

**Pendulum:
the Psi Connection**

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7 Inter-continental Experiment

The experiment began with my need to find out about the megaliths of North America – the strange prehistoric standing stones, burial chambers, rocking stones and so on that are spread throughout New England, and which seem set to become one of the major archaeological controversies of the next decade. Until recently, very little has been written about these sites; indeed, the majority of people in the United States are almost certainly unaware of their existence. But they are much more than a curiosity. They show such a marked similarity with some of the megalithic sites in Western Europe (which culminated at Stonehenge) that there is now speculation that they were built by the same people. In which case, there would have to have been transatlantic sea crossings by 2000–1500 BC – a date which is unbelievably early, according to orthodox academic thinking.¹

One difficulty in finding out more about these sites lies in the lack of basic information. Most archaeologists dismiss them as root cellars built by colonial farmers, or as gateposts, and therefore have not bothered to identify or map them. Although this is not the place to go deeply into the pros and cons of the argument, it should perhaps be noted that this may be yet another example of Occam's Razor being wielded in a way that precludes a full explanation: without doubt, there is much evidence of colonial use of the structures; but anybody looking carefully at the way that many of the 'root cellars' (stone tombs?) were built with huge stones, weighing many tons, and fitted together with subtlety and precision, must be in some doubt as to how a colonial farmer would have found the time and energy to build such a structure, or why he should have bothered. It would seem much more likely that he found them there, built in some earlier time, and gratefully made use of them.

So for a stranger wanting to examine these stones, official

information is somewhat hard to come by. A number of amateur prehistorians in the area have begun the job of cataloguing the sites. But by and large, they keep the detailed locations to themselves, for fear of having them vandalized; landowners are equally reticent, not wanting a horde of tourists. Since I was going to the area in any case, I decided to see if a good dowser could guide me to any of them. At this stage, it wasn't a map-dowsing experiment in a scientific or statistical sense. It was simply a matter of need.

The dowser in question was Bill Lewis, with whom I had been making a film about prehistoric stones near his home in South Wales. He has long been fascinated by the way in which he senses they were sited, instinctively and universally, in certain sacred places where there are special qualities or emanations that can still be felt by sensitive people today. To him, the feeling of power and ancient sanctity at a standing stone or burial mound is as impressive as the nave of a cathedral – perhaps more so, since the sites in Western Europe were chosen when man was emerging for the first time as a settled farmer, before he could read and write, before religion was institutionalized, and when he perhaps had a knowledge of the universe and its rhythms that was lost with the arrival of literacy and the development of intellect.

This general belief is shared by many dowsers, and it is important to the experiment because, in a dowsing sense, Bill Lewis knew what he was looking for. When the time came to search the maps for ancient sacred sites, he had very many years of experience in visiting them, at least in Britain. As a professional map-dowser, he is also highly experienced. Many of the jobs he does are passed on to him by the secretary of the British Society of Dowsers, and they come from many parts of the world. They may involve trying to find the whereabouts of something that has been stolen, or a lost dog; or a request for water on a parched and arid site anywhere in the world; or for information about pipes or cables or historic treasure buried deep beneath the ground.

There are scores of these in Bill Lewis's files, and it is instructive to look at the first far-distant one he attempted. It is recorded on the copy of a 1:1000 map of a farmstead in Australia from which he was asked to find out if there was any good water.

and if so where. Geologists in the area had assured the owner that there was nothing but a brackish and undrinkable layer lying some thirty feet below the surface, and a sample bore-hole had shown this to be the case.

When I got the map, the first thing I thought was: how the hell do I go about this job? I didn't have much doubt that if good water was there it should be possible to find it, but all sorts of questions began to clutter up my mind; remember, it was the first time I had tried to find something in Australia. I got worried because it was the other side of the world. Should I have the map upside down? Should I reverse it so that south was north? If it was a radiation I was picking up from all that distance, would there be a two or three second delay? Would the radiation get weaker as it travelled, and give me confused information?

In the end, he made a conscious decision to put all these worries at the back of his mind, and just treat it as a normal map-dowsing job. (This is, of course, a mis-use of the way in which most of us use the word 'normal', but to Bill Lewis and others like him, it is appropriate enough.) When he starts to dowse, he goes through a marked change in his state of consciousness. A detached air of concentration comes over him, rather as if he was trying to pick up a faint signal from a distant loudspeaker, and although he often carries on a fluent commentary to describe what he is finding, he prefers not to have too many questions or comments put back at him until he has finished a particular area of search. Like Bob Ater, he can use a pencil to mark the map with what looks to the outsider like a form of automatic writing; however, he says it is not this – more, he is consciously sensing the position or direction of what he is seeking. On this particular occasion, he drew the direction of two underground streams that, undetected by the geologists, seemed to run beneath the Australian property. Next, by questioning – is it good water? how deep is it? and so on – established the best place to site the well; and then predicted that there would be clear water 37 feet down producing a quantity of 600 gallons a day.

I was just about 100 per cent right. I had a letter saying I was a couple of feet out with the depth, but as I didn't visit the site, I don't know whether they put the drill exactly where I marked it. If they were two or three yards away, it could easily account for the error. In any case, the farmer's still getting his water.

When it came to dowsing for megalithic sites in New England, the first session lasted for about ten minutes, working over an Official Transportation Map of the state of Vermont, sent to me by friends and not seen by Bill Lewis until then; from this he dowsed the supposed position of a stone circle and a burial chamber. In order to achieve more accuracy, so that when I reached the area I would be able to map-read a point sufficiently closely to say whether the megaliths existed or not, we decided to order up one-inch, and where possible two-and-a-half-inch, US Geological Survey maps of the relevant sections.

It was at this point that I realized this could be potentially the most thorough and extended test of map-dowsing yet undertaken; and then and there, decided to make it so. The purpose of the experiment became, fundamentally, to show whether map-dowsing works, and if so how well one particular dowser could do it - whether Bill Lewis was able, using nothing other than a map, to provide information not indicated on the map and not obtainable by chance.

Experimental method

I aimed to collect as much verifiable information as possible from Bill Lewis, and then compare it with similar information obtained by random guesswork. In this way, I would ultimately have two sets of photographs, descriptions and measurements: one of Bill Lewis's predictions of what I would find when I visited the sites he had chosen, and the other of the matching control sites. A comparison between the two would potentially give a significant statistical result (which in the event it did).

To forestall any suggestions that Bill Lewis might be giving me information that he knew already, the maps were ordered by me directly from the US Geological Survey or other US map suppliers, and were not shown to Bill Lewis until the map-dowsing session.

All these sessions (a further two, lasting a total of just over three hours) took place in a small office in his home near Abergavenny, and were tape-recorded. As soon as he had identified a site which sounded interesting and relatively accessible, I asked him for additional details - height, orientation, etc. - both to help me identify it, and to provide additional features to fill out the experiment. As the sessions advanced and Bill Lewis began to know better what sort of information I was looking for, he tended to volunteer more sites and more details without being asked. I noted these, together with his answers to my direct questions, and typed them in the form of a record as soon as possible after the session. These were witnessed and dated by a lawyer, and posted to the Society for Psychical Research to be filed for safe keeping. They contain all map references of sites subsequently visited. The three sessions took place on 17 February, 13 and 31 March 1976; my visit to the United States began on 13 April.

Bill Lewis's method of map-dowsing is to fix in his mind what he is looking for - in this case, say, 'an ancient megalithic site', or 'a standing stone', or 'a burial chamber' - and to run an index finger north-south down the left-hand side of the map until it meets what he describes as a slight resistance or stickiness, and then to work left-right across the bottom of the map until the same thing happens. The point where the horizontal and vertical lines from these points meet is now his area of interest, and next, holding a short pendulum made of thread and a wooden bob in his right hand, and a sharp pencil in his left, he works the pencil around and inwards towards this point until he is satisfied he has marked the site as accurately as he is able.

Although there is a somewhat distant air of concentration about Bill Lewis as he works, the tape-recording shows the sessions to have been fairly talkative affairs, punctuated by silences of half a minute or so while he was searching for a response. In general terms, the sessions were controlled by me, in the sense that I would open a map and ask him, for instance: 'Can you find the largest standing stone in this area?', or 'Is there a burial chamber near here that I can comfortably walk to?', at which Bill Lewis would grumble under his breath about my wanting to have everything the easy way.

Once he had pin-pointed a spot that seemed to him promising,

information about it emerged from him with the kind of mordant humour that is peculiarly Welsh. 'A burial chamber with spiral markings you want, is it? . . . (pause) . . . What about this, then? They must have put it here for you. Look at it, right in the neck of the river bend . . . (pause) . . . You won't even have to get your feet wet, you lucky devil. It's all silted up.'

'Which way is it oriented, Bill? How big is it?'

'Orientation? . . . (pause) . . . north-west, south-east . . . Mound's visible all right, you can see it above the ground . . . Capstone's all broken and silted up . . . you can see the stones, though, they're sticking above the surface.'

All the time, his pendulum moved, giving him yes/no indications to his unspoken questions.

Finally, we had a list of 22 sites, for each of which were a number of detailed predicted features. These were divided into visual features (size, position, etc.) that ought to be capable of immediate verification, and archaeological features (dating, buried objects, etc.), some of which might be proved at a later date if the sites existed, and were properly excavated. Because of the limited time available during the visit, I decided only to look for the visual predictions, and these were collated into a master list containing 63 predictions.

Stage two was to make a random list of predictions similar to those of Bill Lewis, so that should anything that he had map-dowsed turn out to be really where he said it was, I would have a statistical check that he was not getting his result by chance. At a meeting on 2 April, the chairman of the ESP committee of the Society for Psychical Research, John Stiles, took the same maps that Bill Lewis had used, and marked on them - just guessing - where he thought a matching site would be. Thus where Bill Lewis said there was a 10' 6" standing stone, John Stiles suggested there was a 5' 7" standing stone at another point perhaps half a mile away, and so on. These, with their map references, were similarly filed at the Society for Psychical Research, and were labelled 'Check Sites'.

In the end, I was unable to visit all the sites. In Vermont the snows had just melted, and some of the forested mountains were impenetrable; in South Dakota, some of the sites I had originally hoped to find were too remote for the time available; and in

Arizona, the roads were too bad. But I was able to record my findings at 55 visual features predicted by Bill Lewis, and at 43 matching predictions from the guesswork check list. The features were photographed, and measured with a tape when necessary.

I have compared, or scored them, in two ways. In the first, each prediction is classified as a hit, a query, or a miss. A hit was when there was no possible doubt, or when it was reasonable to say that there was a good match between the prediction and the feature; a query when there were positive but ambiguous indications; and a miss when there was nothing, or such a generalized success that the prediction was meaningless.

This is a somewhat arbitrary division, giving a rough and ready analysis of the results, although it has the virtue that it can be used by people who have not visited the sites concerned. The second way is more subjective, because it depends on personal observation and assessment, but is also more sensitive. I have scored 10 points for what I regard as a faultless prediction. Points are then knocked off for inaccuracy, ambiguity, or the chance of another explanation.

How well did map-dowsing work on this occasion? Whichever way the results are scored, the percentages work out approximately the same. The random check list of predictions comes out around one per cent - exactly what would be expected from chance. Bill Lewis, on the other hand, scores in the 35-40 per cent bracket - a figure that seems at the same time conclusive and astonishing. He had significant success at 5 of the fourteen sites: 35 per cent. I scored 20 hits out of 55 predictions (36.4 per cent); on points, my evaluation is 40.7 per cent.

This is, by any standard, a positive finding. For the record, a full description of what I found on the predicted sites is given below; I have tried to give enough information for people to make their own assessment. The most successful predictions were at Sites one, four, seven, nine and nineteen.

Scoring by hits, queries, misses

SITE ONE

Prediction. Using a 1975 Official Transportation Map of Vermont, with a scale of five miles to one inch, Bill Lewis marked the site of where he thought a burial chamber could be found. He said it would be about 1600 feet above sea level, in fairly open countryside, with two small trees or shrubs growing out of it. It was very much damaged, and not in its original form.

At a later meeting, when a US Geological Survey map on a scale of 1:62,500 was available, it was immediately clear that two of Bill Lewis's predictions were true: the Transportation map had showed neither contours nor vegetation, which the Geological Survey map did; the spot behind the intersection of two country roads which he had marked was precisely at 1600 feet, and was in an open area surrounded by woods. At this meeting he refined his reading to say that some small stones protruded from the earth mound, which at its maximum would be about seven feet above the level of the surrounding ground.

Site description. A large holiday home had been built next to the road junction, and there were signs that this had disturbed the ground considerably. A considerable amount of local stone had been used in its construction, and this stone could also be found, presumably cleared from the fields by colonial farmers, in the dry stone walls that bordered the dust roads. Most of the area was thickly wooded. The exact position of the site marked by Bill Lewis was about fifty yards away from the house, in a field which had once been planted as an orchard, of which a few trees were still scattered here and there.

At first sight, looking from the direction of the house, there seemed to be nothing that might have been a burial mound. The ground appeared almost flat, dropping gently away towards the orchard. But looking back the other way, so that one was standing slightly below the level of the site, the ground was shaped in a way that corresponded more closely with Bill Lewis's description. For a distance of about thirty yards, there was a well-defined rise, at its maximum about seven feet above the general level of the ground; in the middle of it were two small

trees, about fifteen feet high; and there were some small boulders where the mound fell away at its north-eastern end.

Evaluation. The elevation of the site, the choice of an open field in an otherwise wooded area, the position of the two small trees, and the height of the mound above ground level, were all remarkably accurate. But was it a burial mound? The 'mound' looked much more like a ridge, or terracing (although it may have been flattened when the house was built); and the prediction of small stones is so generalized, compared with the precise detail which Bill Lewis was able to forecast on other sites, that it is not worthy to be counted as a hit.

Score. Hits: Four.
Queries: Two.
Misses: Zero.

CHECK SITE ONE

Prediction. A burial mound would be found in the woods at a point about half a mile away from Site 1. Nearby would be a moss-covered stone wall, and a fallen tree. There would also be two flat stones 'reminiscent of steps'.

Site description. A typical, densely-wooded, Vermont hillside. Nothing to be seen of a mound. There was a stone wall alongside the lane near the site, but not at the site itself. There were many fallen trees, no flat stones as described.

Evaluation. Only the prediction of a fallen tree was accurate, and this (like Bill Lewis's small stones) is so generalized that it ought to be discarded, or at best given a query.

Score. Hits: Zero.
Queries: One.
Misses: Three.

SITES TWO AND THREE

Prediction. To the south-west of the small village of Gaysville, Vermont, there would be a standing stone, 5' 4" tall, with Indian markings on the face; the lowest markings being 3', the highest 4' 6". A quarter-mile further on would be an ancient burial ground, with a visible mound.

Site description. The narrow road from Gaysville winds

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above the White River, with steep, wooded mountains rising to the right, and a sharp fall to the river on the left. No standing stone was found. The site of the burial ground lies beyond the end of the road, where there is now a summer camping area with wooden huts. No mound could be seen, and the clearing in the position marked is so flat and level that it ought to have been readily visible.

Score. Hits: Zero.
Queries: Zero.
Misses: Five.

CHECK SITES TWO AND THREE

Prediction. At points on hillsides approximately half a mile, and two miles, away from the sites above, there would be a 10' tall standing stone, without markings, tilted at 45°; and a 'long barrow' (a type of burial mound common to Western Europe c. 4000 BC).

Site description. Both sites were up precipitous mountainsides, thick with forest and undergrowth. Insofar as it was possible to pin-point the supposed sites accurately, none of the features could be seen. In many years of research, I have never, in any case, come upon a standing stone or a long barrow on such steep terrain.

Score. Hits: Zero.
Queries: Zero.
Misses: Five.

SITE FOUR

Prediction. About half a mile to the south of South Randolph, the Geological Survey map shows a bridge crossing the second branch of the White River. Just there, the river runs approximately east-west, and the road north-south. Bill Lewis marked a spot in the left-hand quadrant, touching the road and nearly touching the river. Here, he said, would be found a burial chamber; the mound visible; stones protruding; covered with silt and much damaged; and oriented NW/SE.

Site description. The river flows through a flat valley about half a mile wide; on either side the hills rise steeply upwards. Along the valley, glaciation has left behind many rounded

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humps, most of them 20'-100'. The grass in the valley is used for grazing in the summer; in the winter it is snow-covered; in the past, there has been much flooding.

In precisely the position marked by Bill Lewis, there is a gentle mound rising in the perfectly flat flood plain formed by a bend in the river. It is semi-circular, about thirty yards at its longest, rising about five feet above the plain, and aligned NW/SE; at the NW end stones protrude, including a prominent, 4' tall, standing or marking stone.

Evaluation. He was extremely accurate in the position of the mound and its alignment; the protruding stones, too, may be counted a hit, since the standing stone is an obvious and prominent feature. He was right about the silt, too, and mentioned this feature a number of times when map-dowsing; but a certain knowledge of geography would enable anyone to suggest the same, so as a predictive success it rates no more than a query.

As with Site 1; is it in fact a burial mound? Compared with the rest of the valley, it is probably too small to be a glacial deposit. But it has many of the signs of a silt levée, left behind as the river gradually changed course. An archaeologist with me said he would need more evidence before bothering to excavate.

Score. Hits: Three.
Queries: Two.
Misses: None.

CHECK SITE FOUR

Prediction. About half a mile to the south of Site 4, there would be a burial chamber in the shape of a flattened mound, 'with rocky edges, as if hewn from rock'; there would be a visible lintel, cracked and sagging; the mound oriented NE/SW.

Site description. The position is in relatively open countryside on the side of the hill leading up from the valley. There are glacial lumps but none that look remotely like a burial chamber as described above.

Score. Hits: Zero.
Queries: Zero.
Misses: Four.

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SITE FIVE

Prediction. A quarter-mile to the NW of Site 4 would be an ancient camp site, just inside the woods, where there were still to be found, with difficulty, some minor earthworks.

Site description. On the spot marked, there is a curious terracing that can just be seen outside the woods, and continues inside. It could as easily be formed by erosion as be man-made.

Score. Hits: Zero.
Queries: One.
Misses: Zero.

CHECK SITE FIVE

Prediction. There would be a camp site on the hill-side one-quarter mile east of Site 4, with impressive earthworks that could be easily seen.

Site description. Steep and wooded. No earthworks.

Score. Hits: Zero.
Queries: Zero.
Misses: One.

SITE SIX

Prediction. A standing stone, 6' 8" high, lying on its side near a pathway, would be found about two miles SW of South Woodstock. Three spiral markings were carved on it.

Site description. The area is lightly wooded, with a profusion of boulders, mostly moss-covered and undisturbed for many years. As Bill Lewis had also dowsed the information that the standing stone had been moved down the hill within the past two years, and as it would have been considerably larger and differently shaped from the other stones, one would have expected to have been able to see it, particularly as the 1:25,000 US Geological Survey map made it possible to arrive accurately within about twenty yards of the position marked. However - see Sites 7-9 below and discussion elsewhere in the book - Bill Lewis seems to have been having problems of displacement on this particular map; in light of this, it may be that a search in another area could prove successful.

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Score. Hits: Zero.
Queries: Zero.
Misses: Four.

CHECK SITE SIX

Prediction. There would be a 4' 6" standing stone, without spirals, inclined at 10° from the vertical, on the other side of the path leading to Site 6.

Site description. The position marked was in a small field. There was no stone.

Score. Hits: Zero.
Queries: Zero.
Misses: Four.

SITE SEVEN

Prediction. Two standing stones, each with two spiral markings, would be found at a spot approximately two miles W of South Woodstock. They would be aligned E/W, with a small burial mound ten feet to the east, and were 6' 2" and 5' 3" respectively.

Site description. A single stone, 6' 10" tall, stood at the entrance to a disused farmyard. It was much eroded, so that it was impossible to be certain of the original shape of the marks that had once been put on the stone. More recent drill-holes showed that it has been used as a gatepost. Ten feet away to the east was a dry stone wall (also running E/W) above a small mound raised above the general level of the ground.

Evaluation. Of all the sites dowsed by Bill Lewis during this exercise, this was the most tantalizing and ambiguous to assess. For instance, I found only one stone, not two, during an hour-long visit to the area. Was there ever another one? The farm has not been inhabited for more than twenty years, so perhaps we shall never know. However, in the judgement of local people, it is very rare to find even one standing stone of this shape and size - nobody I spoke to had heard of any of this height, and of the same slender, needle-like form that characterizes megalithic standing stones in Western Europe, except the ones described in Sites 8 and 9 below.

Again, the precise position of the stone is some forty yards

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from the spot marked by Bill Lewis. Here we come to something which seems to have affected him while dowsing this map. With this stone, and also to a much larger degree with Sites 8 and 9, goes an error in the predicted position. Mysteriously, at all three sites, they are each displayed some distance away from their true position almost exactly on a NW/SE axis.

Over all, it seems fair to regard Bill Lewis's discovery of the site as a genuine map-dowsing success - to pin-point and describe a very unusual stone (even if he hoped there were two) within forty yards of its position, from some 3000 miles away, ought to satisfy all but the most critical. The E/W alignment of the site is accurate; so is the ten-foot distance of the mound.

As at other sites, only excavation could show if the mound, which is indistinct, contains burials. The existence of spirals among the carvings on the stone is hinted at. However, the estimated height of the stone(s) is outside the margin of error that Bill Lewis would apply.

Score. Hits: Three.
Queries: Two.
Misses: One.

CHECK SITE SEVEN

Prediction. Two standing stones would be found in an open space about 200 yards from Site 7, on the other side of the road leading to it. There would be one spiral marking, the heights would be 9' and 4' 9", they would be in approximate N/S alignment, and no burial mound would be visible.

Site description. Position marked was in a field containing a few low shrubs or bushes. Nothing was visible as described. There were some irregularities in the ground, but nothing that would be regarded as a possible burial ground.

Evaluation. For the purposes of comparative scoring, the non-existence of the burial ground is counted as a query. No negative statements by Bill Lewis have been included in his predictions, and he could, of course, have produced a massive tally of hits by saying, e.g., 'there is no chambered tomb to be seen', 'little green men are not visible'. The chances of there *not* being a burial mound in a given place in Vermont must be several thousand (or million) to one.

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Score. Hits: Zero.
Queries: One.
Misses: Four.

SITE EIGHT

Prediction. A chambered mound near South Woodstock, of which Bill Lewis was shown a photograph, would be found a few yards to the left of the road about a mile south of the town.

Evaluation. The position was wrong by approximately one mile and 100 yards, displaced to the NW. In general direction from the centre of Woodstock there was an error of 43°. By chance, he would have come as close as this about one time in eight.

Score. Hits: Zero.
Queries: Zero.
Misses: One.

CHECK SITE EIGHT

Prediction. The mound would be found about 200 yards to the north of Site 8, as predicted by Bill Lewis.

Score. Hits: Zero.
Queries: Zero.
Misses: One.

SITE NINE

Prediction. The tallest standing stone on the US Geological Survey 1:25,000 Woodstock South Quadrangle map would be found at a point marked in West Windsor county. It would be 10' 6" tall, have Indian markings, the lowest of these being about 4' and the highest about 4' 6".

Site description. The point marked on the map is in a field which has been recently flattened by a farmer, and contains a small artificial lake. If there was ever a standing stone there, it has been removed. However, a stone remarkably similar to the one described by Bill Lewis was found in a field approximately one and a half miles NW of the site marked. It is 10' 6" tall, and has ancient markings on it in a band spreading round its four surfaces between approximately 3' 6" and 5' from the ground.

Evaluation. The archaeologist with me, Byron E. Dix, has

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probably visited and investigated more of the controversially ancient sites in Vermont than any man alive. He was astonished not to have come across this stone before, and said that in his experience it was not just the tallest standing stone on that particular map quadrangle, but in the whole of Vermont. He thought it extraordinary that a dowser working out of a small room the other side of the Atlantic could have come so close to identifying its position. He was in no doubt that the descriptions given by Bill Lewis were extremely unlikely to apply to any other stone. Some confirmation of this came when I had a letter published in all of Vermont's hometown newspapers asking if readers knew of any similar, or taller stones. Out of twenty or so replies, none mentioned stones that approached this height.

Although the predicted position was a miss, the fact of it being the tallest seems highly probable. Its height was accurate; pre-colonial markings exist (again, later drill-holes for its use as a gatepost can be seen), and they are in a band acceptably close to the predicted height.

Score. Hits: Four.
Queries: Zero.
Misses: One.

CHECK SITE NINE

Prediction. A standing stone 3' 6" tall would be found in an open area near Site 9, bearing a mark like a cross about two feet above the ground.

Site description. The site marked was in a field surrounded by stone walls and woods. There was a clear view of the terrain, and no upright stone could be seen. (There were many stones 3' 6" and more on their sides in the walls.)

Score. Hits: Zero.
Queries: Zero.
Misses: Four.

SITES TEN, ELEVEN, TWELVE
Not visited.

SITE THIRTEEN

Prediction. Careful searching would find the entrance to a

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neolithic flint mine, with chippings and bits of flint on the ground outside. The mining area covered several square miles. The mine shaft goes horizontally into the hill-side.

Site description. The hill in question was visited shortly after the snows had melted. The ground was covered with layers of fallen leaves and dead vegetation, which made a proper search very difficult. Mines for other minerals - copper, tin - exist in the area. There were substantial mounds of loose rock chippings beneath the vegetation, which might indicate mine workings in the immediate vicinity. However, none were of chalk or limestone that would normally be associated with flint workings.

Evaluation. Without investigating more thoroughly, it is impossible to say whether Bill Lewis's predictions were accurate. The chances are strongly against. However, there is one curiosity that should be marked down on the credit side. Originally, when I asked him to try to find me a neolithic flint mine, all he had to dowse from was the Transportation Map. When the Geological Survey maps arrived, it was clear that he had picked the one area in Vermont which was once rich with mines.

Score. Hits: Zero.
Queries: One.
Misses: Two.

CHECK SITE THIRTEEN

Prediction. There would be a flint mine on a hill-side near Site 13, with whole flints visible, and the shaft going vertically down.

Site description. This site was up an even steeper hill-side, making investigation doubly difficult. There was no obvious sign of a mine.

Score. Hits: Zero.
Queries: Zero.
Misses: Two.

SITE FOURTEEN
Not visited.

SITE FIFTEEN

Prediction. There would be evidence of an ancient camp site

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on top of a hill near the flint mine. Worked flints - spearheads, scrapers, etc. - would be visible on the surface.

Site description. Short-cropped grass, with well-spaced trees, covers the top of the hill. I found no flints; maybe, if they were there, they have been collected by people using the log cabins among the trees. The ground is curiously uneven, with many humps, banks and hollows. They did not appear regular enough to be ancient fortifications, but some were steep enough to appear man-made.

Score. Hits: Zero.
Queries: One.
Misses: One.

CHECK SITE FIFTEEN

Inaccessible. Not visited.

SITE SIXTEEN

Not visited.

SITE SEVENTEEN

Prediction. There would be a standing stone 6' 9" tall on the western edge of the Badlands of South Dakota near Rockyford, with two cup marks on it.

Site description. So far as the site could be traced accurately from an old map, it lay near the dried river bed of a small ravine. No stone was visible. A solitary tree was a feature of the area, with a mound beside it.

Score. Hits: Zero.
Queries: Zero.
Misses: Three.

CHECK SITE SEVENTEEN

Prediction. Standing stone on opposite side of road near Site 17, 8' high, V-shaped mark.

Site description. Similar terrain to Site 17. No stone or other feature visible.

Score. Hits: Zero.
Queries: Zero.
Misses: Three.

INTER-CONTINENTAL EXPERIMENT

SITE EIGHTEEN

Prediction. On the Pine Ridge Indian Reservation, one mile south of South Manderson, there would be a 7' 3" standing stone.

Site description. Steep, sandstone hills, sometimes eroded into cliffs, sometimes covered with grass from which grow well-spaced conifers, stretch for many miles. The tracks marked on the map, near which the stone should have been found, are indistinct on the ground, and because of the many changing contours and precipitous cliffs, it was difficult to follow the map, and impossible to take a compass bearing and head directly for the site. I can only be sure that I located the general area where the stone should have been, and here there were many fallen boulders from the eroded cliffs above, although none looked to have been placed there by man. Although the area is very sparsely inhabited, there is a farm at the foot of the track leading to the site, and the Indian family there said they knew of no such stone.

Evaluation. On the face of it, this prediction counts as a straightforward miss. However, the Indian family was considerably disturbed to find that we were investigating the site at all, and insisted on accompanying me. While insisting that there was no stone to be found, they refused to let me go to one place where, from the map, I thought the stone might be. They said it was a sacred and very ancient burial ground, of which they were the guardians. I asked my Indian guide to find out if it was unique in any way, and she established that it was 'special', and dated back to a time 'long before our present people'.

Score. Hits: Zero.
Queries: Zero.
Misses: Two.

CHECK SITE EIGHTEEN

Prediction. There would be a 4' tall standing stone near the main road south of Manderson.

Site description. The position marked was on an open grassy plain. It was possible to locate the site precisely. There was no stone as described.

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Score. Hits: Zero.
Queries: Zero.
Misses: Two.

SITE NINETEEN

Prediction. Just north of Pine Ridge, there would be a standing stone 7' 3" tall, with Indian markings on it, in the sundance circle. The stone would be off-centre, being placed to the east. Round the outside of the sundance area would be an irregular series of stones, ten in all, between 3' and 4' tall, put there by Indians as a modern enclosure to keep out spectators.

Site description. About a quarter of a mile to the north of Pine Ridge is a piece of deserted wasteland, almost flat, which at first sight appears featureless except for a few stretches of abandoned fencing, discarded tyres, and similar debris. The site is used ceremonially, usually once a year, when a sundance tree is planted in the position marked by Bill Lewis as where the standing stone should be. At all other times, this position is indicated by a metal stake driven into the ground. Above ground, its height was 7' 3".

Only certain Indians may take part in the sundance ceremony. The rest of them must stay outside an approximately semi-circular area, roughly defined by ten irregularly-spaced, sturdy wooden posts 3' to 4' in height, set in stone foundations.

Evaluation. This is perhaps the most remarkable of all the predictions made by Bill Lewis, and may have considerable implications regarding the processes involved in map-dowsing. For at the same time as he was wrong about the main object of his search – the standing stone – he was astonishingly accurate in finding, first, the most important ceremonial site of the Pine Ridge Indians, and secondly, the geographical details and physical features of the site.

His first hit was in finding the site at all. At an early meeting, when we were plotting my tour of North America, all he had to work on was the Rand McNally Road Atlas. The mark he made on this precisely coincided with the site of the sundance circle, which came to light when a US Geological Survey 1:24,000 map arrived.

He also scored hits with the height of the marker post, the

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position of the post, the number of boundary posts, their height, and their disposition. As they are set in stone, and he qualified his description by saying that they were of later date, and had a different function from the central marker, this deserves a query. He was wrong on the stone and its Indian markings.

Score. Hits: Six.
Queries: One.
Misses: Two.

CHECK SITE NINETEEN

Prediction. A 4' standing stone, without markings, would be found about half a mile west of Pine Ridge, in the centre of a circle marked by six stones.

Site description. The position marked is in an uncultivated field. It was possible to locate it exactly. The field has no local ceremonial significance. There was no standing stone or circle.

Score. Hits: Zero.
Queries: Zero.
Misses: Five.

SITE TWENTY

Prediction. South of Pinon, on the Hopi Indian Reservation in Arizona, would be a 5' 7" standing stone with Indian markings.

Site description. The area for many miles around is flat, sandy desert, with tufts of scrub grass. Using a compass, it was possible to locate the site precisely, and in any case such a stone would be visible from a considerable distance. There was no stone, nor any other obviously intrusive feature.

Score. Hits: Zero.
Queries: Zero.
Misses: Three.

CHECK SITE TWENTY

Prediction. There would be a 7' 6" standing stone, without markings, at a spot on the other side of the road near Site 20.

Site description. As Site 20. It was not difficult to locate the position. There was no stone.

Score. Hits: Zero.
Queries: Zero.
Misses: Three.

SUMMARY OF RESULTS (* HIT, ○ QUERY, × MISS)

Sites chosen by Bill Lewis

Check Sites

Site	Site chosen by Bill Lewis	Check Sites
SITE 1	1. Elevation 1600 feet	1. Burial mound
	2. Open field	2. Stone wall
	3. Two small trees	3. Fallen tree
	4. Height of mound	4. Flat stones
	5. Shape of mound	
	6. Small stones protruding	
SITE 2/3	7. Standing stone	5. Standing stone
	8. 5' 4" tall	6. 10' tall
	9. Indian markings	7. No markings
	10. Height of markings	8. Tilted at 45°
	11. Burial mound	9. Long barrow
SITE 4	12. Burial mound	10. Burial chamber
	13. Mound position	11. Shape of chamber
	14. Mound orientation	12. Mound orientation
	15. Protruding stone(s)	13. Lintel visible
	16. Silt	
SITE 5	17. Minor earthworks	14. Impressive earthworks
SITE 6	18. Standing stone	15. Standing stone
	19. 6' 8" tall	16. 4' 6" tall
	20. Lying on side	17. Inclined 10°
	21. Three spirals	18. No spirals

Site	Site chosen by Bill Lewis	Check Sites
SITE 7	22. Standing stone(s) site	19. Standing stone site
	23. Site orientation	20. Orientation
	24. Mound position	21. Height
	25. Burial mound	22. Spiral markings
	26. Spiral markings	23. No burial mound
	27. Height	
	28. Mound position	24. Mound position
SITE 9	29. Tallest stone	25. Standing stone
	30. 10' 6" tall	26. 3' 6" tall
	31. Indian markings	27. Mark like cross
	32. Height of markings	28. Height of markings
SITE 13	34. Mining area	29. Flint mine
	35. Flint mine	30. Flints visible
	36. Flint chippings	
SITE 15	37. Camp site	
	38. Flint tools visible	
SITE 17	39. Standing stone	31. Standing stone
	40. 6' 9" tall	32. 8' tall
	41. Two cup marks	33. V-shaped mark
SITE 18	42. Standing stone	34. Standing stone
	43. 7' 3" tall	35. 4' tall

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Prediction	Score	Comment
24. Mound position	10	Ten feet from stone.
25. Burial mound	7	Not distinct, but have seen similar in Britain.
26. Spiral markings	4	Eroded and ambiguous.
27. Height	2	Taller than predicted.
28. Mound position	3	Seven chances in eight he would have made worse error.
29. Tallest stone	8	Cannot be certain it was the tallest.
30. 10' 6" tall	10	Precise.
31. Indian markings	5	Could be seen, but is a generalized prediction.
32. Height of markings	8	In slightly wider band than predicted.
33. Site of stone	2	1½ miles from predicted position on map covering 9×6½ miles.
34. Mining area	6	Correct in general.
35. Flint mine	0	
36. Flint chippings	2	Chippings, but not flint.
37. Camp site	4	Ambiguous disturbance of ground.
38. Flint tools visible	0	
39. Standing stone	0	
40. 6' 9" tall	0	
41. Two cup marks	0	
42. Standing stone	0	
43. 7' 3" tall	0	
44. Ancient sacred site	10	Found sundance circle.
45. Marker post height	10	Precise.
46. Marker post position	10	Precise.
47. Ten boundary posts	10	Correct.
48. Height of posts	10	Correct.
49. Distribution of posts	8	Correct, but more generalized.
50. Nature of posts	10	Correctly predicted to keep out spectators.
51. Standing stone	0	Metal post, not stone.
52. Indian markings	0	

INTER-CONTINENTAL EXPERIMENT

Prediction	Score	Comment
53. Standing stone	0	
54. 5' 7" tall	0	
55. Indian markings	0	
	—	
TOTAL	224	
	—	

Out of a maximum possible points of 550, the total of 224 represents a success rate of 40.72 per cent.

On the list of check sites, it is possible to give points for accuracy on only four predictions out of the 43, as follows:

3. Fallen tree	1	Generalized prediction.
4. Stone wall	1	Ditto.
23. No burial mound	1	Negative prediction.
24. Position of burial mound	2	Worse error than equivalent prediction by W.L.
	—	
TOTAL	5	
	—	

Out of a maximum possible points of 430, the random check list thus produced a success rate of 1.16 per cent.

Discussion

John Stiles has called the experiment 'highly imaginative, with interesting results'. On a stringent interpretation of the site-matching, he marked Bill Lewis's score of hits and queries somewhat lower than me - but still significantly higher than the check sites. An independent evaluation, which he also arranged, tallied very closely with my score.

The experiment and the results have now been scrutinized by a variety of people, all of whom have been to varying degrees impressed or baffled. Such reservations as they have had can best be summarized as follows:

The test was not fraud-proof, did not exclude the possibility of collusion. This is true. The nature of the experiment, being basically a practical aid to a personal quest, did not lend itself to

a double-blind procedure. However, I took care to catalogue and file the predictions through a third party immediately after they were made, and the tape-recording exists as a record of the way the predictions were made. Bill Lewis has never been outside the United Kingdom, and has no contact with any of the areas visited. In any case, not one of the sites which he dowsed (with the exception of the sundance circle) is recognized locally as an archaeological site, which makes it unlikely in the extreme that anybody would have suggested them to him. The ambiguity of most of his findings also lends credence to this view. There remains the possibility that, with his co-operation, I invented the whole exercise, having first established the sites through my own contacts. All I can say is, I didn't; it would have been one of the most pointless and absurd ways of spending a lot of money that I can imagine.

I did not seek out the check sites with equal diligence. So far as the terrain made it possible, I did. Both Bill Lewis and John Stiles were asked to find accessible sites; Bill Lewis turned out to be rather more successful in doing so. In any case, the lack of an exactly equal comparison only makes the statistics slightly more difficult – it does not destroy the significance of the scores.

Most of the significance comes from only five sites, and at not one of these was there 100 per cent accuracy. The purpose of the experiment was to establish whether Bill Lewis was able to provide information not contained on the map, and not obtainable by chance. As it turned out, he was able to provide some information accurately, but not all. I found the most difficult choice, in the scoring, was whether to include the 10' 6" standing stone, because of its considerable distance from the position that was map-dowsed. But even if this is excluded, there are enough other hits to give Bill Lewis an acceptably high above-chance score.

Bill Lewis is used to the contours and other features on a map, and knows from experience where such sites would be. Although familiar with British Ordnance Survey maps, he is not used to any of the four American maps used (and even the best of these do not mark ancient sites as the British ones do, and might therefore be said to give a clue at least as to the general locality of prehistoric remains). It should also be stressed that the two

standing stones included in the results are of a size that is very rare. Only one other is known by local archaeologists, at Site Eight, and persistent enquiries that continued after my visit did not uncover any more.

I also have a number of personal impressions of the experiment, in addition to the observations made in the site description. Firstly, the topographical details that Bill Lewis dowsed were often, I suspect, more vivid and accurate than the antiquity which we were both looking for. Of course this cannot be proved except by excavation, but I had this impression at: Site One, where the supposed burial mound with two trees growing out of it looked much more like a ridge; Site Four, where although the mound and its orientation were correctly described, it seemed to have a geological rather than human origin; Site Five, where there was indeed a ground disturbance, but again not obviously man-made; Site Thirteen, where he dowsed the existence of a flint mine (not found) in the middle of an area that turned out to have many disused modern mines; and Site Fifteen, where there were prominent humps and banks reminiscent of an ancient camp site, but again not obviously man-made.

Secondly, in the South Dakota predictions, I felt strongly that Bill Lewis successfully identified some sites that were basically what I was looking for – 'an ancient sacred place'. He unerringly pin-pointed the sundance circle at Pine Ridge, and although for most of the year it looks desolate and abandoned, for generations now it has come to life annually during the sundance ceremony; and I was told it is important that the ceremony takes place just there, and nowhere else. Nor was I in any doubt about the sanctity of the burial ground at Site Eighteen. Several Indians (who incidentally found dowsing interesting but not surprising) confirmed this, and one suggested that Bill Lewis might have picked up the grave of the legendary Sioux warrior Crazy Horse, who rode off wounded into the hills near there but whose body was never found. So you could argue that, in a territory without megaliths, I was guided to the next best thing – although it does not, of course, affect the scoring one way or the other.

Finally, the most successful predictions tended to come at the beginning of a session, or after a short break. Were I to run the

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experiment again, I should have much shorter sessions – certainly no more than 15 minutes – over more days, with only one map per session to work on. The Arizona map-dowsing, which came at the end of a session, felt like a lost cause even while Bill Lewis was working; he did not like the maps, even though they were newly-revised and distinct, and frequently changed his mind about the sites.

Conclusion

However you adjust the figures to make allowances for the relative inadequacy of the check list, and the ambiguity of some of the site features, there remains an overwhelming balance in favour of Bill Lewis's correct predictions being the result of something other than chance. In this experiment map-dowsing worked, albeit fallibly and inconsistently. Arthur Bailey has written: 'Whilst a statistician would no doubt find all sorts of points to query if he was not prepared to look sensibly at the evidence, nevertheless I find the results conclusive. I would also expect the same conclusion from open-minded persons. It is stretching chance to very large limits to try to explain the results on that basis.'

I agree.

8 The Psychic Spectrum

On the assumption that every event, whether described as paranormal or not, requires a physical transfer of energy from one place to another, John Taylor has conveniently arranged the various categories of 'supernatural' happenings according to the amount of energy that would probably be involved. At the lowest end of the scale come acupuncture, faith healing, dowsing, clairvoyance and telepathy, which he estimates could be achieved with levels of power measured in micro-joules (a joule being a standard unit of energy representing the amount of energy generated by a potential of one volt across a resistance of one ohm – in homely terms, roughly the amount of effort needed to lift a quarter-pound bar of chocolate from ground to waist level). Next come a set of phenomena that include metal-bending, psychokinesis, levitation and poltergeist activity, for which energy of the order of several joules would seem to be necessary. Then, materialization and disappearance, which he estimates would need megajoules of energy. Finally, he collects together an assorted bunch of reported occurrences such as precognition, reincarnation, automatic writings, and 'impossible' coincidences, for which he feels unable to guess at the energy involved; this last group also has in common the fact that some outside agency such as a 'spirit' is often held to be responsible for them, and certainly there are profound difficulties in trying to explain them in terms of the laws of physics.

It is the latest of many attempts to categorize the jumble of happenings that, like dowsing, have always been seen as incompatible with science. Once termed 'supernatural' or 'psychical', they are nowadays most usually called 'parapsychological', 'paranormal', or 'psi effects'. Another way of classifying them has been to say that one class is the result of extra-sensory perception (ESP), and demonstrates itself through strange workings of the mind – telepathy, dowsing, clairvoyance, unexplained