig), particularly pp.72 and 78.

⁶See Francis Hitching, Pendulum.

and experience before it can be reliable, but dowsers working for archaeologists have located specified objects of any given period, have dated objects and even the periods of occupation of sites accurately, and have identified sites of which little or nothing immediately recognisable remains.⁷ Dowser Bill Lewis gave me an example of the latter: he has located burial sites when all that remains of the body (as in some acid soils) is a pale brown smudge and a hollow where the stomach used to be - both signs easily missed by an inexperienced excavator.

Barrows and trackways seem to have been particular concerns of recent archaeological dowsers, judging by articles published in the Journal of British Society of Dowsers - a mine of odd information and clues for the archaeologist. James Plummer, for example, describes how he used angle rods and pendulum on site and from maps to locate, track, measure and analyse six Roman stone roads, a junction and possibly a Roman temple, all in the South Fylde area of Lancashire. All were confirmed in some degree by excavation and library research.⁸ Captain F.L.M. Boothby noted traces of salt in the foundations of many pre-Roman tracks, particularly in the Winchester area, and suggested that the salt was used as a primitive weed-killer to clear the tracks of nettles and brambles.⁹ In the same vein, Helmuth Hesserl, commenting on the way that some Roman roads

⁷See Francis Hitching, *Pendulum*, particularly pp.159-88.

⁸James Plummer, *Dowsing for Roman Roads*, in *JBSD* XXV, No.174, Dec 76, pp.205-14.

⁹Captain F.L.M. Boothby, *The Salted Track*, in *JBSD* IV, No.26, Dec 39, pp.46-9.

on the Continent twist about instead of following straight courses, noted that these roads tended to follow 'waterlines', apparent underground water-courses. These latter tend to inhibit plant growth directly above them; so Hesserl suggested that the reason for the roads' lack of straightness was that the Roman engineers had simply taken the 'line of least resistance' through the undergrowth of virgin forest.¹⁰ It's only through the use of dowsing in archaeological research that clues like these can arise.

It is with underground water-courses, and with the traditional role of dowser as water-diviner, that we find our first clues about the placing of ancient sacred sites. Dowsers have discovered, often independently of one another, that water-lines, the underground waterbearing courses or fissures, intersect beneath many types of sacred site: not just the obvious ones, like the holy wells, but barrows, standing stones, stone circles and dolmens. The first reports on this that I know of, in 1933 and 1935, were both French;¹¹ the first report in English seems to be Captain Boothby's article *The Religion of the Stone Age* in 1935.¹² Boothby described how he found that waterbearing fissures - or 'springs', as he called them - ran underneath a tumulus that an archaeologist he was visiting was working on. After finding that the same applied to every barrow he visited,

¹⁰Helmuth Hesserl, *The Earth Rays and their Importance*, in *JBSD* IV, No.26, Dec 39, pp.52-60.

¹¹Louis Merle, Radiesthesie et Prehistoire, 1933; Charles Diot, Les Sourciers et les Monuments Megalithiques, 1935; publishers not known.

¹²Captain F.L.M. Boothby, *The Religion of The Stone Age*, in *JBSD* II, No.10, Dec 35, pp.115-16.

including long barrows, he decided that 'it would appear that the whole layout of these ancient monuments is based on subterranean water; but', he added, 'until the whole has been tested it is impossible to be certain about this', and he called for other dowsers to test his results for themselves.



1 Water-lines under standing stones: a christianised stone near Dartmeet, Devon.

Other dowsers did test his results, and confirmed them. Perhaps the most important of these dowsers was Reginald Allender Smith, who gave a lecture on the subject to the British Society of Dowsers in February 1939.¹³ He was a well-known and respected archaeologist of the inter-war period, a specialist in prehistoric implements. His lecture was based on a year's research that followed his retirement from a senior post in the British Museum in 1938.

¹³Reginald A. Smith, *Archaeological Dowsing*, in *JBSD* III, No.24, Jun 39, pp.348-56.

He explained in it that Merle and Diot (the two French researchers) had found that erect standing stones stood directly above the intersections of two or more underground 'streams'; tilted stones are not directly above such intersections, but lean towards them from a few feet away; and some dolmens and tumuli fit into the angles between converging streams, or are surrounded by them.

Both Boothby and Smith slightly disagreed with Merle and Diot, for according to the British results barrows and tumuli were centred on 'knots' of these waterlines (or 'blind springs', as Smith called them) rather than being surrounded by them; but both sides agreed that there seemed to be a definite connection between prehistoric sacred sites and underground water. Both sides also agreed on their interpretation, which was that some pre-Druidic priesthood had used a form of dowsing to locate underground water in prehistoric times, and had marked these 'emergency water supplies', as part of their routine religious observances, with their stones and barrows.



2 Water-lines under barrows: the easternmost three of the Priddy Nine Barrows, Somerset.

With that conclusion the research came to an end for nearly ten years, for Smith died only a year later, and Boothby had already moved on to other work. It's interesting to speculate what would have happened if Smith had lived a little longer, for the report on his lecture is fascinating; but it gives frustratingly little detail of what had evidently been an enormous amount of work. He stated, for instance, that according to his results the present stone circle at Rollright in Oxfordshire was only the second in a set of four concentric stone circles around the same blind spring; the present King Stone outlier, about three hundred feet from the centre of the present circle, was, he said, originally one of eleven stones on the outermost circle of that set of four. A comment he makes about Avebury is also interesting: according to Stukeley, writing in the eighteenth century, there used to be another stone avenue, similar to the present Kennett Avenue, but running south-west towards Beckhampton. Archaeologists usually dismiss this as 'a flight of fancy' by Stukeley, even though the latter had produced accurate plans of Avebury and many other sites at a time when most of the stones were still there to be seen. Smith claimed to have rediscovered the sites of all the stones in this 'lost' Beckhampton Avenue - or rather an Avenue in the right direction in which 'the very twists of the Kennett line are reproduced', and which ended in an oval enclosure, similar to the Kennett Sanctuary, on the downs to the south-west of Beckhampton. Silbury Hill was, he said, exactly equidistant between the two sanctuaries.

There is plenty more information in the same vein in the published version of his lecture; but sadly that report is now the only record of that work. As so often happens, all his notes, diagrams, and the 'series of lantern slides made for the occasion and exhibited for the first time' seem to have been thrown away after his death: at any rate, no-one seems to know where they are, or even if they still exist.

Smith's work may have been lost, but it wasn't forgotten. After the War another member of the Society, Guy Underwood, followed up the clues given in that lecture, and spent several years of his retirement visiting sites in various parts of the country - particularly in Gloucestershire, Wiltshire and his native Somerset. Underwood wrote up his research in a long series of articles, which were published in various issues of the Journal of the British Society of Dowsers between 1947 and 1951.¹⁴ During the 1950s he extended, revised and reformed these articles into his important book *Pattern of the Past*, which was not published until 1969, five years after his death.¹⁵ In it he refined the work of the previous researchers (some would say over-refined, as we shall see) and extended it to apply to several other types of sites, including crosses, crossroads and junctions, 'heel-stones' in roadways, boundaries and field-divisions, stocks, gallows and pre-Reformation churches. Underwood's research has formed the basis of much modern research on dowsing and ancient sites, and we need to look at it in some detail.

¹⁴Underwood's articles on these patterns are: Archaeology and Dowsing (Part I), in *JBSD* VII, No.56, Jun 47, pp.192-205; Archaeology and Dowsing (Part II), in *JBSD* VII, No.58, Dec 47, pp.296-306; Archaeology and Dowsing (Pad III), in *JBSD* VII, No.59, Mar 48, pp.354-60; Track Lines, in *JBSD* VIII, No.60, Jun 48, pp.22-8; Spirals, in *JBSD* VIII, No.62, Dec 48, pp.162-77; Aquastats, in *JBSD* IX, No.71, Mar 51, pp.279-86; and Further Notes on Dowsing Aquastats and Prehistoric Sites, in *JBSD* X, No.73, Sept 51, pp.40-6.

¹⁵It's important to realise that Underwood's work was nearly twenty years out of date when it was finally published: he had it published posthumously because of worries about bitter sarcasm from professional archaeologists.



3 Water-lines under churches: Othona/St Peter-at-the-Wall, Bradwell, Essex, a seventh-century cathedral.

Underwood was not the only one to discover the apparent connection between churches and underground water: a dowser by the name of W.H. Lamb commented, in a note to the Journal in 1965, on his (or her) discovery that two or more 'streams' cross over each other at different depths directly beneath the high altar of every church visited.¹⁶ In the next issue of the journal there was a reply by Muriel Langdon, who had made a similar discovery, finding what she called 'domes' of rising water beneath church altars, fonts, chancel steps and doors.¹⁷ Judging by the tone of the articles and the terms each writer used, both 'discoveries' would seem to be independent of each other, of Underwood and of the earlier researchers. So many of the dowsers

¹⁶W.H. Lamb, Old Churches Over Streams, in JBSD XIX, No.129, Sept 65, p.85.

¹⁷Muriel Langdon, More About Old Churches Over Streams, in JBSD XIX No.130, Dec 65, p.150.

I've talked to recently have discovered and confirmed for themselves the 'blind spring'/sacred-site connection, especially since Underwood's book was published, that it seems something *must* be there.

This was certainly Underwood's feeling. Throughout his research, he seems to have been convinced that the various types of sacred and not-so-sacred sites were water-marks, or markers of and for 'geophysical anomalies': the forms of the sites and the structures upon them were, he believed, determined by the positions of underground fissures and water-flows. The pattern formed by the fine web of lines below the surface determined the shapes and forms of the sites and their structures above; the pattern of the lines was the 'pattern of the past'. This was much the same as Boothby's and Smith's view, as we have seen; and Underwood, in his articles and his book, produced an enormous amount of evidence to back it.

But it's important to realise, in looking at his work, that he was the major exponent of only one school of thought of the time. Many of his contemporaries believed that the streams, according to their results, only *appeared* to cross beneath the stones and the like, since the stones themselves distorted the image of the stream below, producing the apparent intersections that Underwood and the others had found. Colonel Bell, then the editor of the Society's journal, went so far as to add 'Editor's Comments' to the end of Underwood's last two articles, saying that the patterns Underwood described were more likely to be the effects rather than the causes of the siting of roads, tracks, standing stones and the like.¹⁸ He commented, rather caustically, that there was 'no reason to suppose that our Neolithic or Bronze Age ancestors knew anything of dowsing as now practised', that Underwood's whole idea of this 'pattern of the past' was 'farfetched, if not fantastic,' and that the whole of his theorising was probably based on 'entirely subjective observation'. Given this kind of criticism, it's not all that surprising that Underwood's writing became progressively more and more dogmatic as time went on; but that dogmatism doesn't help us in trying to assess the value of his work and his ideas.

Going through the literature on the subject, we can see that most of Underwood's contemporaries were as certain as he was about the existence of a connection between standing stones and underground water; most, though, were less certain about any likely interpretation. Underwood's dogmatism didn't help to clarify matters: and when he went on to discover (or to invent, as his critics suggested) two new types of 'dowsing influence line' - which he called 'tracklines' and 'aquastats' - most of his contemporaries just gave up and moved on to other studies. That is probably the reason why Underwood's work on standing stones and the like is the only well-known work on the subject: it is important, though, to realise that it isn't the only work that has been done.

¹⁸See *JBSD* IX, No.71, Mar 51, p.286 and *JBSD* X, No.73, Sept 51, p.46. Colonel Bell *was* the Society at that time: as well as being editor of the Journal, he was the Society's president, secretary, treasurer and librarian!

Few dowsers have exactly repeated Underwood's experiments, because few have been able to use his favourite dowsing tool, the 'sensitive geodetic rod' that he invented. It's one of the most awkward and cantankerous tools that I've ever come across, but there seems to be little doubt that Underwood himself could use it accurately and with ease. The version that one of my dowsing students made for me consists of a file handle and a short stub of metal rod, an unfolded paper-clip, a piece of motor-bike brake cable and four soldered cable clips. The handle is held in one hand, the loop of the brake cable is held in the other: the idea is that the unwound paper-clip holds the rod and the cable apart when you try to push them together, and the springiness makes the whole thing unstable, tending to make the cable rotate around the rod as a dowsing reaction. This sounds a little awkward, but the illustration should make it clear. As I say, few dowsers bother with Underwood's rod, since the type of dowsing tool makes little difference to the accuracy of the results as far as a skilled dowser is concerned. In my own work I've mostly used angle rods, the L-shaped rods described in the rescuedig image at the beginning of this chapter.



4 Underwood's 'geodetic rod': (a) in detail, (b) in use.



5 Angle rods in use

Underwood's earliest experiments produced results very similar to those of Boothby and Smith. He found that

water-lines intersected beneath sacred sites such as barrows, standing stones and henges. He also found, though, that water-lines formed large spirals round stones, several spirals converging on the same stone or stone circle in some cases, as at the Sanctuary near Avebury. As far as he was concerned, the water-line was triple, three close and near-parallel lines making up each water-line; and he felt that this triplicity of the lines had been deliberately used in the past to determine the shapes of - for example henge ditches, as the outer influence lines seemed to move outward from the central line following the centre of the ditch, to coincide with the often erratic outer edges of the ditch. But there are other interpretations, and his critics maintained that this was proof that the influence lines he plotted out were the result of the shape of the ditch rather than the cause of it. Underwood denied this, of course, but the key question of cause or effect remained open, despite his efforts to resolve it in his favour.



The question of cause or effect opened still further with Underwood's discovery of his second type of influence line, the 'track-line'.¹⁹ Track-lines, said Underwood, are slightly weaker than water-lines, and are formed of three close, near-parallel groups of three still-closer 'hair-lines'. These nine-fold lines often run in pairs, from ten to sixty or more feet apart; and when they do they coincide closely with the hedges or ditches of old roads. The width of single track-lines - from four to ten feet - tallies closely with the width of the tracks with which they coincide. Underwood claimed that the winding courses of many old roads and tracks was 'controlled entirely' by track-lines and trackline pairs, and suggested, as his results seemed to show, that any alterations from the original prehistoric courses of the road would be shown up by deviations from the unchangeable courses of the track-lines.

Once again, his critics suggested that the lines themselves were 'due to some electrical phenomenon consequent upon disturbance of the earth's surface by man'; and once again Underwood denied this, saying that he had found tracklines across the thin turf of chalk downs, where no manmade disturbance could be seen. But he could not say for certain what track-lines were: he suggested that they were connected in some way with regular fissuring in rocky sub-soils, but he admitted that he wasn't sure. One of the reasons for his uncertainty was that, unlike water-lines, the track-lines were not always continuous. They seemed to be interrupted at times, each hair-line of the nine-fold group forming a twisted loop on either side of the interruption.

 $^{^{19}\}mbox{First}$ mentioned in his article $\mathit{Track\,Lines},$ in $\mathit{J\!BSD}\,\mbox{VIII},$ No.60, Jun 48, pp.22-8.

Where a track-line came to a dead stop, all nine of its hairlines converged on the same point, often forming a spiral in the process.



6 A 'green lane' to Lollover Hill, Dundon, Somerset: (a) seen from the east, (b) in plan view, showing track-lines.

The distinctions between water-lines, track-lines and Underwood's third type of 'dowsing influence line', the aquastats, have always seemed very minor to me - but Underwood evidently felt that the differences were crucial. Water-lines gave strong reactions, and they usually ran as single three-fold lines. Track-lines were weaker, were ninefold and usually ran in pairs. Aquastats, like track-lines, were weaker than water-lines and always ran in pairs; but like the water-lines the lines of the aquastats were three-fold, not nine-fold like track-lines. It's interesting that aquastats seem to coincide even more closely with the courses of tracks than did the track-lines: Underwood even temporarily re-named the latter 'geostats' to avoid confusion - or so he thought! The aquastat pairs coincided with the edges of the roads themselves, and were always continuous; track-line pairs coincided with the outer edges of the roads' verges, and were often broken or distorted at field gates, junctions and wide points of the verges. Aquastats seemed to be more important than track-lines for some reason, for wherever the two types of line crossed each other it was always the track-lines that gave way.²⁰



7 Track-lines and aquastats in the lane at Lollover.

Underwood always assumed that all three types of line were 'lines of electrical equipotential' arising from geophysical anomalies - sub-surface rock-fissuring and the like - and were thus permanently and immutably fixed in relation to the surface. The only exceptions to this general rule were one or two cyclical variations in the patterns that the lines formed, the cycles apparently being linked to those of the sun and the moon.²¹ Therefore, suggested

 $^{^{\}rm 20}{\rm This}$ is well illustrated in Underwood's diagrams in The Pattern Of The Past.

²¹See Pattern Of The Past, pp.46-7 and 58-9.

Underwood, the lines coincide with tracks and the like because some prehistoric priesthood had used them deliberately in laying out boundaries and marking emergency water supplies, and generally as 'good magic to impress the populace'. Almost all the works of man, from the prehistoric period right through until the practice faded out during the Reformation and the European Renaissance, were directed towards this end, he suggested. All sacred and secular structures in the landscape were designed to mark and define the various patterns formed by the three types of line and their interactions, patterns like the spirals mentioned earlier, and others called 'feathers', 'arcs', 'parallels', 'haloes', 'trivia', and so on. The underground patterns thus became the patterns on which structures were designed; they were the 'pattern of the past'.²²

So, according to Underwood, this 'pattern of the past' *determined* the positions of all sacred and some secular sites, and all the major and some minor detail of any structures upon them. Thus a waterline can be found under every altar in pre-Reformation churches, and two or more water-lines mark where a barrow was permitted to be built. Multiple water-lines (several water-lines running parallel, not necessarily at the same apparent depth) are indicated at ground level by marks on stones;²³ single water-lines are marked by ditches and the lower parts of lynchets (old agricultural terraces), among other features. Aquastats

²²See Pattern Of The Past, pp.34-59.

²³The clearest example he gives is on his Fig.45 on p.131 of *Pattern Of The Past*, showing patterns on and round the Slaughter Stone at Stonehenge.
mark the main courses of old roads, and are also indicated by linear mounds, by terraces and the upper edges of lynchets, by stone rows and stone circles. They can also be found to be coincident with the central axes of all old Christian sites, and appear always to meet a door, window or other gap wherever they go through walls at sacred sites - Underwood suggested that it was 'forbidden' for them to be blocked. Track-lines define where the edges of lanes and old roads should be; they also define animals' tracks and field-divisions, and solifluction or 'soil-creep' lines on the sides of steep hills.²⁴



8 Knowlton church and henge, Hampshire, seen from the south. The church is Norman, the henge Neolithic; they stand over a mile from the nearest village.

Like many other dowsers, my own work tends to agree with Underwood's *observations*, as the illustrations show; but I've never been happy with the theories he derived from them. They seem somehow too rigid, too exclusive to match either the information we can collect from other disciplines, or the overall 'feel' that we can get from the sites themselves. I tend to side with Underwood's critics, who suggested that the patterns were 'the pattern of the present' rather than 'the pattern of the past'; but even that view doesn't match the feel of the sites, for there seems to

²⁴This is his main theme in Chs.8-17 of Pattern Of The Past.

be something else there as well. Both Underwood and his critics are right, but both parties are too limited. If we may combine their views, however, and study their limitations, they may take us somewhere worthwhile.



9 Water-lines at Knowlton henge: only the radial lines are shown. The small spirals may mark the sites of former standing stones in the henge.

We could say that Underwood and his critics set us an interesting 'hen-and-egg' conundrum: which came first, the patterns or the structures? Underwood was certain that the patterns came first; his critics were equally certain that the structures - the altars and the stones, for example - were themselves the cause behind Underwood's patterns.

Both parties were agreed that from a dowsing point of view there was definitely some kind of connection between the patterns and the sites and their structures: but then all the parties concerned in this particular conundrum were dowsers. Many other people, both then and now, would maintain that the whole question was pointless and meaningless, for it was based on nothing more than 'unscientific superstition': dowsing itself, they would say, has no basis in fact other than 'mere coincidence'.



10 Knowlton church, showing (a) water-lines, (b) track-lines and (c) aquastats.

Now from my own experience I would dispute this view; but in a way these critics are right, for dowsing *is* unscientific, and it *is* based on coincidence. But that doesn't prove that dowsing is meaningless and useless: much of that supposed 'proof' depends on what is meant by the words 'scientific' and 'coincidence'. As usual, everything depends on your point of view. Most of these critics, I've found, have a very limited and distorted view both of what science is and what it does, and of what coincidence is. The misunderstanding of coincidence stems mainly from the misunderstanding of science, so I had better deal with the scientific side of the argument first.²⁵

The first point here is that we have to draw a distinction between science and technology. Their aims and principles are very different. The aim of science, crudely speaking, is to assemble the whole of knowledge into one consistent and coherent system; while technology is - or should be concerned only with practical results. Science's main tool is logic, while technology assesses knowledge more in terms of its practical value rather than its logical 'truth'. For example, no scientist *knows* how even a simple thing like a light-bulb works: we have a range of models which explain how some aspects seem to work, but since they are not logically compatible - as in the wave and particle theories of light - they cannot be said to be scientifically 'true', in the classic and socially accepted sense of the word 'science'. But a technologist is quite happy to use these 'unscientific'

²⁵For a practising scientist's view of what science and scientific research is and does, see W.I.B. Beveridge's excellent *The Art of Scientific Investigation*.

theories in order to design light bulbs: the theories don't explain how bulbs work, but they do explain how the bulbs can be worked.

The same can be said of oddities like dowsing. We don't understand how dowsing works, but we do understand that it can be worked to produce usable results,²⁶ and we also understand how it can be worked.²⁷ In that sense dowsing can be said to be a technology, though it can't be scientific. There are in fact good reasons for suggesting that technologies are more closely related to traditional magic than they are to science - but that's something I'll have to leave for another book.²⁸

The other catch is the word 'coincidence'. Coincidence is simply co-incidence: things coincide. The whole of our observation of life is built up through observation of coincidences; some of them are meaningful, some are not. The only form of meaningful coincidence that classic science recognises is a particular form of repeatable coincidence called 'causality': when one action repeatedly precedes another the first action is said to cause the second one. Any other kind of connection between two incidents cannot be

²⁶The journals of the British Society of Dowsers are the most reliable British source on this: 'official' research in the past has had too much of a vested interest in the classical view of science to allow them to design experiments based on dowsing practice rather than pseudo-scientific theory.

²⁷See my book *Dowsing: Techniques and Applications*[later republished as *The Diviner's Handbook*] for practical details.

²⁸The 'other book' which discusses these concepts is my *Inventing Reality: Towards a Magical Technology*, Gateway Books, 1986 (also second edition with additional content, Grey House, 2007).

handled in a scientific manner; which is why in our culture, with its scientific bias, all other kinds of connection are dismissed as 'mere coincidence'.

But that does *not* mean that these other coincidences are meaningless: it simply means that they can't be studied scientifically. Instead of being assessed for their causal and logical 'truth', they have to be assessed for their value -'what use is this coincidence?' - which brings us back into the realm of technology, as 'play it by ear', or the famous 'rule of thumb'. It isn't scientific, but it works, and that's what really matters.

Perceptual systems, like seeing and hearing and sensing, are interesting in this respect, because they compare the information coming in from a number of sources in order to decide the overall value of a given situation. Imagine if someone suddenly clapped their hands in front of your face - NOW - what would happen? You'd blink, and jump back, probably. The scientist would ask 'what was the cause of this?', but we can't give a definite scientific answer, because in that situation there are at least three causes, and science. has to pin the answer down to just one in order to come to any logical conclusions. You would have heard the sound of the clapping, which is one cause; you would have seen the hands closing rapidly towards your face; and you would have felt the change in air-pressure as the hands passed by. Any one of these can trigger off the blink-and-jump reflex. Even imagining the blow can trigger off the same reflex, so we can't pin down the 'one true cause', we can't tell 'how

it really works'; the relevant signal comes through, all the same.

This important when we look at dowsing, for dowsing works as a perceptual system.²⁹ The dowser's rod works because the dowser's hands give a reflex twitch to some signal; apart from certain rare cases the rod doesn't move entirely of its own accord. But this does cause problems if we try to study dowsing scientifically, for we can never be sure what the 'real cause' of any given reaction is. It could be a reaction to some magnetic or electrical stimulus; it could be a hypersensitive sense of smell; it could be an unconscious knowledge of the terrain; it could be some equivalent of sonar scanning; it could be something magical, like clairvoyancy or 'astral travelling' or whatever. An enormous number of models have been proposed and they do all make some degree of sense in practice.

But the real problem is that all perceptual systems involve a certain amount of filtering in the mind, to separate signal information from noise, so the cause of any dowsing reaction - or lack of it - could equally be prejudice, preconceptions, wishful thinking, inattention, clumsiness, lack of physical or mental discrimination. The ability to limit and control these faults is the basis of a dowser's skill; but in studying the work of any dowser, or of anyone working in similar fields, we do have to decide how much of their observation is real - tallies with the physical world

²⁹See Maby and Franklin, *The Physics of the Divining Rod*, or Tromp, *Psychical Physics*.

- and how much is imaginary. The judgements I've made and will be making as we go along are based on my own experience and practical work, but you must judge for yourself.

So to return to our earlier conundrum, the various dowsers' results were real as far as I am concerned, at least in the sense that they observed something. But before we can interpret their results, we have first to decide what they observed - and that's not easy, because so many kinds of stimuli, at several levels, could have triggered off their dowsing reactions. Dowsing is a perceptual system, and all our ways of perceiving things are limited by the paradox 'Things have not only to be seen to be believed, but also have to be believed to be seen'. (If this isn't obvious, compare the propaganda of the various political parties at election time: it's the clearest example of people seeing what they want or expect to see.) So a dowser's beliefs about dowsing, the theories and assumptions on which he or she operates, limit not only what they see but also how they see it.

For Underwood, and for most of his contemporaries, dowsing was 'the sensation of electromagnetic radiations'; Underwood in particular felt that it was solely the sensation or perception of some kind of 'radiations'. He thought that the lines that he perceived - the water-lines, track-lines and aquastats - were 'lines of electromagnetic equipotential' resulting from the interruption of some force, emanating from the core of the earth, by geophysical anomalies like faults and rock-fissures. His idea was that these fissures interrupted the 'earth force' in much the same way as a spider's web interrupts a beam of light and casts a shadow on a wall. The different types of line were, he thought, probably different 'electromagnetic frequencies'; the patterns formed by and between them were the result of interactions between the different frequencies.

The lines and patterns originated from faults and fissures deep in the body of the earth: therefore, reasoned Underwood, the patterns thus formed on the surface must be permanent and immutable. Because the patterns coincided with sacred sites and structures to a remarkable degree, the sites and structures *must* therefore have been deliberately chosen and designed to mark those patterns: hence the 'pattern of the past'.

His critics held much the same beliefs about the causes of dowsing reactions: dowsing was the result of the perception of 'electromagnetic radiations', and water-lines were the shadows, on the earth's surface, of water-bearing fissures below. (This idea that water-lines are in fact 'images' is important, and I'll return to it shortly.) They also agreed that the track-lines and aquastars, and the patterns they formed, were aspects of this indefinable earth-force: but they felt that they were not so much interruptions of this earth-force, as with water-lines, but surface diffractions of the force by the structures on the sites themselves. Underwood's patterns, they therefore suggested, were the 'pattern of the present' rather than the 'pattern of the past'. All this theorising assumes that the sole cause of dowsing reactions is electromagnetic in origin. But as we have seen, this is not necessarily the only cause of Underwood's results. As one of his critics put it, it's possible that most of his results came from his imagination rather than the physical world. I don't think that is so, but we do have to bear the possibility in mind. All of Underwood's theories are based on the assumption that the patterns he observed are permanent and immutable; if they are not, then his observations take on some new meanings. Underwood also assumed that the builders of the sites and structures deliberately incorporated the earth-force patterns into their work: but there is no reason why they should not have done it unconsciously, because it 'felt right' to them. If we remember that Underwood's theories are based not on fact but on assumptions, then we can go beyond his limiting 'pattern of the past' to something more directly relevant to today.

First, though, I'd like to return to that idea of the waterline as an image or shadow. This is important for a number of reasons: not least because it defuses the geologists' scientific objection to the dowsers' concept of 'underground streams'. Geologists say that, apart from limestone and chalk, no rock structure will carry the literal kind of stream that dowsers seem to talk about. Dowsers agree with this: the idea of an underground stream cannot normally make sense in terms of geological theory; but the dowsers point out that that is how they *perceive* underground water, and they realise that it may not be like that underground. In retaliation the dowsers also point out that geological theory is limited by the way *it* perceives things, viewing the world underground solely in terms of overall structure rather than local detail: hydrogeology is useful for predicting the level of the water-table in any given area, but cannot explain why dowsers can find water in areas with 'bad' geology (like Somerset, where dowsers have always been active), on hill-tops and at other places that geologists had decided were 'impossible'. Geology sees the large structure, but not the detail; dowsing sees the detail, but not the overall structure: they're just different ways of seeing things.

So when Underwood described the water-lines as interruptions of some earth-force, that was simply the way he saw them; that may not be what they are in reality. Water-lines, blind springs and the like aren't real, physical 'things' at all: they are ways of defining and describing the *apparent* lines and points on the surface that coincide with certain kinds of definable water-flows below. You could call them a 'constructed reality', an imaginary reality, in the same way that the image on a radar screen or television screen is a reconstruction of reality.

To continue that analogy, the image on a radar or television screen can be distorted, or modified so as to add further information: wind-speed and direction, aircraft speed, alignment to the runway, and so on, in the case of an airtraffic controller's radar set. In the same way, the images of water in dowsing can be distorted to show further information, particularly of depth and the direction and rate of flow. In Underwood's system of dowsing these are shown by what he calls 'parallels' and 'flow-lines'.

Underwood uses the term 'parallel' for an image version of the so-called Bishop's Rule, a depth-finding technique that has been used by dowsers for centuries. Underwood's 'parallels' run parallel to the water-line and separated from the centre of the apparent line by a distance approximately equal to the depth of the water-flow at that point; while the Bishop's Rule states that if you walk outward from directly above the centre of the water-line, you will get a second reaction of your dowsing-rod at a distance out that coincides with the depth of the stream at the point which you started from. In both cases the rule is that 'the distance out equals the distance down'; Underwood's 'parallels' can be seen as the loci derived from measuring the Bishop's Rule outward from an infinite number of points on the water-line. Underwood's 'flow-lines' are small feathery lines, usually S-shaped, formed on both sides of the waterline; they follow the apparent strength and direction of flow, rather like the eddy-currents formed in still air by the passing of a car.



11 Three depth-images from a water-line: (a) the Bishop's Rule, (b) Underwood's 'parallels', and (c) Creyke's system. In each case the distance out to the secondary reaction is the depth of the water-flow at the original point on the water-line.

Underwood maintained that these patterns, like all his others, were fixed and immutable (apart from a regular oscillation on a daily cycle), and thus formed part of his 'pattern of the past'. But we can see these patterns as Underwood's way of collecting information about depth and flow, for many other dowsers had other ways of collecting the same information, and never perceived Underwood's patterns at all. To them, Underwood's lines simply did not exist.

One of the popular contemporary systems for finding depth was Creyke's 'staking' method, which is important to our study because it challenges Underwood's assumption that all the patterns *must* have been fixed. Underwood said that the water-line parallels were parallel lines which expanded and contracted in relation to the centre of the water-line by about ten per cent on a daily cycle; but Creyke's 'staking' system produced an unmoving circular 'parallel' around the point on the water-line which had been staked with a metal bar - a 'parallel' which vanished once the stake was removed.³⁰

A lot of dowsers still use Creyke's method. The procedure is that you first have to find the exact centre of the water-line, and then, at a point exactly on that centre-line, hammer a large metal stake into the ground. Immediately, as far as the dowser is concerned, the waterline disappears, to be replaced by a circle around the point. According to the original system the radius of that circle is the depth of the stream at that point. There are variations: for some dowsers the radius of this circle is only a half or a third of the actual depth - which can cause embarrassment at times and other dowsers don't actually stake the water-line, but

³⁰Underwood did recognise Creyke's system of depthing: he mentions and describes it briefly on p.51 of *Pattern Of The Past*, and refers to an article of Creyke's in *JBSD* II, No.9, Sept 35, p.86. See also Trinder, *Dowsing*, p.27.

rather place large lumps of metal or, in one case I know of, a small amethyst crystal, on the ground at the centre of the water-line.

Underwood's and Creyke's systems can be reconciled by saying that Creyke's system produces an artificial version of the Bishop's Rule, which leads us back to the relation between the 'parallels' and the Rule. But, more important, Creyke's system does imply that Underwood's apparently permanent patterns can be changed by inserting a 'needle' into the ground - and that, as we shall see, is a key point in a new understanding of sacred sites.

Water-lines may not in themselves be real, but they do at least tally with something physical underground. We can't so easily say the same of Underwood's track-lines and aquastats. In practical dowsing work, water-lines seem reassuringly solid, and have a definite 'feel' of depth to them; but the track-lines and aquastats seem only to be surface phenomena, and to be far more ephemeral. Underwood never actually defined what track-lines and aquastats were, and it seems he only *assumed* that they were 'lines of electromagnetic equipotential'.

We've seen that if we agree with his assumption, we get trapped by the conundrum of 'Which came first, the patterns or the structures?'. The way out of that trap is to look elsewhere for the cause of at least some of those patterns: and one cause which seems to make a great deal of sense, particularly in relation to tracks, boundaries and the like, is some kind of interaction between certain qualities

of a place and aspects of the minds of people passing by. If this is so, then what Underwood observed as aquastats and tracklines could in some cases be memories - if you like - of the meeting of people and place: and Underwood's results do tally more closely with that interpretation than they do with his rigid theory of the 'pattern of the past'.

This idea of track-lines and aquastats as memories is not as strange as it may seem at first. Even a physical track is a memory, in a sense, of people and animals that have passed along it. Imagine a bare heath, with no tracks on it at all: to cross it you would have to push a pathway through the bracken and gorse. But next time you pass that way, would you make a new path? Probably not: it's much easier to follow an existing path than to make a new one. Each time you pass that way, you wear down the track still further, reinforcing it as a memory of your passing. You leave the district, and the path falls into disuse: but it is still there as a memory of you and your passing that way - a memory at first as a bare line across the heath, then later (as it silts up, and conserves moisture better than elsewhere) as a line of denser undergrowth. You retain memories of your walking that path: it retains memories of you.

It seems that it retains those memories in more than just the sense of a worn pathway. Underwood's critics, with their idea of the 'pattern of the present', suggested that some of the patterns were 'electrical phenomena consequent upon disturbance of the earth's surface by man', and this is probably true in many cases.³¹ But we can go beyond this, to suggest that it retains memories outside of a purely physical sense: we can say that such a trackway retains a ghost of you, to be seen or felt by other people passing by.

By 'ghost' I don't mean some 'spirit of the dead', since obviously you're still alive. Rather, I mean the specific sense of the term as developed by the late Tom Lethbridge in the series of delightful books that he wrote in the 1960s.³² He suggested that most of the so-called 'ghosts' and 'ghouls' that people come across are better described as memories of emotions or images projected into and stored by certain characteristics of some places by people at those places - and these memories could be reconstructed, and thus perceived, by other people passing those places later or, as seems to occur in some cases, earlier.

This theory does work in practice, and seems to gave gained a wide acceptance in recent years. In Church writings, such ghosts and ghouls are referred to as 'place-memories', and a recent official report on exorcism (of which more later) suggested that they account for some nine-tenths of all reported hauntings. If a track or boundary can retain place-memories of passers-by, Underwood's tracklines and aquastats could be a side-effect of the storage of these place-memories as much as, or rather than, 'lines of

³¹Particularly, for example, the detailed patterns at Stonehenge which Underwood shows in Figs. 32-5, 39, 40, 43 and 44 in *Pattern Of The Past*, which cannot match the archaeological facts if they are interpreted in terms of his theory of the 'patterns of the past'.

³²See, in particular, T.C. Lethbridge, *Ghost and Ghoul*, and *Ghost and Divining Rod*.

electromagnetic equipotential'.

The apparent conditions under which images and emotions can be stored in and retrieved from a place as placememories are complex, and I'll have to leave a detailed discussion of them for later; but one of the conditions is known to be that state of mind of both 'transmitter' and 'receiver', and this gives us a clue as to what the difference between aquastats and track-lines, as placememories, might be. Underwood said that both tracklines and aquastats coincided with roads and tracks, but aquastats seemed to be the 'holier' of the two types of line. So if we take the lines to be interactive place-memories, this would suggest that the aquastats are projected into the place by a 'holier' state of mind than that required for tracklines. This does explain a number of loose ends in Underwood's theories: it suggests, for example, that track-lines give way to the continuous aquastats because the 'holier' state of mind is a more powerful one, giving an effect like a strong radio signal swamping out a weaker one; it also suggests, as another example, that the coincidence between aquastats and boundaries that Underwood describes may be connected and caused by semi-religious ceremonies like 'beating the bounds'.

This also suggests that to look for track-lines and aquastats and the like may be to miss the point, for they may only be side-effects of something more important. To study them alone may put us in the same position as the hi-fi fanatic who studies the technical quality of each recording so closely that he forgets to listen to the music. Important though studies of Underwood's patterns may be, we must remember to keep them in context with a wider view of the sacred sites, and of nature as a whole.

As Below, So Above

Stand at a stone circle, and see with different eyes. At your feet, as you know, are Underwood's patterns, a network of lines weaving and interweaving across the surface of the grass; but now you see them, as glowing wires, as twisted cables gleaming in their own light, the different types of line distinguished by different colours, different hues.

But this is not all. The stones themselves glow with light, their colours and intensities changing and pulsing as you watch. The ground itself is glowing, concentric rings of muted colours spreading out from the centre of the circle. Above the ground there is activity too: sparks of coloured light jump from stone to stone around the circle, travelling along taut wires of light, like messages chattering from stone to stone. Occasionally, all this activity comes to a climax: the top of one stone gleams brightly for a moment as a huge pulse of energy emerges from it and disappears into the distance, like a firework rocket travelling along an almost invisible horizontal wire. A message of some kind, travelling from one site

to another - or a pulse in a nerve of the body of the earth itself.

As you can see in the image above, Underwood's patterns are only a part of the picture of sacred sites that can be constructed from recent research. (The image is more than an analogy, by the way: several dowser-psychometrists have described the sites to me in these terms; and I remember how a friend of mine, working with me at Stonehenge, suddenly discovered he could 'see' the lines as bright silver 'wires' winding and twisting just below the surface.) A lot has been going on since Underwood's time, and very little has been published - which is not all that surprising, since until recently most archaeologists dismissed this kind of work as the furthest extreme of the 'lunatic fringe'. But attitudes are changing even within the narrow confines of academic archaeology; and this new research is of still more value when seen in the wider context of the relationships between places and the forces of nature.

Underwood found his patterns below ground, or just at the surface. Like many of his contemporaries, that seems to be the only level at which he looked for anything. However, even in his time it was known that points or places could be polarised or 'charged', in a dowsing sense, in relation to others; and this includes a variety of types of polarisation at sacred sites. Some of these charges are, like Underwood's patterns, on points at or below the surface: others, though, are above.



It seems, from what little published evidence there is, that the first above-ground charges to be found were on standing stones. I've tested this for myself, both on my own and with my students: it does seem that standing stones are polarised in relation to the ground around them and, in stone circles, polarised in relation to each other. It's easiest to describe this polarisation in terms of charge, but that isn't quite accurate in a physical sense, and we don't actually know what it is. There does seem to be a physical component involved in it somewhere, for John Taylor and Eduardo Balanovski, working with the dowser Bill Lewis in 1975, found a 'significant' distortion in the local geomagnetic field around a standing stone near Crickhowell in South Wales. The normal strength of the geomagnetic field in that area has a value of about half a gauss; the maximum deviation expected was no more than a few hundredths of a gauss, but immediately around the stone the local field had more than doubled in strength - 'significant' indeed!³³

According to correspondence with one of my colleagues,

³³See Francis Hitching, Earth Magic, pp.105-6.

Taylor has since claimed that the results were 'inconclusive'; and this seems to be because he, like Underwood, assumed that the strength of any pattern would be fixed, and it was not. But Lewis told me that he had warned Taylor from the start that the field-strength rose and fell on a regular cycle. If scientists are to research these fields, their work has to be truly scientific if it is to be of any use: preconceptions of any kind, particularly in this area, are likely to make such research unscientific, and thus useless. (Since Taylor's early work, a number of other physical research studies have been done as part of the Dragon Project, with probably more significant results and implications: but we will leave a detailed look at these until later.)

Taylor's work was also limited in that, again like Underwood, he assumed that any polarity around the stone must be solely electromagnetic. This is an assumption which forty-years'-worth of their own research into the physical factors of dowsing has taught dowsers to beware.³⁴ Most dowsers would agree that an electromagnetic component is involved, but many of those I've discussed the matter with have suggested that this may only be a side-effect of something, some energy, on what they would call another 'level'. Each time someone tries to pin down any 'cause' in dowsing to one specific physical mechanism, it suddenly

³⁴See Maby and Franklin, *Physics of The Divining Rod*; Maby, *Physical Principles of Radiesthesia*; and Tromp, *Psychical Physics*; then compare these with Arthur Bailey's article *Fact and Fiction in Dowsing*, in *JBSD* XXIV, No.168, Jun 75, pp.252-60.

stops and reappears as some other apparently physical mechanism. This effect is well-known in other research on the mechanisms behind psychic phenomena, particularly psychokinesis: it's sometimes called the 'bloody-mindedness' of those phenomena.³⁵

The polarities seem to represent something more complex and less tangible than purely physical energies, though the physical level does come into it somewhere. But though we don't know what they are, we can at least distinguish between the various types and the relative polarities of each type. The most common form of polarity seems to be related to the Chinese duality of Yin (or 'female-principle') and Yang (or 'male-principle'). For practical purposes these are usually referred to as 'negative' and 'positive' respectively: but note that this does not mean that Yang is 'better' than Yin, it's just a useful way of labelling them for practical dowsing work.

The usual way of picking up these relative polarities or charges in dowsing practice is to use a pendulum in one hand, and rest the other hand on top of the standing stone (or whatever else it is that is being tested). The pendulum's 'neutral', for me at least, is when it is swinging backwards and forwards in an even oscillation; as the dowser touches the top of the stone with his or her other hand the pendulum gyrates, and the direction of the gyration is used to imply the polarity of the stone at that time. In my

³⁵See Colin Brookes-Smith's report on research into psychokinesis in *JSPR* XLVII, No.756, Jun 73, pp.68-89.

case, a clockwise gyration of the pendulum is positive, and anticlockwise negative, but this does vary from one dowser to another.

Few of the polarities on standing stones stay the same for long, particularly at stone circles. I did a week-long study of the morning, afternoon and evening polarities of the stones at Rollright in the summer of 1973, and only about a dozen of the seventy or so stones there maintained the same charge for the whole week. Most of them changed from hour to hour, and many of them had minor changes occurring on a twenty- to twenty-four-second cycle. But churches, and Christian sites in general, are different: the altars of those that I've tested are almost invariably positive, and stay that way. The exception to this is that many Lady Chapel altars are equally fixed at negative. Church buttresses - particularly at the east ends, for some reason - are more like standing stones, as their charges wander somewhat; and other points within churches that tend to be strongly polarised are fonts and piscinas.

Whole areas can also be polarised in relation to others, mainly at ground level, but possibly above or below. During that survey at Rollright, using angle rods, I discovered a set of concentric rings of alternating charge: the rods crossed on passing through the line of the stones, opened out again further towards the centre of the circle, and repeated this 'opening and closing' to give seven concentric rings around the centre. It would seem that the polarities here are relative rather than the more absolute positive and negative, for I found that if I started with rods crossed, they opened out as I passed through the line of the stones, and so on in reverse to the centre of the circle. The effective pattern is similar to what Underwood called a 'halo', a set of concentric rings around a major point, such as the intersection of nave, chancel and transepts in a cathedral; it's also like a multiple version of the pattern produced in the Creyke system of depthing described earlier.



12 Rollright stone circle, Oxfordshire: rings of 'charge' spreading out from the centre of the circle.

This alternation of charge at Rollright continued outward from the circle for at least three more alternations; it is likely, from the feel of it, to have gone further, but obstructions like hedges and the fast-moving traffic on the road hard by the circle made it difficult to trace more of the pattern. I have since found a similar, though weaker, pattern at Gors Fawr stone circle in Pembrokeshire; I haven't yet been able to test for it at other circles, but other dowsers I've talked to have reported similar effects at some of them. I haven't yet studied area polarisation in churches either, partly because most of the significant old churches are still in daily use: but it would be interesting to see what patterns are to be found there.

In the same way that there tend to be concentrations of charge at various points on a site, there tend also to be concentrations at specific points on the structures of those sites - such as church buttresses and, particularly, standing stones. These concentrations showed up in Taylor's research on that stone at Crickhowell, as narrow bands of double-strength geomagnetic field running horizontally across the stone at various heights upon it. These bands move up and down a little on the surface of the stone, following what appears to be a lunar cycle: and because Taylor was apparently expecting these bands, once he found them, to stay still, that may be another reason why he said his results were 'inconclusive'.



13 Energy bands on stones and buttresses: (a) a christianised stone near Postbridge, Devon, (b) stone 3 at Rollright, and (c) the north-east buttress of Knowlton church. All are shown to the same scale.

There are seven of these bands on most large standing stones; smaller stones, below about four or five feet, may only have the first five, though there are a number of exceptions to this general rule - the smallish wall-stones in the chambers at Belas Knap long barrow in the Cotswolds, for example. have all seven bands. Two of the bands are usually below ground level, and the third just above or below the surface; the top band will be at or very close to the top of the stone, and the remaining one or three bands (or however many the stone has) are usually spaced irregularly over the rest of the height of the stone. All seven bands, according to several researchers I've talked to, are tapping points into a spiral release of some kind of energy that moves up and down the stone, following that lunar cycle. The cycle appears to control, the release of this energy in a sine-wave form, the zero-points of the cycle occurring on the sixth day after New and Full Moon.

Underwood noticed a similar, if not identical, cycle guiding regular changes in some of his secondary patterns; and, as he pointed out in Pattern of the Past, this coincides precisely with the structure of the Celtic calendar, at least as described by their first-century bronze 'tablet' found at Coligny in France at the end of the last century.³⁶ According to the tablet, the months started on the sixth day after New Moon, and were divided into two fortnightly periods (hence the English 'fortnight', a fourteen-night); the New Year started on the sixth day after the first New Moon after the spring equinox. (The West-European Easter is a Christian takeover of the old pagan New Year festival, which is why Easter is a 'movable feast'.) Underwood stated that the cycle in his secondary patterns repeated its zero-points almost to the second each fortnight; and another researcher, Andrew Davidson, timed the zeropoints of the cycle of the spiral energy-release round a set of standing stones in Scotland to within seven minutes.³⁷ Either way, a measurable cycle of that accuracy - better than most clocks until well into the 20th century - would

³⁶See Evan Hadingham, Circles and Standing Stones, pp.174-5.

³⁷See *Pattern Of the Past*, pp.58-9, and a comment on work by Andrew Davidson in Paul Screeton, *Quicksilver Heritage*, p.185.

seem to be a useful guide for any pagan calendar: so the parallel with the Celtic calendar may be more than 'mere coincidence'.

The spiral feeds energy from the ground to the sky during one half of the cycle, and feeds from the sky to the ground during the other half. The bands on the stone seem to connect the stone into this flow of energy, apparently to control it: they seem to plug the stone into energies both above and below ground, while the stone itself both marks and is the right point through which the interchange of energies can take place. The bottom three bands connect the stone into the energies below ground; among other things, they seem - from my research results at least to connect up in some way with Underwood's patterns, but I've not been able to work out what the connection is. The remaining bands connect up with other energies, or networks of energies, above ground; and in the case of the fifth and seventh bands this connection, as far as many dowsers are concerned, produces some interesting side-effects.

The effect of the fifth band on the dowser may have given a standing stone in Gloucestershire its name: the Twizzle Stone. When a dowser leans against the level of the fifth band on a stone or buttress, the band somehow affects the dowser's balance, producing an effect which feels like a slow and gentle push to one side or the other. According to the skill of the dowser (and, it must be admitted, more subjective factors like a sense of showmanship), this sense of 'being pushed' can be increased until it looks as if the dowser has been thrown to one side by the stone. The same lunar cycle controls the strength of this effect: the thrust waxes and wanes, and reverses, in the same way as the spiral release of energy around the stone. Around First and Last Quarter the response tends to be weak and unclear, while on the day before New and Full Moon there is often no doubt at all that the effect is there.

The usual procedure is to use a pendulum to find the position of the band, using the free hand as a pointer to move up the surface of the stone. Then place both palms flat on the surface of the stone at this point; lean against the stone, resting your weight on your palms, and relax. By 'relax' I don't mean 'go floppy': rather, I mean that you should allow the tension in your muscles to ease evenly, and - perhaps more important - to relax and clear your mind of 'doing', analysing, thinking. If you've done this right, and if the conditions are right, 'upright', in the subjective sense, suddenly ceases to be upright, and you'll roll to one side or the other. The direction of this apparent thrust will remain the same, for you at least, until the end of that lunar cycle; for the next fortnight it will reverse; and so on. Different people are pushed different ways, for some reason, and different stones may induce different apparent thrusts, so don't assume that if it works for you in one way at one place it must therefore be the same for everyone everywhere.



14 The fifth-band's effect on a dowser.

I once showed Paul Devereux, editor of *The Ley Hunter* magazine, how to find this fifth band effect, working on one of the main stones at Avebury and on the tower on top of Glastonbury Tor. Since he hadn't been able to dowse before this time, his comments are interesting. He said that the immediate effect of the fifth band was 'like when you've had just one drink too many': it was a feeling that hit him as soon as he made contact, and this sense of a loss of balance developed, in a couple of seconds, into a definite 'push' to

one side. It's interesting to see how specific this effect is: on the west-end buttresses of the tower on Glastonbury Tor it could only be felt from a narrow band about six inches high and around four feet off the ground, while it couldn't be found at any height on the east-end buttresses. Since the latter were only put up to support the tower after its church had collapsed in an earthquake, and were thus not part of the original layout of the church, that perhaps isn't so surprising.

Another often-reported effect at the stones, probably from contact with this band, or the seventh, is the feeling that the stone is rocking or moving or, as one of my students put it, 'jumping about'. Again this is a subjective feeling, since the stones are usually firmly rooted in the ground; but a lot of people, dowsers and non-dowsers, have felt it. The late Tom Lethbridge, in his book *The Legend of the Sons of God*, described how this effect occurred when he tried to date the stones of the Merry Maidens circle at Lamorna in Cornwall:

> As soon as the pendulum started to swing, a strange thing happened. The hand resting on the stone received a strong tingling sensation like a mild electric shock and the pendulum itself shot out until it was circling nearly horizontally to the ground. The stone itself, which must have weighed over a ton, felt as if it were rocking and almost dancing about. This was

quite alarming, but I stuck to my counting...³⁸

This 'tingling sensation like a mild electric shock' is also one of the characteristics of the seventh band's effect on the dowser. With a skilled dowser this can be spectacular: as he touches the band with his fingertips, the energy released triggers off a violent reflex contraction of the back muscles, throwing him backward as much as ten or fifteen feet. Even non-dowsers can often feel the energy at this point as a slight warmth or tingle, which may account for the name of another standing stone in Gloucestershire, the Tingle Stone, near Avening.

³⁸T.C. Lethbridge, *Legend of the Sons of God*, pp.21-2.



15 The seventh-band's effect on a dowser.

My strongest experience of this seventh band reaction was at Avebury, when a friend and I were trying to find the former height, by dowsing, of the Obelisk Stone, which once stood in an inner part of the southern circle there. The stone isn't there now - it was pulled down and destroyed in the seventeenth century - and all that remains is a large concrete marker. Because of this, we thought we would have to work at maximum sensitivity if we were going to find the memory (so to speak) of the original shape of the
stone. We used a 'booster' technique, in which a second dowser - to use a radio analogy - acts as a series amplifier on the signal that the first dowser receives: we thought that the signal would be too weak to be noticed if we didn't do this.

We were wrong, of course. Using a pendulum in one hand, I used my other arm as a pointer, to find the former height of the tip of the stone. We did, at about seventeen feet: but at the same time we found the 'memory' of the stone's seventh band. It was quite a reaction. I'm not quite sure what happened then, since all I remember is jumping back with the shock, but my wife, who was watching at the time, tells me that my arms went out wide, and I only just managed to keep upright. My friend went sprawling on the ground about ten feet back from where he started, for, being 'booster', he'd caught the brunt of what I'd managed to dodge. It was several minutes before either of us recovered enough to start work again.

Many dowsers have had experiences in a similar vein, so it's not surprising to find them wary of working at stone circles and other sacred sites. I remember a student of mine overtired herself working on one of the stones at Rollright: she suddenly found herself having a giggling fit after tripping over a tiny piece of chervil, which she swears wrapped itself round her ankle; she only sobered up - and instantly at that - when we helped her out of the circle. Another dowser reported finding her pendulum doing a miniature version of the Indian Rope Trick when she dropped it after working at the same circle too long. One medical dowser I talked to warned me that the energies involved are capable of damaging human metabolism: so it is important to know what you're doing when you're working at these sites, and to treat the energies with some caution. As in other fields, casual dabbling may be dangerous.

This was brought home to me in the early days of my experiments, when I borrowed a teenager as a helper at Rollright. We had been noticing for some time that each time we crossed the line of the stones with angle rods, the rods reacted in a way that implied there was some kind of energy jumping from stone to stone around the perimeter of the circle, moving in a sun-wise direction about three feet off the ground. Basically, this energy was just spinning round the perimeter of the circle; but there are two points at Rollright which seem to be like gates, in the sense that the line of the stones breaks so that as you walk round the circle just inside the line, you will find yourself going outside the line at these points. The interesting thing was that the line of the energy became double at these two points, one moving round the circle as usual, but the other part apparently moving off at a tangent to the circle. We thought that one of the stones close to the eastern 'gate' might be the 'gate-latch', so to speak; so my helper stood in the gateway, pendulum in hand, and I tested the gate-latch stone with my pendulum. The result, for both of us, was instant migraine.



16 Rollright stone circle: spin-energy at the eastern 'gate', stones 15 to 28.

It wasn't until quarter of an hour later that the headaches began to clear: intangible and immaterial though it might have been, the massive pulse of energy we'd released through the gate had been real enough to us. Since that experience, I've been careful to learn basic protection techniques and, as far as possible, to work only with people who have also learnt them. I've also learnt the value and importance of feeling for when something is wrong, or about to go wrong: but unfortunately these things can only be learnt through practice, and through sometimes bitter experience. If you don't already know what I mean by this, you'll have to find out for yourself - there's no other way that I can show you.³⁹

I'm still not sure what happened then, for by the time that we had recovered enough to start work again the energy pattern around the circle was exactly the same as before

³⁹Safe approaches to dowsing on sacred sites are discussed in Sig Lonegren's *Spiritual Dowsing*; refer also to Dion Fortune, *Psychic Self-Defence*, or to the descriptions of protection techniques in *Exorcism Report*.

our experience - pretending, as it seemed, that nothing had happened. As far as I can work out, though, this aspect of the circle resembles a cyclotron: some kind of energy, possibly derived from the blind spring at the centre of the circle, and implied by the concentric 'haloes' round the centre that I described earlier, spread outward from the centre, and was collected at the perimeter of the circle, to be stored there by spinning the energy from stone to stone. By inserting a small amount of energy into any of the gate-latch stones - which is what I had done, in testing the stone - the relevant gate was opened, releasing all the stored energy in one go: and that was what had flattened us in its passing. I've never been able to work out what happened to the other energy patterns of the circle during this momentary convulsion; and since, for obvious reasons, I'm unwilling to repeat the experiment, I probably never will.

The interesting thing here was that the pulse of energy, whatever it was, seemed to leave the circle at a tangent to the line of the stones, travelling in a dead straight line. I think it went about six miles to the south-west, to a stone called the Hawk Stone, and then split off in two different directions from there - or rather, that's what the dowsing results implied, because it doesn't quite make sense according to the map. The important point was that not only did this pulse travel straight across country, but a faint continuous line marked out its course, in a dowsing sense, above the ground. This line was the continuation of the tangential line coming off the spin at the gate, the line which we had found before we had accidentally released the energy pulse. It started, like the spin, at about three feet off the ground, and shortly after leaving the circle had widened from its original two feet width to about six feet, which seemed to be its normal' width for what I could track of its course across country.

As I found more of these lines travelling above ground to and from various stones at Rollright and at other sites, I called them 'overgrounds' in order to distinguish them from Underwood's patterns underground. The dowsing techniques to find them are exactly the same as for Underwood's patterns, except that you have to remember to keep in mind that you're looking for patterns above ground, not at the surface or below. Soon after I had found these overgrounds, I discovered that other dowsers had known of them for some time because of their effects in a different field of dowsing research; but they referred to them by another term - 'leys' - which, as we shall see shortly, is a particularly important one in the history of the study of sacred sites.

Mirroring Underwood's patterns, these overground lines connect in some way with those bands or tapping-points above ground on the stones; though again, as with Underwood's patterns, they don't seem to connect directly, but rather relate to them by some complicated linkage or relationship that I don't yet understand. The different bands also seem to have different functions: all of them deal with these overground communications, but the fifth and seventh bands seem to hold or diffuse the pulses in some way, while the sixth band tends to deal with long-distance communications from site to site, and the fourth band to deal with local communications within the site or the local area. These are tendencies rather than rules, though: from my results at least it seems that every band can perform every function.

The local communications, the pulses jumping from stone to stone on a site, show up in other ways that we've come across already. At stone circles, one set of pulses jumps from stone to stone either clockwise or anticlockwise round the circle, forming the apparent spin of energy; and other pulses, jumping around in a less obvious sequence, change the polarities of the stones on their regular and irregular cycles. From a dowser's point of view, watching these pulses move around on a complex site like Rollright, it is no exaggeration to describe the site as 'living, breathing, pulsing'.

But to me it is the long-distance overgrounds, or rather their 'carriers', which are particularly interesting. There are a lot of them: the main outlier at Rollright, the King Stone, had more than a dozen linked to it the last time I checked, and there may well be more. There are probably more than a hundred of them linking in to the whole Rollright complex, if we include all the minor and irregular links; there are so many of them that an image of stone circles and standing stones as stone 'telephone exchanges' springs to mind. That image may not be as fanciful as it seems, for a striking analogy can be drawn between the overgrounds and present-day microwave telecommunications. Much of Britain's telephone traffic is carried on microwave links between various towers dotted around the country: the best-known of these are the concrete Post Office towers in the centres of London and Birmingham, but there are about a hundred other towers and steel pylons in the chains that run from end to end and side to side of the country. If you look at these towers, you can see ten-foot-high 'horns' mounted high up on them: these are the main microwave aerials. Each horn can transmit several thousand telephone conversations at the same time, which is why the towers were built in the first place; and it transmits these as modulations of a single narrow beam that jumps from one tower to another along the chains. The beam from each horn is a cone with less than one-third-degree spread (the smaller 'dishes' on the towers aren't quite so accurate), and because the horns are placed high up on the towers, that are themselves usually built on high ground, the beams rarely touch the earth.

This is the really ingenious part of the design of the British microwave network, for it is something of an open secret that the 'secret' Government centres are built on or under those hills that the beams just touch. For example, the only hill that the beam between the towers at Stokenchurch (where the M40 crosses the Chiltern ridge) and Bagshot Heath touches has an ex-World-War-II arms factory hidden underground beneath its summit, now converted to

one of the government's semi-secret 'Sub-Regional Controls'. The same beam passes directly over the RAF Staff College at Bracknell and the defence communications headquarters (again underground) at Medmenham. This hidden aspect of the towers' function was discovered by a pacifist group called 'Spies for Peace' during the 1950s.⁴⁰



^{5:} Bagshot microwave tower

- Warren Row is the only point where both beams touch the ground.
- 17 The microwave towers and their alignments: a cross-section between Stokenchurch and Bagshot towers.

(after Peter Laurie, Beneath the City Streets, Penguin, 1972)

Political implications apart, the interesting point here is that the major sites of the network, the towers, were placed on carefully selected hills so that minor sites on other hills could tap into the beams: all the hills align. Hence the analogy with the overgrounds and the sacred sites, since they too form alignments of major and minor sites along the same straight overgrounds. Major sites such as stone

⁴⁰See Peter Laurie, Beneath the City Streets.

circles and large standing stones are terminal points for each overground, analogous to the microwave towers; and spaced irregularly along the overgrounds are the minor 'tapping points', like the small mark-stones that you can see in many places set into the side of the road.⁴¹ Like the small microwave dishes on the hills, they aren't placed as randomly as they seem; and like the dishes, they are there for a reason, though not, I think, the same one.

This matter of alignment, or apparent alignment, is well known in the study of sacred sites. In recent years a lot of research has been done on inter-relationships of certain types of sites along astronomically significant alignments,⁴² but much of this was pre-dated by the work of Alfred Watkins and the members of the Old Straight Track Club in the 1920s and 1930s.⁴³ It was actually my interest in Watkins' leys that started me dowsing in the first place, because I had wondered if it was possible to find and check them by dowsing. Since I couldn't find any dowsers to help me at the time, I taught myself to dowse; but I couldn't find any leys by dowsing then, and anyway my interest was soon caught by Underwood's work. It wasn't until I had done some work on overgrounds that I realised there

⁴¹Alfred Watkins shows many photographs of markstones in his books, particularly in *The Old Straight Track*.

⁴²See, for example, Sir Norman Lockyer's study of Boscawen-un circle in Stonehenge and other British Stone Monuments Astronomically Considered, and Michell's extension of Lockyer's thesis in The Old Stones of Land's End; see also the survey of Stonehenge by Professor Thom and family in Earth Mysteries: a study in patterns.

⁴³The Old Straight Track Club's vast but disorganised files can be studied in the city library in Hereford.

was a possible connection between dowsing and leys - but that's something I'll come back to shortly. For the moment, we need to look at Watkins' leys and the concept of the alignment of sacred sites.

Watkins' first essay on leys, Early British Trackways, Moats, Mounds, Camps and Sites, was written with obvious excitement in the short period between June 30th 1921, when he had his first clue (or 'vision', as some later writers have put it) of the ley system, and the September lecture on which the essay, published the next year, was based. His thesis was that the pre-Roman trackways of Britain were constructed in straight lines marked out by sighting from major intervisible points: mountain peaks in high districts, and hills, knolls or artificial mounds in lower ones. The trackway itself was marked by a variety of secondary points, also intervisible, and deliberately designed to be picked out visually from the surrounding countryside. In addition to using standing stones and the smaller mark-stones (which are natural boulders foreign to the area) as markers, the ancient surveyors - according to Watkins - constructed mounds on intermediate ground, cut away notches where the tracks crossed ridges, and made cuttings and causeways where the tracks crossed rivers. These water-points on the tracks were sometimes visually assisted by being banked up into a 'flash', so as to glint in the sunshine when seen from a point higher up on the track. The tracks didn't necessarily run the whole length of the sighting line from mountain peak to mountain peak, they just used those parts which were practical for trading

purposes.

It was clear to Watkins that the mark-points must also have had some religious significance, for sacred wells, stone circles and known sacred groves are also primary or secondary mark-points on the 'old straight track'; and when the Church took over, it also took over the old sites as sites for their new churches. The Romans before them took over parts of the old track for their own purposes, using them as foundations on which to base some of their own not-so-straight roads; we have to realise, said Watkins, that the old straight track was as old to the Romans as their roads are to us. Watkins derived his term 'ley', which he used to describe the old straight track, from its frequent appearance in the names of places along the tracks.⁴⁴

⁴⁴The more usual ascription of 'ley' in place-name studies is 'pasture' or 'meadow' - the term is still used in farming to describe a particular type of pasture.



18 A classic ley-type alignment at Mount Bures, Suffolk.

Over the next few years, Watkins' thesis changed a little, becoming more complex and sophisticated. In his most important book, The Old Straight Track, published in 1925, the different traders' tracks are identified by different groups of place-names - 'white' or 'wick' for salt, for example, and 'knap' or 'chip' for flint - and the Beacon Hills are added to the list of mark-points. By 1927, when he published his Lev Hunter's Manual, the list of mark-points had grown, in their order of reliability, to the following: prehistoric mounds (except where closely clustered together), moated mounds, wayside mark-stones (where distinguishable from casual 'erratic' stones), circular moats, castle keeps (usually on old mounds), Beacon Hills and similarly named mounds (like One-Tree Hills), wells with traditional names, old churches (especially if on a mound or other evidence of prehistoric use of the site, or with certain types of related folklore), ancient crosses, alignments of road or trackway,

fords, traditionally-named tree-groups or single trees (especially if Scots Pine), hillside notches, and crossroads, zigzags and other road junctions.

A map will only show some of these types of site aligning, say four or five good mark-points in ten miles, and that might only be 'coincidence'. It was only in the field that ley-hunting made sense, for on a chance alignment no further sites would be found, whereas on a 'real' ley you would find unrecorded mark-stones in the hedgerow, causeways through ponds that blocked the ley's course,⁴⁵ paired gateways where the line crossed a road, or other details like confirmatory folklore about tunnels or 'the old straight road'.

The possibility of finding these little confirmatory clues, combined with the whole sense of adventure and discovery, helped to make ley-hunting into one of the great popular crazes of the 1920s and 1930s. But if it was popular with the ramblers who walked the leys, it was not at all popular with the archaeologists of the time. The Diffusionist theory, which maintained that all culture and civilisation came out of the 'fertile crescent' of the Tigris and Euphrates, had just been nicely established as 'fact'; it seemed to prove that the life of early man in Britain had been, to use Hobbes' famous description, 'solitary, poor, nasty, brutish and short'.

In this view, the first properly surveyed and engineered roads in Britain were those of the Romans; the only roads

⁴⁵Watkins gives an excellent example of one of these, through a pond at Holmer in Herefordshire, in Fig. 59 in *The Old Straight Track*.

prior to that had been mere trackways, the old and winding ridgeways and drove-roads. Watkins' leys had to be absurd, to the archaeologists, for they implied the need for a complex culture and technical ability in at least one section of the population in prehistoric times - and this concept could in no way be made to fit into the orthodox archaeology of the time. The archaeologist O.G.S. Crawford said then that Watkins' work was 'valueless', 'based on a misconception of primitive society and supported by no evidence'; and this statement it still quoted, fifty years later, by writers like Glyn Daniel and W.G. Hoskins, as proof that Watkins' work was and is 'valueless'. And that, they say, is final.⁴⁶

But archaeology itself has undergone some revolutionary changes in the last twenty years, and Watkins' work, whilst not without its flaws, fits more closely into the framework of the new archaeology than can the old Diffusionist ideas. It turns out, ironically, that it was Crawford who had the 'misconception of primitive society': the new dates given by improved radio-carbon dating, the fieldwork on archaeo-astronomy and the geometry of stone circles by Thom and others, and the new syntheses by archaeologists like Colin Renfrew and Euan MacKie all point towards a technical ability in Neolithic and Bronze Age man in Britain - particularly of surveying and selecting sites for their topographic properties - that is way beyond the

⁴⁶For a typical example, see W.G. Hoskins, *Fieldwork in Local History*, pp.136-7.

conception of the archaeologists of Crawford's time.⁴⁷

Crawford's statement that Watkins' work was 'supported by no evidence' is interesting, for as far as I can discover no serious study of Watkins' concept of the ley system has ever been undertaken, by Crawford or by any professional archaeologist.⁴⁸ Crawford's comments are still quoted as the final proof that the ley-system is 'chimerical'; yet Crawford, to my knowledge, never studied the evidence in the field; he dismissed the whole idea *a priori* because it could not and would not fit his view of archaeology. The supposed archaeological 'proof', in fact, is no more than a comfortable myth.

Archaeology is rather fond of myths like these: another one concerns the 'vitrified forts' of Scotland and Ireland. A number of forts there have at some time been subjected to such an intense heat that the rocks of which they were built have 'vitrified' and melted. In every archaeological textbook that I've seen which mentions the subject, it is stated as fact that the forts were vitrified because wooden structures inside and beside them were set on fire by

⁴⁷The first part of Francis Hitching's *Earth Magic* is a good but pre-MacKie summary of the clash between the old archaeology and the new. For detailed studies, see Thom's *Megalithic Sites in Britain* and *Megalithic Lunar Observatories*, Renfrew's *Before Civilization* and MacKie's *Science and Society in Prehistoric Britain*.

⁴⁸In principle Williamson and Bellamy's *Ley Lines in Question* claims to be a proper study of the ley question from an archaeological point of view; in practice, though, it is not so much a study as a crude attack, relying on dubious scholarship, deliberate mis-quotes and an extraordinary abuse of data to make its point in almost every case. See this book's 'Postscript' and the review in *TLH* 97 for more details.

raiding parties. But this is not a fact, this is an assumption: an assumption that is denied by a closer study of the forts. In many cases the structures are more heavily melted at the top, which suggests that the heat came from the top *downwards*, not upward from the bottom as would occur with a more ordinary fire; and one case in Scotland is simply too big for the orthodox explanation to work, for a half-mile length of the hillside beside the fort was vitrified at the same time. Recent research shows that the vitrified rocks are mildly but unnaturally radioactive; and the few studies that have been done on the temperatures involved - which I've never seen quoted by the archaeologists - all state conclusively that no wood-fire can reach anything like the temperature required to turn stone into glass, as happens in the vitrification process.⁴⁹

We just do not know what melted and fused the rocks of those forts. But as with the non-'study' of the leysystem, the archaeologists have, for decades, quoted as fact an untested assumption which turns out to have little or no basis in reality. It's sometimes useful to remember that while professional archaeological research is usually scholarly and well-disciplined, it is every bit as speculative and fallible as that of the 'lunatic fringe' the archaeologists despise. Certainly no archaeologist has the right to say, as Professor Stuart Piggott once did on a television programme, that 'only professional archaeologists can put forward ideas about prehistory'.

⁴⁹This information comes from work currently being organised by Dr G.V. Robins at London's Institute of Archaeology.

So, to return to Crawford's claim that the ley-hypothesis was 'supported by no evidence', there is in fact a great deal of evidence for the ley-system from both map-work and fieldwork: but most of it has been collected in such a haphazard way and, in many cases, with so little care and discrimination that Crawford did have a point. I know of only one systematic ley-hunting study of a defined area that has been done to date, and that is John Michell's study of the megalithic sites of the West Penwith peninsula in Cornwall in 1974, published as his The Old Stones of Land's End. Michell was careful to use only those sites which were known to be prehistoric; several stones modified into Christian roadside crosses did fall into the pattern, but he regarded them as secondary evidence only, on the grounds that they might have been moved from their original sites during the early part of the Christian period.

During the survey he found twenty-two alignments between the fifty-three 'valid' sites in the area, eight of these sites being unmarked on any map. These alignments were, he said, 'of rifle-barrel accuracy', the sites being aligned precisely centre-to-centre over distance of up to six or seven miles, an accuracy checked both in the field and with a horse-hair stretched over air-photographs of the area. By walking these alignments, Michell found not only the eight previously unrecorded sites, but also found that the sites were precisely intervisible, being placed exactly on the skyline between one site and the next. Both of these aspects of leys had been described by Watkins some fifty years before. This first systematic study of ley-type alignments was, predictably, ignored by the professional archaeologists: their evasive correspondence with Michell on the subject was subsequently published in *The Ley Hunter* magazine under the ironic heading of *The View Over Ivory Towers*.⁵⁰

Two years later Michell's Lands End work was subjected to a detailed computer analysis by Chris Hutton-Squire and Pat Gadsby, who published their results in the alternativetechnology magazine Undercurrents.⁵¹ Working mostly from maps, and working to a maximum allowed width of ten metres (but not more than one metre per kilometre), they confirmed all bar two of Michell's original alignments, and added twenty-nine more. (The two that 'failed' did so because of the difficulty of choosing where they both met the Merry Maidens stone circle: the analysis assumed that all lines went to the centre of each site, but Gadsby and Hutton-Squire suggested later that there was a better 'fit' if the lines struck the circle at the tangent - which would seem to have some parallels with the spin-effect at Rollright mentioned earlier.) The most striking result was that a rather insignificant stone at Sennen, near Land's End itself (Michell's 'stone 17'), had no less than seven alignments running through it, while on a randomised simulation (to give a figure for chance alignment) that Gadsby and Hutton-Squire also ran through their program the 'dummy' stone 17 had only one alignment through it: as

⁵⁰See *TLH* 14, Dec 70, pp.81-8. The heading harks back to the title of Michell's earlier book, *The View Over Atlantis*.

⁵¹See Undercurrents magazine, issue 17, pp.14-17.

they said in their article, 'this appears to be good evidence of deliberate alignment'.

Their randomised simulation used dummy sites matched to each of the real sites, but placed randomly within the same kilometre square as each of the real sites, so as to produce roughly the same clustering that the real sites showed. This gave a statistically acceptable figure for chance alignment. The real sites produced a number of alignments that was well above the chance figure - statistically, 160 to 1 in the case of the three-point alignments and 250 to 1 in the case of the one five-point alignment - and some of the real lines were indeed of 'rifle-barrel accuracy', the sites being exactly aligned with each other, with no appreciable deviation, over several miles.



The other interesting point which the random simulation picked out was that, using the chance figures that it gave, not only are many of the real sites aligned with each other to a greater degree than chance, but other real sites are *non*-aligned with each other: they have *fewer* alignments between them than chance would predict. This is an important point in a new understanding of leys, as I'll explain shortly. Gadsby and Hutton-Squire's statistical study is the only one to date which, to my knowledge, has handled the data available in anything resembling a scientific manner: there have been other studies, but they have been based on assumptions (particularly about ley-width, length and type of alignment) that no serious student of leys could accept.⁵²

The other problem which statistical studies present is that while they show that many of the apparent alignments must be due to chance, they can't tell us which alignments are 'real', and which are not. So we're presented with another conundrum: when is an alignment a ley? For that matter, given the apparent non-alignment mentioned a moment ago, when is a ley an alignment? There's no easy answer.

So here we come back to the whole question of what a ley is in the first place. In Watkins' original thesis it was a trackway formed between sighted intervisible points of so many incongruous types and of such different periods that it's not surprising that the archaeologists at least queried the idea. It's true that the sites do seem incongruous, but if we compare Watkins' mark-points with Underwood's sites we find that the two lists are almost identical: a significant coincidence, I think.

There's also the question of whether leys really are trackways in essence, for whilst sections of road and track do

⁵²See, for one set of examples, Bob Forrest's studies' of leys, published in various issues of *TLH*, *Undercurrents* and elsewhere.

align with other sites, it seems from comments by several recent researchers that the ley - if it is 'real' - tends to run down the *side* of the track rather than down the middle of it. This suggests that the 'trackway' aspect of leys was a sort of side-effect or after-thought rather than part of the original design. Many levs make no sense at all as tracks anyway, for they do strange things like dropping over precipices, taking the longest line over marshes, and recrossing the same river many times. Apparently Watkins himself realised the limitations of the trackway hypothesis towards the end of his life, and is said to have been unhappy about the more mystical or magical interpretation of the lines that this implied. Nevertheless, the more mystical or magical interpretation of leys seems to be the one which is preferred by most ley-hunters at the present time; and that brings us back to dowsing and the overgrounds, for it seems that the overgrounds are the semi-physical or non-physical reality behind levs.

If the overgrounds are the reality behind leys, then it suggests a rather different model and function for the leysystem. The classic Watkins model states that an alignment is a ley if a given number of sites align precisely centreto-centre within a given distance - typically, four sites within ten miles - with the exception of camps and the larger 'area' sites like big stone circles, which leys tend to meet at the tangent rather than centre-to-centre. A true ley will be confirmed by the discovery of minor details like unrecorded mark-stones or aligned gateways, and also by folklore evidence; a chance alignment won't have this backup, and will simply feel 'wrong'.

The model implied by the overgrounds agrees with this classic model in many respects, but takes it further in a number of directions. The first is that both the major and minor sites on a true ley will also coincide with concentrations of Underwood's patterns, thus apparently using the sites as connection-points between two separate energy-systems, one below and one above the ground. The connection between Underwood's patterns and the 'reeling road that rambles round the shire', to use Chesterton's phrase, is recognisable even if the cause-effect relationship between them is not; but the connection between the overgrounds and the occasional stretches of ancient straight track aligned on them is anything but clear. Some dowsers have put forward very complicated models to explain it, involving 'colour-coding' of the energy in the different overgrounds to mark out sections of track, but I think the simplest and most likely answer is that, as with Underwood's track-lines, the lines and the roads are where they are because that's where they felt they ought to be. And I'll leave you to decide which 'they' is the roadmakers, and which the tracks themselves...

Another difference between the classic model and that implied by the overgrounds is that a ley can still be real and 'active' even if one or more of its sites has been moved. The overground doesn't actually divert from its original straight course, but on reaching the original site of the mark-stone (or whatever) sends out what some dowsers have termed a 'ray of union' to connect the stone to the original line. There is an example of one of these in St Stephen's churchyard in St Albans in Hertfordshire: the three-foot-high mark-stone just inside the churchyard wall, according to Bill Lewis's and my dowsing results, was originally in the middle of the ancient Watling street, which comes to a crossroads just by the church. The stone was moved at some time from the middle of the road to the footpath, and then again from the footpath into the churchyard, for the overground that runs (unusually) up the middle of the road does an apparent sharp double bend to 'talk to' the stone before continuing on its way north. So far the maximum distance found between a moved structure and its original site, where the structure is still 'talking' in this way to the original site, is about half a mile.



19 Path of an overground at St Stephen's church, St Albans, Hertfordshire.

In the same way there appear to be two-point overgrounds, or two-point leys, depending on how you look at them. Except in the cases of the moved sites I've just mentioned, these appear to be deliberate non-alignment so that the energy from some outlying point can be channelled exclusively to one point on the main overground: all of the two-point leys I've heard of so far have been connected to a major ley at one end. This doesn't seem to be the only aspect of non-alignment, for, as we shall see shortly, nonalignment in the sense of deliberate non-connection also seems to be important for a rather different reason.

It's also important to realise that, as Watkins did in fact imply, centre-to-centre alignment is by no means the only type of alignment, particularly on large and complex sites, or sites that have, like churches and castles, been re-used for other purposes at a later date. Overgrounds, as we saw earlier with Rollright, leave stone circles at any angle between the perpendicular and the tangent; the same seems to be true of camps, though, as Watkins noticed with his leys, tangential alignment seems to be preferred at camps.

It's more difficult to predict contact-points at re-used sites, since the later use often placed the emphasis elsewhere on the site. At Rudston in Yorkshire, for example, the church-builders couldn't destroy the twenty-five-foot high Rudstone, so they built their church beside it instead of, as elsewhere, on top of it. At some other sites I've been at, the main overground has missed the church completely, and contacted to some uninspiring little hummock on the edge of the churchyard instead. These details are very difficult to pick out in map-work: in practice, whether by dowsing or more conventional ley-hunting, they can only be appreciated in the field.53

The most important aspect of the new model is that it implies that the levs, or overgrounds, or whatever you care to call them, are mainly concerned with present-day energy rather than prehistoric commerce. This came over most clearly when, after I had done my original research on overgrounds and their relationship with leys, I found that others had been that way before me, and were talking of leys as conductors of energies of a number of different types and levels. One dowser who specialised in what might be called a form of environmental medicine told me that she often had to 'neutralise bad energy down leylines' in order to improve the environmental health of some farm or community. I'm told that one of the Church's great present-day exorcists started his career at an exorcism of a stone circle, working as assistant to a man who believed that the Russians were using the site as a focus for energies 'transmitted down ley-lines', energies which they were using to stir up industrial unrest. This was fifty years ago, when Watkins had only just formulated the concept of leys! Leys, as they say, ain't quite what they used to be.

If we suggest that the leys or overgrounds carry energies of various types, then since the overgrounds 'plug into' Underwood's patterns at the sites, we can also suggest that Underwood's patterns are, in much the same way, also carriers or markers of some kind of energy-flow or

⁵³Refer to *The Ley Hunter's Companion* for detailed examples of confirmation in the field.

interaction. As above, so below.

But what, you may ask, is the point or reason for all these energies to be moving about the countryside, assuming that they do exist? For a clue towards an answer we have to move to yet another area of study, Chinese geomancy or Feng-shui, which deals with the practical use of natural energies flowing both below and above the ground, in channels both sinuous and straight.

A Reality for the Future

'And God said, Let us make man in our own image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.

So God created man in his own image, in the image of God created he him; male and female created he them.

And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, over the fowl of the air, and over every living thing that moveth over the earth.' (Genesis 1, v. 26-8)

This short passage from the King James version of the Bible has been used time and again as the justification for our rapacious plundering of the earth. Since this passage states that we have been given dominion over the earth - so the argument goes - and told to subdue it by God himself, surely that means that we can do whatever we like with it, to bend it to our will? The answer is No. There are other ways of interpreting this passage, interpretations which civilisation has until recently been very careful to avoid. This section of Genesis comes before the 'Garden of Eden' story, with its inherent 'proof' that women are the cause of all problems in the Judaic male-dominated view of nature and the world. In this earlier story, male and female are equal: 'male and female created he them'. The pagan view of God is that he or it is nature, the union of Mother Earth and Father Sky, and all the aspects and archetypes they symbolise: for 'let us make man in our own image' must include women as well, or God would be unable to encompass the totality of nature.

This section of the Bible was written by a pagan culture, not a civilised one. So we need to look a little more closely at the whole of that passage, and not just at that so-useful word 'subdue': 'Be fruitful and multiply, and replenish the earth, and subdue it: and have dominion ... over every living thing.' 'Be fruitful, and multiply': so if we are to be realistic about our relationship with nature, we cannot deny our own sexuality, as the civilised wisdom of the Church has taught us to do. And our 'dominion ... over every living thing' must not, it is clear, solely be one of subjugation, for we are ordered in that passage to 'replenish the earth' as much as to subdue it.

It's all too obvious that we haven't done this. Our dominion has been that of the domineering tyrant: we have, as the definition of 'domineering' puts it, 'ruled arbitrarily and despotically, feasted riotously and luxuriously' while others, and the earth itself, have starved. We have taken none of the master's responsibilities to replenish the earth; we have merely played at being the master. But however much we may strut and crow, however much we may pontificate about the 'progress of science' and the 'march of civilisation', the fact remains that that dream of mastery, as we are well aware, is nothing more than an arrogant illusion, fostered and maintained by our careful ignorance of reality.

We seem to be proud of our ability to maintain that illusion; and from that pride, that arrogance, that ignorance, have arisen the demons that harass us in their subtle and notso-subtle ways. Our civilisation is pandemonium, born of pride. But as Thomas More put it, 'the Devil, that proude spirit, cannot bear to be mocked': so nature 'moves in its mysterious ways', sending us imaginary spacemen in flying saucers, showers of frogs and fishes, poltergeists and all manner of meaningless and meaningful things to mock our pride and to show us that 'there are more things in heaven and earth than are dreamed of in our philosophy'.

We call such things 'supernatural', and say they cannot occur or exist, since they are outside the boundaries of the limited view of nature that science and religion demand. But as we have seen, such things are aspects of the reality of nature: they are not 'unnatural'. What *is* unnatural is our science, our religion, our politics and economics: for all are carried on in complete and deliberate ignorance of nature, in the belief or hope that nature will conveniently change itself to suit our whims. It gives us a pleasant illusion of control - but it's unnatural, and it's insane, in every sense of the word.

Idealists are just as ignorant. The communards' beautiful slogan 'From each according to his ability, to each according to their need', applied without awareness of the reality of human nature, becomes in practice 'From each according to facility, to each according to their greed'. Revolutionaries are the same: they fail to realise that, in society as in mechanics, a revolution is a circular motion, and that going round in circles doesn't get anyone anywhere or do anything other than waste energy, or lives, or both. Within our civilisation greed and domineering are allowed free rein; so we need ideals and utopian dreams if we are to limit the effects of those unrestrained aspects of human nature. But those ideals and dreams, in practice, have to be tempered with an awareness of reality; without it they can be - and usually are - worse than useless.

If the view of reality we use is to be sane, not just to us but in its effects on the outer world as well, it needs to be constructed so as to take into account the reality which nature imposes upon us - whether we like that reality or not. That reality includes the energy-matrix we can see behind and beneath the old standing stones; it includes ghosts and ghouls, angels and demons, fairies and flying saucers, and all manner of other things which, as we have seen, are outside the common definition of reality but yet are still real. In a sense we could sum up this other reality in one word, and say that it is magical.

It is magic, in every sense, that our civilisation has lost, buried by the inadequacies of ignorant science and arrogant religion. And it is magic, in every sense, that our civilisation needs, if it is to regain its sanity, its joy, its reason for being. An awareness of the magic of the earth has much to offer us in this respect; as we have seen, that magical worldview is of more value than those of science or religion when dealing with the whole of the reality of nature. Paganism can teach us a great deal about that magic, but we need to use it with care; civilisation has its flaws, but I've no wish to see a return to a culture run by half-crazed witchdoctors instead of half-crazed politicians. We need to go beyond civilisation, beyond paganism, to something that combines the intellect of civilisation with the joy and magic of paganism. We need, in effect, to regain our collective wisdom as well as our collective sanity.

So if our culture is to regain its magi, its 'wise ones', we need to redevelop our awareness of nature, our magicians' awareness. Like magicians, and as magicians, we need to learn to know ourselves; we need to learn to feel for the needs of the earth, so that we can learn not just to subdue it, but to replenish it as we do so. This will and must demand radical changes in our world-view; necessarily and literally radical changes, since we will need to regain an awareness of our roots, in our past and in nature, in order to bring them about. But it is here that the standing stones can help us, by symbolising our different attitudes to nature. As part of the past, they symbolise both the time of man's closest 'atone-ness' with nature, and his breaking away from nature, the birth of his belief that he could control nature and thus be 'above' it. From that came the birth of civilisation, and the death of magic. But as research goes on into the 'earth mysteries', we are regaining our respect for paganism and for the old magic, and so those same stones are gaining a new meaning, both symbolic and practical. For as 'needles of stone' they symbolise both a way and a means of returning to a realistic relationship with nature, through a new awareness of nature.

And that awareness, I believe, is our one great hope for the future.