UFOs AND FAULT LINES

by F. Lagarde

Our contributor is a member of the team of the excellent French UFO journal *Lumières dans las Nuit*. His article was prepared specially for FSR at the suggestion of our friend Aimé Michel. Translation by Gordon Creighton.

Historical

IN *Lumières dans la Nuit* No. 92, of January 1968, we published a first account of our investigations regarding the locations of UFO sightings and of fault lines. That first text, drawn up in order to establish priority date, only dealt with a limited sampling and was accompanied by no counter-proofs. It is now our desire to broaden the sampling and carry out the counter-proofs that are necessary for the securing of our results.

To begin with, let us recall that, in that first account, we selected from Aimé Michel's *F.S. And The Straight Line Mystery* 83 eyewitness accounts of sightings of UFOs near the ground. (The list appeared in issue No. 92 of our Review already mentioned). In carrying out that piece of research we used the 1.1,000,000 geological map, edition no. 4 which was published in 1955 by the French Geological Mapping Service.

37% of the UFO sightings had in fact occurred on or in the immediate vicinity of faults. Encouraged by this initial result, we then used geological sheet No. 21 of La Rochelle, scale 1:320,000, which was more detailed and more recent (published 1967). We had at that time at our disposal 25 "ungraded" sightings, i.e. inclusive also of some high altitude sightings, often uncertain ones. Eighty per cent of the sighting-localities were situated on faults. Accompanying the article in our Review are the plans of those localities, to the scale of 1 cm.—2 km. (They appear in No. 93 of our Review, as also does the overall plan, which is in Nos. 92 and 93).

Counter-Proofs

In order to make this research complete it seemed to us that it was necessary to present a counter-proof by means of an analysis of chance.

We used the French Gazetteer, *Le Dictionnaire des Communes*, published by Berger-Levrault, 1968 edition, which lists in alphabetical order the 37,746 communes of France. It is accepted that alphabetical listing in itself constitutes geographical disorder, and in order to complete it we have taken into account only the first commune of the first column on each page.

Using the list of 83 localities thus arrived at, our investigations of the map showed that only 3 of them, or 3.6% of the total, were on faults, and altogether only 10.8% of the total if we included those on faults plus those up to a distance of 2½ km from faults.

We repeated our calculations with 450 "ungraded" listed UFO sightings, and here again, our investigations yielded a result of 30% of sightings on faults. Consequently, from these percentages calculated in differing ways on UFO sightings and yielding 30%, 37%, and 80%, as against the chance figure of 10.8%, it seems that the conclusion forces itself upon us: UFO sightings occur by preference upon geological faults.

New Analysis

We wanted to go still further and offer a document that was verifiable, and it is not one of our own choice, since we have taken it from the *Flying Saucer Review's* Special Number of October/November 1966, THE HUMANOIDS. This further document forms an annexe to the present report, with an analysis of the sighting locations in relation to fault lines.

It seemed to us to be necessary to define the notion of immediate proximity by an invariable distance, and this we fixed at 5 km. from the sighting locality. The same will hold as regards the counter-proof that accompanies this analysis (also annexed).

The choice of this figure of 5 km. seemed to us to be justified by the very nature of UFO sightings. In most cases the object seen is in movement; there is often uncertainty as to the perimeter of the place of observation; the height of the UFO is often important; and the sighting is rarely vertically above the place of the sighting.

The result achieved for the list from THE HUMANOIDS is as follows: 40% of the sightings occur on fault lines or in their immediate vicinity. As can be seen, this result dovetails well with the percentages already calculated with other lists.

Chance was established by the same procedure described above, except that, in order to spread the choice more widely, we took into consideration only the first commune on every other page of the *Dictionnaire des Communes* referred to above. Our researches this time, still using the same map, gave 20% of the localities on faults or in the immediate vicinity of faults, i.e., one-half of that figure that we got when checking the UFO sighting-localities situated on faults. If we note only the places that are actually located right on faults, then our percentage on this chance basis came out at 2%, i.e., only one-ninth of what we got from the sightings in THE HUMANOIDS that were precisely located on faults.

Thus, whatever the method used, and whatever the lists that are before us, the overwhelming predominance of UFO sightings located on faults is indeed a fact.

Discussion

One might be surprised that, apart from sheet No. 21 for La Rochelle, 60% of the sightings are **not** positioned on faults, and one might use it in order to reject our discovery as having no value. The truth is however that the argument does not lie at this level, and although we are going to show that the percentage of sightings

THE HUMANOIDS

Analysis of Sightings on pages 10 to 20 (Jacques Vallée's *The Pattern Behind the UFO Landings*) in relation to Geological Faults

DOCUMENTS USED

1. Geological map, scale 1:1,000,000, edition 1955, published by the Service de la Carte Géologique de France.
2. *Dictionnaire des Communes*, pub. by BERGER-LEVRAULT, 1968 edition.
3. Michelin maps, scale 1 cm = 2 km.

No. in Vallée's article in "HUMANOIDS"	No. of Department	Name of place where sighting occurred	Faults			Remarks	No.
			Right below	At 2½ km distance	At 5 km distance		
1	13	Marignane 4.1.54			1	4 km to S.E.	1
2		*San Nicolas Island* (*California*)				Outside France	—
3		*Bruton* (*England*)				Outside France	—
4		*Oslo*				Outside France	—
5	74	Lugrin	1				2
6		*Souk-el-Khémis* (*Tunisia*)				Outside France	—
7	80	Between Harponville and Contay				Somme area has few faults	3
8	19	Mourieras				Big fault 13 km to East	4
9	59	Quarouble				On edge of a coalfield. There is a fault 11 km to S.E.	5
10	38	Feyzin				Limit of a glacier	6
11	86	Cenon					7
12		*Casablanca* (*Morocco*)				Outside France	—
13	57	Oberdoff	1				8
14		*Santa Maria* (*Azores Island*)...				Outside France	—
15	18	Le Jou					9
16		Becar				Uncertain. Not in the *Dictionnaire*	—
17	40	Lencouacq				No faults mentioned on the 40	10
18	19	A farm Lachassagne near Ussel				Undefined fault at 10 km from Ussel	—
19	26	Chabeuil					11
20	30	Foussignargues			1	Fault at 4 km to S.E. and 5 km to N.W.	12
21	46	Figeac				Moulins-Montauban fault is 11 km to the West ...	13
22	66	Perdignan				No fault on the 66	14
23	39	Prémanon	1				15
24	52	Froncles			1	2 faults at 9 km to N.W., 2 at 12 km to N.E. ...	16
25	18	Bouzais				1 witness saw the UFO high in the sky towards the N.	17
26	44	St. Nicolas-de-Randon	1			"Red mound" along the railway line	18
27	37	Marcilly-sur-Vienne				Département with few faults...	19
28	29	At sea between Roven and Brest				Roven not found. Fault 4 km from Brest	—
29		Banks of the Seine				Indefinite. (Fault at Vanves)...	—
30	17	La Flotte-en-Ré				Lies at the extremity of La Rochelle's, 4 faults ...	20
31		*Dhubri* (*India*)...				Outside France	—
32	71	Blanzy	1				21
33	59	Bry			1	Fault 5 km to the E.N.E.	22
34	60	Ressons-sur-Matz					23
35	70	Jussey	1			Other faults too at 9 km to the S., 12 km to the N.W. and 16 km to the S.E....	24
36	17	Royan					25
37	71	Branges				No faults shown in the Rhône-Saône Valley ...	26
38	24	Bergerac				Often visited	27
39	36	Levroux					28
40	37	Jonches				Not in the *Dictionnaire*	—
41	71	Louhans				No faults shown in the Rhône-Saône Valley ...	29
42	?	Croix d'Epine				Indefinite. Not in *Dictionnaire*	—
43	57	Guebling					30
44	85	Benet	1				31
45	79	Bressuire				Abnormal region, has no faults	32
46	80	Vron			1	Fault at 5 km to West (same fault as Rue)... ...	33
49	59	Chereng					34
48	80	Rue et Quend...			1	At 4 km S. to N.	35
49	16	Between Montmoreau and Villebois-Lavalette ...			1	At 3 km from Lavallette	36
50	87	Limoges	1				37
51	11	Between Lagrasse and Villemagne	1				38
52	24	Chaleix			1	5 km to S.	39
53	22	Tregon...					40
54	71	Montceau-les-Mines	1				41
55	08	Villers-le-Tilleul					42
56	21	Poncey-sur-Lignon	1			At junction of 2 faults	43
57	29	Loctudy					44
58	52	Between Voillecomte and La Neuville				2 faults 15 km to E.	45
59	63	10 km from Beaumont	1				46
60	85	Mouchamps				Region shown on map as having few faults ...	47
61	02	La Fere				Region shown on map as having few faults ...	48
62	25	Villers-le-Lac				Limit of glacier	49
63	27	Hennezis			1	Rouen fault 5 km to W.	50
64	29	Plosevet			1	Fault 4 km to N.	51
65	86	Beruges	1				52
		Carried forward	13	—	10		

No. in Vallée's article in "HUMANOIDS"	No. of Department	Name of place where sighting occurred	Faults			Remarks	No.
			Right below	At 2½ km distance	At 5 km distance		
		Brought forward	13	—	10		
66	68	Jettingen				Fault at 11 km to W. and at 18 km to E.	53
67	72	St. Jean d'Asse				Fault at 10 km to S.W.	54
68	72	Le Mans				Fault at 14 km to N.W. and 15 km to S.E.	55
69	84	Monteux				Rhône Valley	56
70	10	St. Etienne soos Barbuisse					57
71	66	Bompas					58
72	62	Boulogne		1			59
73		*Belgium*				Outside France	—
74	30	Between Montaren and Uzes					60
75	28	Dreux					61
76	17	Soubran					62
77		*Munster* (*Germany*)				Outside France	—
78	61	Beauvain			1	Fault at 4 km to S.	63
79	11	Carcassonne	1				64
80	57	Pournoy-la-Chetive			1	Metz fault. 4 km to S.E. and 8 km to N.W.	65
81	86	Lavoux					66
82	81	Briatexte					67
83		*Beyrouth*				Outside France	—
84	21	Between Epoisses and Tourtry					68
85	54	Near Charmes-La-Cote				Fault at 11 km to S.W.	69
86	14	St. Germain-de-Livet					70
87	29	Elliant		1		Fault at 1 km to S.	71
88	54	Doncourt-Village			1	Fault at 4 km to East. Also another at 4 km N.N.E.	72
89	27	Acquigny				Rouen fault, 8 km to East	73
90	43	Fonfrede				6 km from fault. Lies S.E. of coalfield	74
91	21	Lacanche		1		Fault 2 km to West	75
92	58	Corbigny	1				76
93	68	Heimersdoff			1	Altkirch fault, 4 km to S.	77
94	14	Beauquay			1	Fault at 4 km to S.W.	78
95		Oran (Algeria)				Outside France	—
96	87	Saillat-sur-Vienne					79
97	17	Taupignac					80
98	16	Birac	1			UFO flying towards a faulted valley 5 km to N.	81
99	34	Montbazin	1				82
100	12	Montbazens			1	Villefranche de Rouergue fault to the W.	83
101		*Teheran* (*Iran*)				Outside France	—
102		La Croix Daurade				Not the *Dictionnaire*	—
103		*Mamora Forest* (*Morocco*)				Outside France	—
104	39	Orchamps				End of a fault lies at 12 km to S.W.	84
105	03	Montluçon	1			Also another fault 1 km to West	85
106	31	Leguevin					86
107	25	Dompierre-les-Tilleuls			1	Fault at 5 km to West	87
108	81	Vielmur					88
109		*Castelibranco* (*Portugal*)				Outside France	—
110	22	Crocq				Lies between 2 faults, one at 10 km to W. and other at 20 km to E.	89
111		Bourasole				Bourasole not on map and not in the *Dictionnaire*. "Triangular UFO" seen there for 6 hours on April 28, 1967	—
112	30	St. Ambroix	1				90
113	59	Lewarde				On coal deposits	91
114	06	Biot			1	Fault at 5 km to N.E., and another at 5 km to the S.	92
115	85	Angles				Edge of a marsh	93
116	53	Meral					94
117	71	St. Germain-du-Bois				In Valley of Saône. No faults mentioned	95
118	71	Gueugnon bois de Chazey	1			UFO actually flew along above fault 4·5 km to W.	96
119	71	Gueugnon bois de Chazey	1			UFO actually flew along above fault 4·5 km to W.	97
120	71	St. Romain			1	Montceau fault at 4·5 km to the W.	98
121		Between Beauvais and Thieulloy la Ville				Badly defined. Nothing precise	—
122	66	Perpignan (St. Assiscle?)					99
123		*Southend* (*England*)				Outside France	—
124	30	Nimes-Courbessac					100
125		*Boaria* (*Italy*)				Outside France	—
126	62	St. Pierre-Halte				Fault at 8 km to S.W.	101
127		*Po-di-Gnocca* (*Italy*)				Outside France	—
128	62	Isbergue				2 parallel faults to S.W., at 7 km and 12 km	102
129	29	Fouesnant					103
130	08	Thin le Mouthier					104
131	31	Cier-de-Riviere					105
132	63	Mazaye, between Chanat and Couhay			1	Fault 4 km to the N. of Chanat	106
133	76	Baillolet (Londinieres)				Adjoins the same terrain as the Beauvais fault	107
134	80	Dompierre				At 15 km to the W. is the same fault as in No. 46	108
135	83	St. Cyr-sur-Mer	1				109
136		*O Alviho* (*Portugal*)				Outside France	—
137	04	Cabasson			1		110
138	70	Varigney				Fault at 14 km to N.E. and another at 13 km to S.W.	111
139		*Cape Massulo* (*Capri*)				Outside France	—
		Carried forward	22	3	21		

No. in Vallée's article in "HUMANIODS"	No. of Department	Name of place where sighting occurred	Faults			Remarks	No.
			Right below	At 2½ km distance	At 5 km distance		
		Brought forward	22	3	21		
140	63	Cisterne-la-Forèt			1	A fault at 4 km to the W. and another at 7 km to the E.	112
141	17	Pont-l'Abbé-d'Arnoult	1			UFO seen above a fault at 600 m to the W.	113
142	60	Fontenay-Torcy				Same variable terrain as Beauvais fault	114
143	17	Highway 150 between Royan and Saintes	1			2 faults	115
144	25	Lac-de-St. Point		1		Fault at 1·5 km to E.	116
145		*Jean-Mermoz (Algeria)*				Outside France	—
146	68	Guebwiller	1			In the angle between 2 faults	117
147		Lusigny (near Troyes)				Fault at 13 km to the E.	118
148	80	St. Valery				Fault at 12 km to N. of St. Valery	119
149		*Como (Italy)*				Outside France	—
150	57	Turquenstein		1		Fault, 2 km distant	120
151	17	Pons			1	Between 2 faults, each distant 5 km	121
152	16	Criteuil-La-Magdeleine					122
153	17	Pouzou, coming from Charbonnières					123
154	85	St. Hilaire-des-Loges					124
155		*Ain-el Turck (Oran)*				Outside France	—
156	69	Ste. Catherine					125
157	63	Between Effiat and Biozat			1	Fault at 4 km to E. Passes through Ganat	126
158	22	Plemet					127
159	54	Arraye-et-Han				Fault at 6 km to N. and at 7 km to N.E.	128
160	16	Paris-Angoulême highway, 18 km before Angoulême			1	Hypothetical "star" seen at Tourriers	129
161		La Madière				Reported by A. Michel. Position not established precisely	—
162	57	St. Quirin	1			In the angle between 2 faults	130
163	68	Heiteren				Fault at 9 km to E. on right bank of Rhine	131
164	62	Linzeux					132
165		Mézières				Not clear. (There are 15 Mézières)	—
166	27	Les Jonqueret de Livet					133
167	88	Moussey			1	Fault at 4·5 km to E.	134
168	62	Oye-Plage					135
169	03	Mesple near Montlucon				Fault at 7 km to E.	136
170	80	Long					137
171		*Poggi d Ambra (Italy)*				Outside France	—
172		*Oued Beth (Morocco)*				Outside France	—
173		*Pontal (Brazil)*				Outside France	—
174		*La Coruna (Spain)*				Outside France	—
175	21	La-Roche-en-Brènil					138
176		*Monte Ortobène (Italy)*				Outside France	—
177		*Monza (Italy)*				Outside France	—
178	03	Voussac			1	Long fault at 4 km to E.	139
179	49	La Tessoualle					140
180		*Porto Aligre (Brazil)*				Outside France	—
181	62	Berck				Fault at 10 km to S.	141
182	76	Buchy					142
183		*Curitiba (Brazil)*				Outside France	—
184		*Audemets (Belgium)*				Outside France	—
185		*Forli (Italy)*				Outside France	—
186		*Isola (Italy)*				Outside France	—
187		*Santa Maria (Brazil)*				Outside France	—
188		*Caracas (Venezuela)*				Outside France	—
189		*Venezuela*				Outside France	—
190	32	Bassoues					143
191		*Spain*				Outside France	—
192		*Brazil*				Outside France	—
193		*Venezuela*				Outside France	—
194		*Venezuela*				Outside France	—
195		*Belá Vista*				Outside France	—
196		*Venezuela*				Outside France	—
197	39	Between Bersaillin and Colonne				Fault, 9 km to South. On limit of glacier	144
198		*Venezuela*				Outside France	—
199		*sans indication (not indicated)*				Outside France	—
200	24	Gardonne					145
		TOTALS	26	5	27		

58

Percentage: $\frac{58}{145} = 40\%$

on faults must necessarily increase as more precise analyses are made, it is not so much our job to get favourable percentages as it is to demonstrate the reality of the fact by slanting our research into new paths. Faults as such are doubtless merely privileged places for the manifestation of the activity of terrestrial phenomena, and it is very possible that places where there are not faults may also be the locations of identical manifestations.

But we shall now adduce certain arguments which

will help you to see that beneath this figure of 40% there lies a more substantial reality.

1. The map used, 1:1,000,000 scale, while adequate for our demonstration, only shows the most pronounced of the faults. A more detailed map, while increasing the number of faults, will necessarily also increase the number of sightings falling on faults. In this respect the La Rochelle sheet is significant. But it is assuredly no exception.

The fact of this discovery of ours is still too recent, at the present moment of writing, to have simulated other investigations. We will however mention the Ornans sheet, in the Doubs area, on the other side of France. Prior to the discovery we had 6 sightings there, all very localised, and our fellow-worker M. Tyrode had sketched the flight trajectories on a large-scale map. When we got the detailed geological maps, we perceived that these trajectories, which had already been drawn beforehand, were located precisely on two faults which straddle the area. It should be noted that one of these sightings was a two-way movement above the Northern fault, and that in another case that followed the line of the fault the UFO passed at a height of only 20 metres above the head of the witness.

This large-scale map shows 8 faults in the area, whereas the 1:1,000,000 scale map only showed one fault at a distance of 1½ km.

2. It is certain that, despite the active work of our geologists, there will still remain a certain number of faults yet to be determined.

3. In France, as everywhere throughout the world, there are whole regions covered with a thick coat of various sediments or lavas which mask the faults which may in fact exist there. We know however that, in certain of these regions, where movements have been registered, faults must necessarily exist. Though we can detect them by special research methods, they nonetheless do not appear on the official documents made available to the public.

Among specialists on these matters, everyone knows of the magnetic anomaly centred on Orléans and extending to beyond Andelys (see attached map), and which is an indication of an underground anomaly.

It was the well-known seismologist J. P. Rothe who pointed out that the earthquake of October 3, 1933, was centred on this anomaly, But for all that, the region is not rich in faults. The Lille region is even less so, and yet the earthquake of February 11, 1938, had its epicentre at a depth of 25 km between Lille and Courtrai.

Taken together all these arguments show, in our view, that although but a summary, by reason of the map used, our study nevertheless embraces a more extensive phenomenon into which it is going to be necessary, from now on, to delve by means of more precise and delicate analyses.

Why faults?

It seems as though faults, as such, are not merely the external aspect of an irregularity in the Earth's crust, but are also the scenes of delicate phenomena—piezo-electrical, or electrical, or magnetic, and at times perhaps of gravimetric variation or discontinuity.

It is a fact that faults seem to be the favoured spots for thunderbolts during storms. It would be interesting to study the causes of this.

P. Rousseau, in his book *Les Tremblements de Terre,* mentions the appearance of mysterious lights at the time of the Japanese earthquake of 1930. Confirmed by 1500 witnesses, those lights remain unexplained to this day.

Considering the possibility of a piezo-electrical phenomenon, we thought at one time that there was perhaps a relationship between the frequency of UFO sightings and terrestrial tides. Despite certain coincidences however our researches in that direction yielded no results. What does seem to emerge however—masked by the more abundant (because more easy) sightings of summer nights—is a slight increase at the equinoctial periods. It would be interesting to do the same research with a larger body of sightings, as we have confined ourselves in our own attempt to the French sightings only.

If it is a question of electrical or magnetic phenomena, then it is certain that solar activity, as well as certain planetary positions, must play an important role in these occurrences. A study of the matter would be very useful. One of our collaborators in Nice, J. C. Dufour, told us that the Englishman Williamson, an explorer of lost cities of Peru and Bolivia (and a well-known Ufologist) had observed in 1956 a certain correlation between over-flights of UFOs and earthquakes. But at that time, so Dufour writes, the matter had passed unnoticed. Perhaps this is a study that should be taken up again.

What are the UFOs doing on the faults?

We must confess that we do not know, and no doubt the answer to the immediately preceding question will supply one of the clues. We have precise facts, there is no doubt about that, relating to cases in which the UFO has performed its to-and-fro movement over a fault, and in which seemingly nothing else—other than deserted forests—could be engaging their attention.

All that we can do is to put forward hypotheses, but we would not care to weaken the careful quality of this present statement by including hypotheses which might be open to criticism. This type of question is dealt with regularly in our Review in a different context.

We think it is up to the specialists, the seismologists, geologists, geophysicists, to take a look at this new aspect of the UFO problem and to extract from it such lessons as may be necessary. Perhaps they will be able to extract from it a method for predicting earthquakes.

For all those who are interested in this research, a few words in closing on the subject of an occurrence that impressed us particularly! I refer to a UFO sighting made at the Metz Fair in October 1954. Aimé Michel describes it with his usual gusto in his book already referred to above. It was as follows: a UFO was caught in the beam of a French Army searchlight. The Army was giving a display and demonstrating its equipment. The UFO remained stationary for 3 hours directly over Metz, and wore out the patience of the military technicians, who did not stay to see its departure. The

(*Continued on page iv of cover*)

CAT AMONG THE PIGEONS

By J. Gillings, A.C.P

An account of a science project, by pupils of a Plymouth secondary school, dealing with the highly unorthodox subject of flying saucers. The project was the school's entry for the 1967 Schools Science Fair of the British Association for the Advancement of Science.

SOMEBODY had the idea that science projects undertaken on a competitive basis between schools would make science more interesting to children. The outcome of the idea was the Science Fair.

The scheme started in 1961, but I am not able to say if the end result has achieved the desired effect. However, looking at a list of past project titles I see nothing to raise the eyebrows of an eighteenth-century academic. Such thought-provoking studies as "Piglet Rearing", "Earthworms in Woodland and Grassland", "Fungi in Birds' Nests", and "Moths and the Weather", may well inspire some students to frenzied activity. Fortunately such students are not found in very large numbers in our schools and one would be very hard pressed to think up subjects less likely to awaken a love for scientific knowledge.

No—from my experience, the average boy or girl needs to be stimulated with much more imaginative and wonder-making work; work far removed from the mundane. Scientists are the main cause of lack of interest by trying to be too respectable. There are as many myths and legends in the world of orthodox science as there are in religion, and in the same way "respectability" or "conformity" spells death to wonder.

And if there is one aspect of the human animal we can ill-afford to let die it is the sense of wonder.

The main aim in entering the school, a Plymouth secondary modern of less than three hundred pupils, was to see how much "old-fashioned wonder" could be stimulated, without pressure in the pop-picking teenagers. The two teachers involved, the science and art masters, were well aware that the study of flying saucers was a non-starter from the beginning, when in competition with such exciting projects as "Smoking hazards" and "Traffic noise". We also knew the contest was dominated by the "big guns" of our educational system, the famous as well as the little-known public and grammar schools. Incidently the winning project from the region, a language laboratory, had, according to the three judges, little science about it, but it *was* well made!

The title chosen for our project, "Aerial Phenomena and the UFO" sounded scientific enough to placate the most particular prude, and it avoided the frivolous connotations of "flying saucers". Nevertheless we were out to study in depth the whole area of "saucerdom" as far as possible, as well as the concept of extra-terrestrial intelligent life forms and contact with alien beings.

Can that really be as dull as a study of owl pellets?

The six boys worked in pairs on different tasks. One pair set out to take a poll of public opinion on flying saucers from all sections of society. Another two dealt with the history of the phenomenen, collecting information from various sources, writing to authors, questions in Parliament, graphs of sightings, meteor streams, and so on. The third pair constructed a display unit showing the Solar System against a back-drop of space—planet models in plaster, accurately proportioned and spaced. This group also faked UFO photographs for comparison with famous pictures, street lights at dusk, and so on.

The enthusiasm of the boys was gratifying and we had to limit the number of those wishing to partake in the venture. An announcement of a meeting of the UFO club, on one occasion, resulted in a laboratory full of interested pupils from all classes being sent away disappointed. I doubt if we would have had the same trouble had the subject been a study of peat deposits.

A summary of the project findings made by the boys is of interest to anyone who believes there are still "stranger things in heaven and earth" and they are, briefly, and in order of probability:

i That there is life in space.
ii That some form of this life is more advanced than we are.
iii That the odds of alien life-forms visiting Earth are small but the possibility must exist.
iv That there is much bigotry about "flying saucers".
v That the average person is unconcerned about UFOs.
vi That there is no sign of the phenomenon disappearing since first being investigated scientifically in 1947.

The boys working on the project were particularly lucky in October, 1967, when, in the middle of the survey, there was a great deal of activity in the Devon sky which was reported on an international scale. They were able to note public and official reaction to UFO sightings. The solutions given by the Air Ministry, the Royal Astronomer, by local police departments, and by amateur UFOlogists, all gave rise to much debate and written material for the project.

As a non-starter in the qualifying regional exhibition held in Plymouth it is difficult to assess the value of the project work without attracting the accusation of "sour grapes", but it is almost impossible to ignore the fact that a study of flying saucers cannot be treated in the same light as "a cure for oil pollution" or "the construction of a juke box". The press coverage of the Fair, perhaps by mischance, left out any mention of the school's work. The BBC Regional News Service listed the participating projects and again, perhaps by mischance, omitted any reference to the school's project —although one of the boys had been interviewed at length by the BBC reporter. The boys gained practical experience of how it is possible to ignore a touchy subject without becoming committed to a position. As far as the Science Fair was concerned, flying saucers were still firmly imprisoned in the comic book.

Yes, ours was the "cat among the pigeons" all right. But it was at least a well-fed feline amongst some very grey and scrawny chicks.

UFOs, Earthquakes and Volcanoes

By Gordon Creighton

AS students of Seismology are well aware, there is a considerable body of data relating to luminous phenomena observed in the sky at the moment when an earthquake occurs. These would appear to be electrical phenomena and I note that, while many older books and reports mention them, my own fairly recent (1952) edition of the Encyclopaedia Britannica does not. Perhaps this is because they "don't fit the current theories about earthquakes", and so must be swept under the carpet. Nevertheless we know that here and there qualified students of these matters are beginning to suspect that there may be something fallacious or partly fallacious about the old slick conventional explanation of earthquakes, so it is not impossible that the electrical or luminous phenomena may become respectable and be brought out again, dusted off, and looked at objectively.

Charles Fort has of course plenty of such reports. But, as Dr. Jacques Vallée[1] has observed, the items related by Fort certainly do seem to relate in the main to phenomena of an entirely luminous nature, and should therefore be considered only with extreme caution by any student of the new science of Ufology. My purpose in the present article is however to point out that there have been, during the past twenty years or so, a number of reports which are perhaps not so easily attributable to the "electrical" category, and to give a few of them in the hope that scientifically trained folk with better qualifications than I possess in these fields will be induced to take a long and careful look at one aspect of the UFO Phenomena about which remarkably little seems so far to have been said.

Before I come to these cases, however, I would like to quote the following interesting passage from a XIXth century French treatise[2] on earthquakes:

"The earthquake of November 4, 1799, at Cumaná, Venezuela, was preceded, accompanied, and followed, by extraordinary atmospheric phenomena. A reddish light had been seen in the sky during the whole of the previous night, and a strong gust of wind, followed by a thunderstorm, followed instantaneously upon the first subterranean shock which, with an upward direction, created great terror among the population. After this first shock the red light was again seen for several nights, and each day at the same hour there were shocks as violent as that which occurred on the first day. Finally, upon the seventh night, a countless number of meteors and bolides shot through the sky, and after that night the mysterious light disappeared, and there were no more shocks."

This mention of "a red light which was seen for several nights" may be of particular interest to students of our subject, and some may perhaps wonder, as I have often done, whether there are not *two* quite separate types of phenomena commingled in some of these seismic reports, namely a *UFO* phenomenon and a *natural*, electrical, phenomenon?[3]

I would emphasise that my aim, in offering what are merely a layman's snippets, is to stimulate a response on these matters from geologists and from our other scientific colleagues. I am also well aware that others have already begun to think along these lines. In France, F. Lagarde has made what he claims to be a momentous discovery relating to the correlation between UFO landings and geological fault-lines, and his article on the subject appears elsewhere in this issue of FSR. I understand furthermore that in New Zealand, a country where they have plenty of good reason for being serious students of Seismology, the N.Z. Scientific Space Research group under Mr. H. Hinfelaar have published some material of outstanding importance which unfortunately I have not yet managed to see.

I come now to the small group of reports which have stuck in my memory in recent years, and which I venture to think may be pointers of some possible value to the Ufologist.

Case 1. Orléansville, Algeria[4]

Violent earthquakes on September 9 and September 26, 1954. 1,100 dead and 2,000 injured. Monsieur Yves Vernet of Harika, Algeria, reported having seen immense numbers of UFOs passing high over the country during the weeks following.

Case 2. Mansfield and Sutton-in-Ashfield, Nottinghamshire, England[5]

On February 11, 1957, a strong earthquake (force 8) shook eleven counties of England, being felt particularly strongly in Leicestershire (epicentre) and Nottinghamshire. At these two towns in Nottinghamshire, on the same day as the 'quake, five black "tadpole-like objects" were seen stationary in the sky for some three minutes before moving off vertically. Same or similar objects were also seen there next day.

Case 3. Mount Etna, Sicily[6]

On the morning of September 11, 1957, while studying Mt. Etna through 8 x 30 binoculars, the late Dr. H. Percy Wilkins, F.R.A.S., distinguished British astronomer and leading British selenologist, watched for 20 minutes a brilliant oval mass, described by him as "an Unidentified Stationary Object" poised above the edge of the crater of Etna.

Case 4. Volcano Recupichincha, in Ecuador[7]

A group of students were climbing this 14,400ft. high volcano (lying to the East of the Capital, Quito) on August 4, 1965. At 10.30 p.m., as they were bivouacing on the slopes, they observed two enormous flying cigars which approached the volcano and hung there motionless, quite near to the students, for about four minutes.

Case 5. Volcano Irazú, near San José, Costa Rica[8]

This extremely dangerous volcano lies not far to the north-east of San José, the capital of Costa Rica, and the authorities of the Republic maintain officers of the Guardia Civil on permanent watch at observation posts in its vicinity. At 6.0 p.m. on August 12, 1965, two of these guards observed, through binoculars, a dome-shaped UFO which remained stationary for about one hour in the area above and around the volcano.

Now, as every schoolchild knows, the Andean

Cordillera and its related systems, running the whole way from Cape Horn up via Mexico and the West Coast of the USA to Alaska, is but one arm of an even vaster crescent-shaped belt of volcanic and seismic lands that encompass the whole Pacific margin and sweep right round as far as Indonēsia. Look at any atlas and see how many volcanoes there are in the Andes. If, then, the occupants of the UFOs (or *some* of them) are engaged in studying this planet from the volcanic and seismic aspects, what is there more natural than that we should hear of great waves of UFO sightings along the Cordillera, as was particularly the case in the *annus mirabilis* of 1965?

Many people have criticised our governments because, as is alleged, they are so "cagey" about this business of the UFOs, but we should bear in mind too that there are plenty of other topics on which our political and technological rulers prefer the policy of the immortal Brer Rabbit. I have a feeling that one of these "delicate" matters upon which we aren't being told too much relates to the question of whether there is good scientific evidence that planet Earth is headed for another spell of immense geophysical upheaval, and that in no remote geological future either, but perhaps in the lifetime of some of us now here.

I know that geologists, from Lyell onwards, like to be preachers of the gospel of "gradualism" in these matters. But I notice that, during the International Geophysical Congress held in Helsinki in 1960, a sensation was created by the top Soviet delegate, Belouzov, who declared, in a paper read before the gathering on July 26, that vast quantities of magma are now on the move within our planet and that titanic upheavals, involving vast areas of the planet, are at hand.

Belouzov, chairman of the USSR's Committee for the Geophysical Year and one of his country's most distinguished geophysicists, does not exactly fall within the category of "small fry". I have press-clippings from European newspapers about his bombshell lecture, but so far as I know, nothing about it got into the British press. (In subsequent correspondence with the Soviet Committee for the I.G.Y., I received from him what may possibly be the "official" version of his talk, but there are discrepancies, and I think he perhaps went much further at Helsinki than the authorities would like).

Such then, are the few snippets and pointers to which I desire to draw attention. I only hope that others who are more qualified than I in the field of Geology will be able to show us that I am wrong, and where I am wrong. Until they do so, I regret to have to say that I think the most probable reason for at least some—if not all—of the current activities of alien beings in the sky and in the sea and on the surface of our planet is that they are watching some process that is now taking place within the bowels of Earth. And, if my guess is correct, what are we to think of such antics as the recent American detonation of an atomic bomb deep inside the Earth's crust?[9]

Postscript

According to reports in various South American newspapers of August 1967, Dr. Luis Sanchez Vega, a prominent physician in Caracas, the capital of Venezuela, was confronted[10] in his own consulting-room on the morning of August 7 by a small alien being less than 4ft. in height. Speaking in perfect Spanish, the being, who had a large round head, large round eyes, no ears or ear-apertures, a mouth like a slit, and only ten teeth (five above and five below) asked the doctor to give him a physical checkup, but said he was not to be surprised if he found his temperature abnormally high since he was in fact not a native of this world but from another planet!

He said that his people were able to learn foreign languages by means of a certain kind of machine, and that their system of reproduction was unlike ours, so that he possessed no parents.

Among the other items of information which this alien being is said to have imparted is one which would seem to be highly relevant to the subject of the present article:

The planet Earth underwent a tremendous cataclysmic change some 9,000 years ago, and if we were not careful another could happen now. According to him, there was already a great fissure filled with sea-water which had penetrated right under Caracas itself. As a result of this, the capital might fall in at any time, thus producing a terrible earthquake.

NOTES

[1] Vallée, Dr. Jacques: *Anatomy of a Phenomenon*, p. 8. (Hard cover editions.)

[2] Boscowitz, Arnold. *Earthquakes*. (English edition, Routledge, London, 1890), p. 315.

[3] In the Bibliography of *Anatomy of a Phenomenon*, Dr. Vallée quotes, No. 128, an article in the newspaper *Paris-Presse* of November 10, 1954, *Les Tremblements de Terre provoquent les Soucoupes Volantes*. ("UFOs Are Due to Earthquakes.") I have not seen the text of this article, but it would certainly seem to provide yet another useful "explanation" for the irritating UFO problem!

[4] Quoted by Harold T. Wilkins in *Flying Saucers Uncensored* (London, 1956), pp. 196 and 235.

[5] FSR, March/April 1957, pp. 2 and 8.

[6] FSR, November/December 1957. Article *Unidentified Flying Objects*, in which this distinguished astronomer described his own UFO sightings, and suggested that "intelligently controlled space-ships from Outer Space may exist". (Final article of a series of three for FSR.)

[7] Report in *Ultima Hora* (Buenos Aires), August 5, 1965.

[8] *La Crónica* (Buenos Aires) of August 14, 1965, quoting A.P. report of same date from San José, Costa Rica.

[9] FSR, November/December 1963, pp. 11-14. *Another Speech by Wilbert Smith*. In this talk, delivered by the Canadian investigator Wilbert Smith before the Vancouver Flying Saucer Club in March 1961, he gave some hair-raising details about certain of the things said to have got out of hand at the Bikini Atoll test and other atomic tests. "It would be highly undesirable to go any further into this business of nuclear weapons than we have already gone—possibly we have already gone too far already. I would say that there is a very good possibility that these explosions have a far more disastrous effect down in the interior of the Earth than anything we can see on the surface. I have the most serious misgivings about these atom bomb explosions."

[10] *O Estado de São Paulo* (Brazil), August 20, 1967, and APRO Bulletin, September/October 1967. See also *More Unusual Humanoids* by Charles Bowen (FSR, May/June 1968).

OLAVO T. FONTES, M.D.

It is with great regret that we have to inform our readers that Dr. Olavo Teixeira Fontes died on May 9, 1968. Our condolences are extended to Senhora Maria Theresa Perreira da Silva Fontes and her family.