

THE CASTLERIGG PROJECT.

LEY LINES.

INTRODUCTION.

In December 1975 a team from Keswick School entered a competition to try to win a computer.

The project was intended to study the mathematics of megalithic stone circles. One of the sections of the project was concerned with ley lines.

The team set out to investigate the claim of Watkins (1925), that there is a widespread network of leys or lines linking up ancient sites, using computer techniques.

The results showed that there were no significant differences between the number of leys from real data, and a random set of sites.

On further checking some of the data was found to be incorrect.

The data was therefore re-collected and re-tested for leys; new random data also being generated.

Copies of the various programs are provided.

LEY LINES DATA COLLECTION.

Data collected by MARGARET C. WYLIE and DAVID J. WYLIE.

Data was collected from an Ordnance Survey one inch-one mile tourist map of the Lake District.

100 sites were found & checked; and classified as follows:

STONE CIRCLE	1
CAIRN CIRCLE	2
CAIRN	3
SETTLEMENT	4
TUMULUS	5
ENCLOSURES & OTHERS ...	6

Of the 100 sites :

- 11 were stone circles.
- 4 were cairn circles.
- 50 were cairns.
- 5 were settlements.
- 12 were tumuli.
- 18 were enclosures etc.

The data is shown in table 1.

N.B: The site numbers are for reference only and have no indication of the position of the site.

LEY LINES DATA. (TABLE 1)

SITE NUMBER.	REFERENCE.		TYPE.	NAME OF SITE (IF ANY) OR AREA.
	X	Y		
1	251	826	1	Gill House Beck.
2	252	830	3	Brunt riggs.
3	279	844	1	Lowick.
4	236	341	3	Lowick.
5	264	856	3	Subberthwaite.
6	172	382	1	Swinside.
7	251	883	3	Kirby moor.
8	256	880	2	Kirby moor.
9	266	890	3	Cocken Skell.
10	266	909	3	Yew bank.
11	272	905	3	Tarn riggs.
12	313	902	3	Bethecar Moor.
13	111	919	6	Near Bank.
14	205	910	3	Stonescar.
15	205	915	3	Stonescar.
16	211	925	3	Sicle Pike.
17	273	925	3	Torver Low Common.
18	278	924	3	Torver Low Common.
19	134	938	3	Haberthwaite Fell.
20	135	939	6	Haberthwaite Fell.
21	215	935	3	Stainton Ground.
22	271	939	3	Souter-stead.
23	135	945	3	Stainton Beck.
24	266	945	3	Bleaberry Haws.
25	135	958	3	Black Beck.
26	268	950	1	Bleaberry Haws.
27	269	959	3	Torver High Common.
28	135	961	4	Black Beck.
29	151	969	3	Devoke Water.
30	188	968	3	Warm Crag.
31	277	963	3	Little Arrow Moor.
32	285	966	3	Little Arrow Moor.
33	323	964	3	Thurston.
34	155	975	3	Water Crag.
35	245	974	6	Long House Gill.
36	287	975	6	Heathwaite.
37	291	980	3	Church Beck.
38	216	1014	3	Hardknott.
39	221	1014	3	Hardknott.
40	173	1024	2	Longrigg.
41	173	1028	3	Longrigg.
42	103	1054	3	Hollow Moor.
43	123	1063	3	Windsor.
44	100	1077	3	Stackdale Moor.
45	099	1080	3	Stockdale Moor.
46	115	1077	3	Stockdale Moor.
47	096	1089	3	Stockdale Moor.
48	107	1083	3	Stockdale Moor.
49	140	1085	3	Nether Wasdale.
50	088	1099	3	Boat How.

.....CONT.

LEY LINES DATA (TABLE 1) CONTINUED.

SITE NUMBER.	REFERENCE.		TYPE	NAME OF SITE (IF ANY) OR AREA.
	X	Y		
51	105	1096	3	Cawfell Beck.
52	086	1105	3	Boat How.
53	090	1116	3	Lank Rigg.
54	215	1167	3	Hindscarth.
55	291	1236	1	Castlerigg.
56	105	1304	6	Cockermouth.
57	177	1317	1	Elva Plain.
58	225	1355	5	Binsey.
59	141	1380	6	Eweclose.
60	196	1377	6	Bothel.
61	258	1385	5	Aughtree.
62	262	1382	6	Aughtree.
63	287	1394	6	Thistlebottom.
64	495	868	3	Levens.
65	531	888	6	Castlesteads.
66	338	981	3	Hawkshead.
67	438	1009	4	High Borrans.
68	460	1025	4	Millrigg.
69	425	1076	3	Troutbeck Park.
70	469	1129	5	Birks Crag.
71	457	1137	5	Low Raise.
72	535	1135	5	Ralfland Forest.
73	366	1132	1	Shap.
74	556	1155	5	Shap.
75	490	1163	6	Bampton Common.
76	491	1163	3	Bampton Common.
77	500	1163	3	Bampton Common.
78	494	1179	1	Towtop Kirk.
79	459	1193	6	Brock Crag.
80	500	1196	5	Rough Hill.
81	528	1193	1	Knife Moor.
82	499	1203	5	Beckfoot.
83	482	1218	5	Tarn Moor.
84	496	1219	2	Moor Divoock.
85	482	1222	1	Moor Divoock.
86	489	1225	5	Moor Divoock.
87	494	1222	3	Moor Divoock.
88	494	1229	5	Moor Divoock.
89	330	1240	4	Threlkeld Common.
90	410	1246	6	Greenrow.
91	537	1243	6	Newtown.
92	397	1254	5	Great Mell Fell.
93	519	1259	4	Tirril.
94	564	1263	2	Whinfell.
95	485	1275	6	Stainton.
96	419	1282	6	Beckside.
97	519	1285	1	Penrith.
98	483	1305	3	Mossthorn.
99	417	1313	6	Berrier Hill.
100	481	1315	6	Newton Reigny.

RANDOM DATA

Sets of 100 random sites were generated in the computer.

The data was then processed in the same way as the real data.

The random sites were generated on an area identical to that of the map used for the real data.

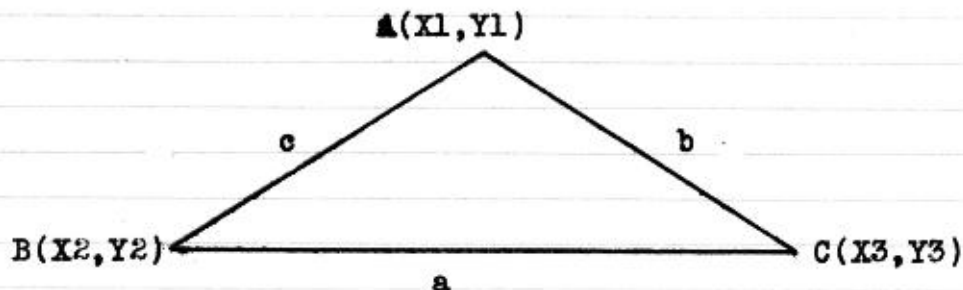
A copy of the data generating program is provided.

The key detecting program was run with various sets of random data to eliminate the possibility of freak sets of random data giving misleading results.

LEY LINES DATA PROCESSING.

To determine if three sites are in line the following method was used:

- 1) The length of each side of the triangle made by the sites was found from the site co-ordinates.



E.G. Side 'a' would have a length of:

$$\sqrt{(X2-X3)^2 + (Y2-Y3)^2}$$

From the length of each side a number (P) between 0 & 100 was calculated using the formula:

$$P = \frac{100(a+b-c)}{c}$$

When a is the shortest side and c the longest.

If P was found to be less than 2 for any 3 sites then the sites were taken to be in line. (Other values of P were also used.)