MARS & THE FLYING SAUCERS

A contribution to the scientific study of the periodicity of the flying saucer phenomenon in its correlation with the oppositions of Mars

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1. The problem in its context

The existence of the flying saucer phenomenon (whether the objects be real or merely wrongly interpreted physical phenomena or even hallucinations) is a fact of experience. It seems therefore logical to start again from the beginning and, with new methods of investigation, to go over the whole of the data accumulated since 1947.

We know that certain theories tend to attribute the appearance of these " objects " to phenomena of light or meteorological phenomena. In this connection will be recalled the theory of Professor Menzel regarding phenomena produced by differences in temperature, according to which the observers of lights allegedly caused by the saucers have been deceived by light refraction, either of light from the sun or light coming from the stars. In the same way as happens with light, radar waves have their velocity modified as the result of the density of the medium through which they are passing, which fact can explain certain aberrant echoes. This theory, which doubtless accounts for certain sightings (2 per cent. or 3 per cent. in the estimation of the U.S. Air Force investigators), nevertheless fails to account for the main body of testimony and the official American bodies were obliged to conclude that: " The theory of refraction due to thermic origin cannot explain the simultaneous visual and radar sightings nor the saucer that is seen at the same point by observers in an aircraft and by observers on the ground. Similarly, the explanation fails when the phenomenon is detected by an aircraft's radar and the interception-stations on the ground both follow the saucer and the aeroplane at the same spot on their screens."

For his part, Dr. J. C. Mackenzie, President of the Commission for the Control of Atomic Energy and former President of the National Investigation Commission, declared in an official statement: " At the beginning, one could still cry that it was all too improbable and attribute the phenomena to a series of optical illusions. But since then the number of sightings reported by reliable witnesses no longer permits us to disregard these manifestations. It can hardly be accepted that all these reports are the result of optical illusions."

Other theories were advanced to explain the sightings and, in particular, the possible existence in the atmosphere of pockets of ionised air resulting from thermo-nuclear tests. But the residue of testimony not explained by these various theories remained impressive. However, the majority of scientists—who know nothing of the flying saucer phenomenon beyond the accounts of some witness misled when observing weather balloons or meteors and others who are plainly hoaxers—have come to be convinced that *all* the sightings can be set down to hallucination or mirage or hoax.

The extreme point of view in this respect is typified by the views of Professor Heuyer of the Faculty of Medicine at the University of Paris. It will be recalled that he attributed the sightings to a gradually spreading collective psychosis. So far as we know, this theory, which was attacked by Aimé Michel and other investigators, is no longer maintained and, as the reader will be aware, the eminent psycho-analyst C. G. Jung declared in his work on the subject that psychology is unable to pronounce an opinion regarding the physical existence of the phenomenon.

There is, however, a second attitude which seems more in conformity with the spirit and basic conceptions of scientific research and which consists—instead of refusing *a priori* all physical existence to a material objective saucer on the plea that the manœuvres characteristic of such an object are inexplicable by present-day science—in provisionally reserving all judgment on the subject and in studying the sighting data on a global basis in an endeavour to distinguish certain general laws which could open the way for scientific investigation.

The analysis of the structure of the " wave " phenomenon which was made in France by Aimé Michel in 1956 and which has since been extended to other regions by various private investigations has served as a starting point for research which is at the moment being carried out with the most fruitful results. But the demonstration of the spatial structure of the waves, called Orthoteny, has failed to demolish the barrier erected around the problem, the majority of scientists having never looked into the total body of work written on the subject. No

theory about the saucers will, however, be acceptable henceforth if it does not account for orthotenic alignments emerging from " star "-shaped dispersion centres. Neither Professor Heuyer's nor Dr. Menzel's theory satisfies this condition.

It is for this reason that we shall be obliged in future to seek an explanation elsewhere: it will be admitted that the saucers are material, physical objects, for example piloted craft (theory of Professor Hermann Oberth), but even then we still have to find out why these " visitors " design these strange patterns and what they are seeking, where they come from and why they do not make contact officially, etc. Or, on the other hand, an attempt will be made to ascertain in the arsenal of known or theoretically possible physical effects, meteorological or geophysical, which are the ones likely to manifest along straight lines or rather, as our present investigations seem to show, following the great circles of the terrestrial globe.

It is not our task to decide between these two bodies of possible theory. Our intention here is merely to make a contribution to the study of the periodicity that has characterised the phenomenon over the years between 1947 and 1957.

Seeing that a large number of sightings have come to our knowledge, it is permissible to study their distribution in time and in the light of statistical analysis. We can in this way investigate whether the frequency of sightings is governed by a periodic law and, if this should be so, with what phenomena, *already known to us,* this periodicity can be linked.

Now, we know that since 1953 it has been believed possible to affirm that there was coincidence between the peak periods and the Mars oppositions. The statistics that had been compiled in France were not very complete, but a Canadian investigator, Wilbert Smith, having arrived at the same conclusions, Aimé Michel announced a fresh wave for the end of the summer of 1954, a forecast which was confirmed to a degree far beyond what could be hoped for. But there was no wave in 1956, while, on the other hand, there was to be a series of sightings in 1957 precisely at the time when Mars was very distant from the Earth. Following this double failure in the forecasts, the Civilian Saucer Intelligence organisation in New York closed the discussion with the conclusion that " it seems more prudent, in future, to expect waves at any time."

Experience shows then that we are approaching a domain where one should proceed cautiously, but that is no reason for giving up all hope of seeing any light on the matter and for leaving everything in future to pure chance. The failure experienced with the attempts just described is clearly due to the fact that we are too close in time to see things in perspective. Today, for the first time, private investigators possess a general catalogue containing 1,000 sightings. The catalogue has been made by M. G. Quincy, a librarian at Constantine. We have been able to consult one of the very few copies of it, and it is to be hoped that this document will be published in full as soon as possible, with all the references, to enable scientific investigators to check and verify the evidence of the eye-witnesses.

Thanks to this body of data we have been able to go back to the beginnings in our study of the variations in frequencies of sightings, equipped with a certainty that is new in this field of research and that is absolutely imperative in statistical calculations.

2. Method employed

It seems that the credit for the first serious statistical investigation of our subject goes to E. Buelta who, in October, 1961, published an article " The Frequency Constant " in the *Bulletin du Centre d'Etudes Interplanetaires* (Barcelona). His investigations, which only became known to us after the present paper had been finished, establish the existence of the same correlation between the distribution of sightings in time and the oppositions of Mars, although Mr Buelta did not introduce in his paper, as a variable, the distance between Mars and the Earth. This we have done ourselves in order to be able to analyse the phenomena more precisely.

There is, of course, no doubt that Mr. Buelta starts out from a " statistical population " which is very different from that of others. His method of investigation is likewise different, since he introduces a consideration of the number of the sightings while taking into account the geographical and demographic factors, whereas, as will be seen in the conclusion of the present article, we have preferred to base our own calculations on gross figures.

Nevertheless, despite these differences in the base data and in the method of calculation, the results obtained do show a remarkable agreement. So would it not be desirable for us to have a verification of all private individual investigators, so that finally a complete scientific inquiry can be undertaken with effective means? We can only express the hope once again that this will be done.

However, let us now return to our study and let us decide to draw a graph of the frequency of sightings of the saucer phenomenon in time so as to determine whether — as the aforementioned statistics established on a reduced sampling seemed to indicate—the curve thus obtained shows periodic peaks. We will then try by calculating a coefficient of correlation to discover whether Mars plays a part in the recurrence of the waves. The aim of this method is to give every guarantee, to both the partisans and the non-partisans of the idea of the physical reality of the saucers, since in all our calculations, of which we publish the essential and which are easily verifiable, what is postulated is not the existence of the saucer but only the existence of the " saucer phenomenon," the existence of which nobody denies. It is, then, no longer a question of conjectures or of simple statements, but rather of a mathematical study of the question, based on no *a priori* postulate.

The catalogue which we have used lists about 1,000 sightings over a period of twelve years, but does not include the year 1954. This fact is to our

disadvantage, for 1954 is precisely the year for which the result ought to be the most striking. By making use of the work of Aimé Michel, who studied the months of September and October, 1954, we have been able to complete the table in so far as these two months are concerned.

We began by collecting sightings for ten-day periods, so as to obtain as exact a first study of the phenomenon as possible. Thus, in the first ten-day period of January, 1957, we give six sightings, and three in the second ten-day period and five in the third. And so on. The results are as set out in Table 1 below.

In the foregoing table we have given, for each month, the total number of reports of sightings mentioned in the Press to the best of our knowledge. These are the figures which we shall use in the remainder of our study. This analysis at ten-day intervals is given here only to provide an element of information to readers desiring to go into this question in a different way. It thus allows us to fix the frequency peaks to within a latitude of ten days. We thus find that between 1947 and 1958, *there were six peak periods of saucer sightings, namely on the following dates*:

July 10	1947
March 20	1950
July 20	1952
October 15	1954
November	1956
November	1957

If we place the dates of the Mars oppositions against the peak frequency dates, we get the following table:

TABLE 2

Mars Oppositions	Sighting Peaks	Intervals
October 10, 1941		
December 5, 1943		
January 14, 1946		
February 17, 1948	July 10, 1947	
March 23, 1950	March 20, 1950	A few days
May 1, 1952	July 1952	3 months
June 24, 1954	October 15, 1954	4 months
September 10, 1956	November 1956	2 months
November 16, 1958	November 5, 1957	
December 30, 1960		
February 1963		

The question now arises of making a strict statistical analysis of the correlation of the two phenomena. In order to be able to do this it is necessary to discuss the scope of the domain to which this analysis applies.

3. Discussion

It is certain that many mistakes have been made in the past when investigators, in their excessive desire for strictness, have sought to establish a mathematical connection, indeed almost a mechanical connection, between the saucer phenomenon and certain known physical laws. A simple examination of Table 2 permits us to state that *there is no connection of an obligatory character between the Mars*

TABLE I

	1947				1948				1949				1950			
January	0	0	0	= 0	3	0	0	= 3	0	0	0	= 0	0	2	1	= 3
February ...	0	0	0	= 0	0	1	0	= 1	0	0	0	= 0	3	1	4	= 8
March	0	0	0	= 0	0	0	0	= 0	0	0	0	= 0	8	17	24	=49
April	0	0	0	= 0	3	0	0	= 3	1	0	0	= 1	6	5	5	=16
May	?	2	0	=	0	0	1	= 1	2	1	1	= 4	4	0	3	= 7
June	1	1	9	=11	0	0	0	= 0	1	1	0	= 2	2	1	0	= 3
July	19	3	2	=24	0	1	8	= 9	0	0	0	= 0	1	1	3	= 5
August	1	1	0	= 2	0	0	0	= 0	2	0	3	= 5	2	1	0	= 3
September ...	0	0	0	= 0	0	0	0	= 0	1	0	0	= 1	0	1	0	= 1
October ...	0	0	0	= 0	1	1	0	= 2	1	0	0	= 1	0	0	0	= 0
November ...	0	1	0	= 1	0	1	2	= 3	0	0	0	= 0	1	0	0	= 1
December ...	0	0	0	= 0	2	1	0	= 3	0	0	1	= 1	0	1	0	= 1

	1951				1952				1953				1954			
January	1	2	0	= 3	0	0	5	= 5	2	0	2	= 4	0	0	0	= 0
February ...	0	1	1	= 2	0	2	0	= 2	0	0	0	= 0	0	0	0	= 0
March	0	0	1	= 1	0	2	0	= 2	1	0	0	= 1	0	0	0	= 0
April	0	0	2	= 2	0	1	0	= 1	0	0	1	= 1	0	0	0	= 0
May	0	1	1	= 2	8	9	18	=35	2	5	0	= 7	0	0	0	= 0
June	0	0	0	= 0	11	6	5	=22	0	0	0	= 0	0	0	0	= 0
July	0	0	0	= 0	10	15	9	=34	1	1	0	= 2	0	0	0	= 0
August	0	0	1	= 1	5	4	1	=10	0	0	1	= 1	0	0	0	= 0
September ...	0	0	1	= 1	1	2	3	= 6	1	2	0	= 3				45
October ...	1	0	2	= 3	4	11	2	=17	0	1	0	= 1				110
November ...	0	0	0	= 0	7	3	14	=24	8	0	0	= 8	0	0	0	= 0
December ...	0	0	0	= 0	2	0	0	= 2	2	1	1	= 4	0	0	0	= 0

	1955				1956				1957			
January	8	3	2	=13	1	4	7	=12	6	3	5	=14
February ...	2	3	0	= 5	1	5	0	= 6	2	6	1	= 9
March	0	5	8	=13	0	4	3	= 7	4	1	6	=11
April	2	1	3	= 6	7	4	1	=12	6	2	3	=11
May	1	2	2	= 5	3	3	1	= 7	2	0	0	= 2
June	0	2	0	= 2	3	1	6	=10	4	1	3	= 8
July	2	0	4	= 6	5	10	5	=20	1	1	1	= 3
August	2	0	5	= 7	9	15	11	=35	7	6	3	=16
September ...	5	3	1	= 9	7	9	1	=17	2	2	0	= 4
October ...	1	4	3	= 8	3	1	0	= 4	9	1	1	=11
November ...	1	3	2	= 6				=90	33	11	9	=53
December ...	2	1	3	= 6	3	0		= 6	16	7	0	=23

oppositions and the saucer phenomenon peaks. (In the sense, for example, that there exists a connection of an obligatory character between the pressure, the volume and the temperature of a gas enclosed in a confined space.)

We are obliged to admit this, because the peaks of 1947 and 1957 correspond to no special close approach of Mars. It is clear that, if one examines the phenomenon in its totality, it shows a very different distribution from that of a phenomenon due to pure chance. But we can demonstrate no mechanical correlation with the Mars oppositions. Our aim is merely to show that *Mars has played a primary role during a certain period of the history of the phenomenon and that the distribution of the peaks is not due to chance.*

To be more precise, we assert that the planet Mars was indeed in correlation with the saucer phenomenon in the period covering the four waves of 1950-1952-1954-1956.

What happened before, and what has been happening since, we are now in a position to discuss. It is true that, as far as the wave of 1957 is concerned, the approach of Mars lies between the frequency peak (which was a few days from the launching of Sputnik 1) and the entrance of the Earth upon a new stage in its history. Without any possible doubt the launching of the first artificial satellites would justify a very special interest on the part of a hypothetical extra-terrestrial observer and an advancement in his technology. But there is nothing that would permit us to put forward any hypothesis on this question at this stage. And those who oppose the idea of the existence of the saucers will point out to us that the eye-witnesses may in good faith have confused the carrier-rockets of the sputniks—which were visible to the naked eye—with "unidentified objects" and that thereon the imagination of the crowd could have invented the idea of an invasion by mysterious contrivances. So let us await the next waves: we shall certainly see whether the phenomenon has changed entirely in character or whether it reverts to its initial periodicity.

Now, in order to show in the most precise manner that Mars was in correlation with the saucer phenomena from January, 1949, to July, 1957, in a way that owes nothing to chance, let us return to the numbers of sightings given in Table 1, taking only the monthly figures into our consideration.

Let us, on the other hand, consider, for the same period the distances between Mars and the Earth in astronomical units. (The reader will find, annexed, a complete table of these distances.)

Putting these figures into a diagram, and transposing the graph of the distances of Mars by two months in order to make allowance for Table 2, we get Figure 1. The correlations of the two phenomena then becomes clear, and calculations will confirm this impression.

4. Mathematical evaluation of the correlation

Let us include in one and the same table the monthly number of sightings in the period under

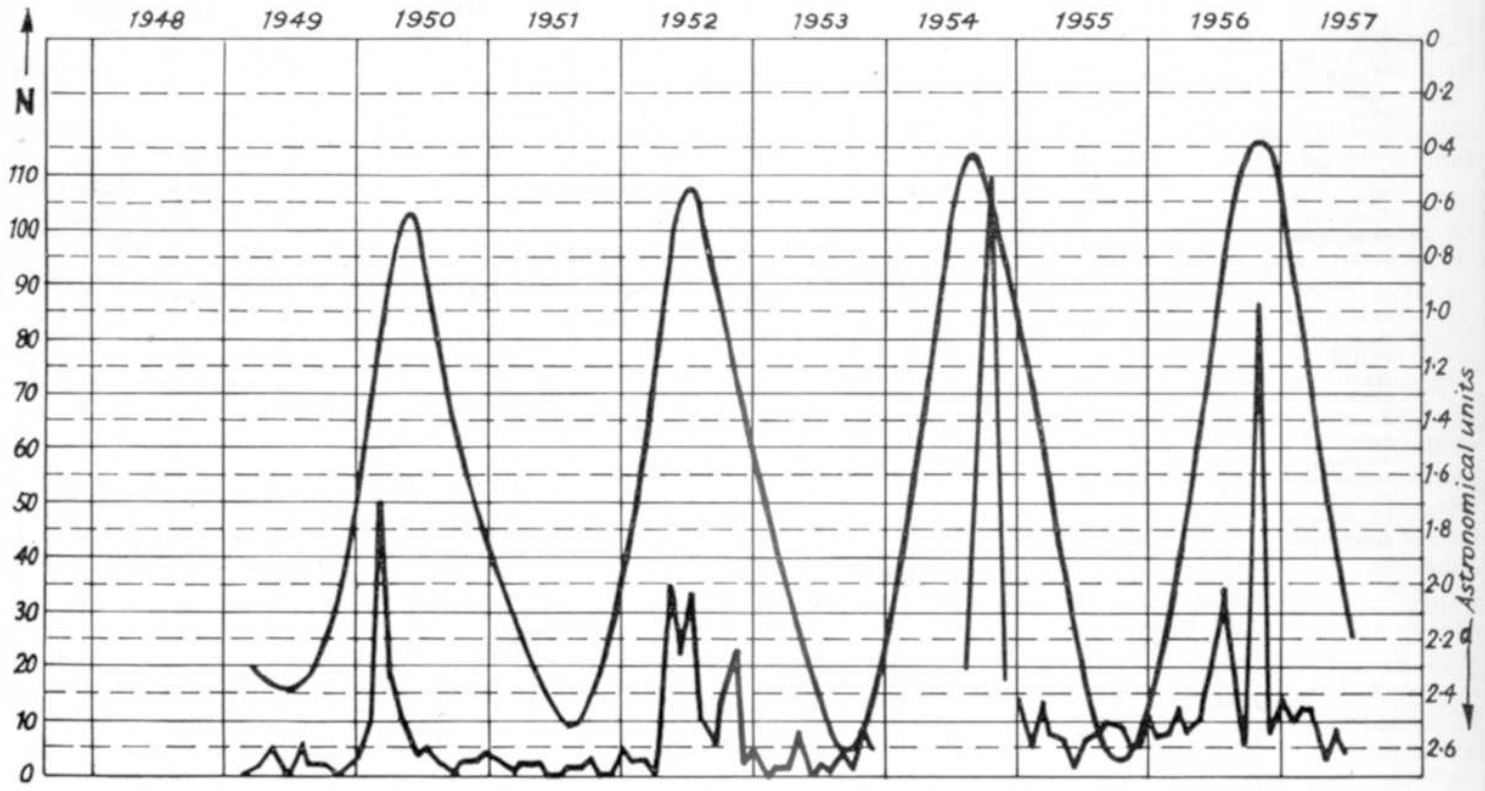

Fig. 1.

consideration, taking the figures from Table No. 1, and the distances between Mars and the Earth, allowing for the two-months' transposition as seen above, which gives the best representation of the translation of the two curves. This permits us to draw up Table 3.

(Let us remember that 1 astronomical unit = the mean radius of the earth's orbit = mean distance of Earth-Sun.)

In order to study the correlation between the numbers in the two columns, the numbers of sightings, N, have been divided into 24 groups according to the values of the distance, d, by tenths. Drawing up the list on the basis of the distances, we get this distribution:

Row d	Group d	Mean $\bar{N}$
1	0.4	90
2	0.5	13
3	0.6	54
4	0.7	11
5	0.8	35
6	0.9	14
7	1.0	35
8	1.1	9
9	1.2	6
10	1.3	13
11	1.4	9
12	1.5	4
13	1.6	13
14	1.7	3
15	1.8	4
16	1.9	1
17	2.0	4
18	2.1	3
19	2.2	2.5
20	2.3	2.4
21	2.4	2.3
22	2.5	5
23	2.6	3.5
24	2.7	5

From this table we get a double grouping, according to the distances, and according to the mean numbers of sightings $\bar{N}$. The differences, δ, between the rows are calculated as well as the square, δ^2, of these differences.

d	$\bar{N}$	Row d	Row $\bar{N}$	δ	δ^2
0.4	90	1	24	23	529
0.5	13	2	18	16	256
0.6	54	3	23	20	400
0.7	11	4	16	12	144
0.8	35	5	21.5	16.5	272.25
0.9	14	6	20	14	196
1.0	35	7	21.5	14.5	210.25
1.1	9	8	14.5	6.5	42.25
1.2	6	9	13	4	16
1.3	13	10	18	8	64
1.4	9	11	14.5	3.5	12.25
1.5	4	12	9	− 3	9
1.6	13	13	18	5	25
1.7	3	14	5.5	− 8.5	72.25
1.8	4	15	9	− 6	36
1.9	1	16	1	−15	225
2.0	4	17	9	− 8	64
2.1	3	18	5.5	−12.5	156.25
2.2	2.5	19	4	−15	225
2.3	2.4	20	3	−17	289
2.4	2.3	21	2	−19	361
2.5	5.0	22	11.5	−10.5	110.25
2.6	3.5	23	7	−16	256
2.7	5.0	24	11.5	−12.5	156.25

$\Sigma\delta^2 = 4127$

The Spearman coefficient of correlation (coefficient of correlation on rows) is then given by the formula:

$$\delta = 1 - \frac{6\,\Sigma\,\delta^2}{n\,(n^2-1)} \qquad \text{where } n = 24$$

which formula gives here $\delta = -\cdot 79$, significant figure to ·001. (This figure is negative because the greater the distance Earth—Mars, the smaller is mean number of sightings).

This result proves mathematically that there is a significant correlative variation between the mean number of sightings and the closeness or distance of the planet Mars. In particular, one can assert that the probability that the super-position of the two, as established in Figure 1, could be effected by chance is of the order of one in a thousand.

5. Conclusion

In any research involving the methods of statistical calculus, the passage from mathematical correlation to physical correlation is a ticklish point: indeed, the calculation can mask certain phenomena or be falsified by certain physical circumstances. In par-

TABLE 3

	1949	1950	1951	1952	1953	1954	1955	1956	1957
January	N d	3 1.65	3 1.92	5 2.00	4 1.60	—	13 1.08	12 2.45	14 0.66
February	,, ,,	8 1.37	2 2.00	2 1.70	0 1.72	—	5 1.30	6 2.22	9 0.88
March	0 2.32	49 1.10	1 2.12	2 1.40	1 1.85	—	13 1.52	7 2.00	11 1.17
April	1 2.35	16 0.84	2 2.24	1 1.10	1 2.03	—	6 1.75	12 1.73	11 1.43
May	4 2.38	7 0.67	2 2.34	35 0.83	7 2.20	—	5 1.99	7 1.47	2 1.73
June	2 2.40	3 0.68	0 2.43	22 0.62	0 2.35	—	2 2.20	10 1.20	8 1.98
July	0 2.41	5 0.83	0 2.50	34 0.56	2 2.48	—	6 2.39	20 0.96	3 2.22
August	5 2.39	3 1.09	1 2.54	10 0.67	1 2.59	—	7 2.55	35 0.71	—
September	1 2.33	1 1.30	1 2.53	6 0.83	3 2.63	45 0.45	9 2.64	17 0.53	—
October	1 2.23	0 1.48	3 2.47	17 1.00	1 2.62	110 0.55	8 2.67	4 0.41	—
November	0 2.10	1 1.65	0 2.35	24 1.25	8 2.54	—	6 2.64	90 0.38	—
December	1 1.90	1 1.80	0 2.20	2 1.42	4 2.41	—	6 2.55	6 0.48	—

ticular, in the case which we are now concerned, numerous factors can have intervened, all of which it behoves us to analyse in detail.

The first of these is undoubtedly the geographical factor. It is certain that the thousand eye-witness' accounts recorded in the catalogue on which this enquiry is based are for the most part of European or American (North and South) origin. Does this mean that whole continents such as Africa or Asia have not been touched by the phenomena? A second factor enters equally, namely the density of population. It seems normal that a very dense region like France should yield a large number of reports and an African country yield few.

These considerations lead us to think that the influence of a certain number of false phenomena or of a certain number of omissions must be examined. But it is relatively easy to show that chance could not have made precisely the intermediate peaks of the curve disappear so as only to leave the maxima in relation with the oppositions of Mars. If chance is responsible for a certain lack of precision in the data, this lack of precision must be constant throughout the distribution which we have examined and clearly could not modify in any perceptible manner the general trend of the curve.

On the other hand, there is a risk of exaggerating the importance of the geographical factor and the factor of density of population. Waves that have taken part in distant and sparsely populated regions of the Earth, even deserted regions, have come to our knowledge (New Guinea, New Zealand, Brazil), and one may even note that the testimonies of eye-witnesses are denser in a region like the Argentine "pampa" or in Patagonia—both quasi-deserted—than in the urban region of the Argentine Republic. The countryman looks up at the sky more than the city dweller. He is also more credulous in general, but more closely linked to nature and therefore more observant. This is why, if the *intensity* of the peak maxima is certainly in relationship to these two factors, their actual *position* in time seems to us, on the contrary, to be objective and independent of secondary considerations, to the very extent that these peak maxima are caused by the accumulation, over a brief interval of time, of numerous sightings coming from all points of the globe.

It is for this reason that we have found it interesting to have been able to put forward the evidence for a peak of vast amplitude in 1956 whereas no wave had been reported at the time in any country in the world. It was only in the course of the work of collecting the sightings and analysing their frequency that we are able to discover the phenomenon.

Once the fact is admitted that there is a correlation of not only a mathematical but also a physical nature between the two phenomena, how shall it be interpreted? Does the correlation permit of our making a definitive choice as between the two

(*Continued at foot of page* 11)

Complete Table of Distances from Mars to Earth, in Astronomical Units, for period January, 1949, to December, 1957

			1949	1950	1951	1952	1953	1954	1955	1956	1957
January	1	...	2,305	1,216	2,093	1,545	1,796	1,835	1,432	2,089	1,057
	13	...	2,321	1,100	2,137	1,424	1,866	1,721	1,525	1,992	1,167
	25	...	2,336	0,988	2,179	1,301	1,936	1,604	1,620	1,890	1,279
February	6	...	2,349	0,883	2,221	1,179	2,005	1,485	1,714	1,786	1,392
	18	...	2,361	0,791	2,262	1,059	2,074	1.365	1,808	1,679	1,505
March	2	...	2,372	0,718	2,302	0,943	2,142	1,245	1,901	1,572	1,617
	14	...	2,382	0,669	2,341	0,835	2,208	1,127	1,992	1,466	1,727
	26	...	2,391	0,650	2,378	0,739	2,272	1,012	2,080	1,360	1,834
April	7	...	2,398	0,662	2,412	0,658	2,332	0,901	2,164	1,256	1,937
	19	...	2,404	0,701	2,444	0,599	2,389	0,796	2,244	1,155	2,036
May	1	...	2,406	0,761	2,472	0,565	2,441	0,700	2,319	1,058	2,130
	13	...	2,407	0,834	2,496	0,559	2,488	0,613	2,389	0,964	2,217
	25	...	2,403	0,916	2,515	0,579	2,530	0,539	2,452	0,874	2,298
June	6	...	2,396	1,002	2,530	0,619	2,565	0,482	2,508	0,789	2,372
	18	...	2,384	1,089	2,538	0,674	2,594	0,444	2,556	0,709	2,438
	30	...	2,366	1,174	2,540	0,737	2,615	0,428	2,597	0,634	2,496
July	12	...	2,343	1,257	2,535	0,806	2,629	0,435	2,630	0,566	2,546
	24	...	2,314	1,338	2,522	0,876	2,634	0,460	2,654	0,504	2,588
August	5	...	2,277	1,414	2,502	0,947	2,630	0,500	2,669	0,452	2,620
	17	...	2,234	1,486	2,473	1,018	2,618	0,550	2,675	0,411	2,643
	29	...	2,183	1,555	2,436	1,088	2,596	0,608	2,671	0,385	2,656
September	10	...	2,123	1,619	2,389	1,156	2,565	0,672	2,658	0,378	2,651
	22	...	2,056	1,680	2,334	1,224	2,525	0,739	2,635	0,392	2,656
October	4	...	1,981	1,737	2,270	1,291	2,474	0,810	2,602	0,425	2,641
	16	...	1,897	1,791	2,197	1,357	2,415	0,884	2,560	0,477	2,618
	28	...	1,806	1,843	2,115	1,424	2,346	0,962	2,508	0,542	2,585
November	9	...	1,708	1,892	2,024	1,490	2,268	1,043	2,448	0,619	2,544
	21	...	1,604	1,940	1,926	1,557	2,182	1,126	2,379	0,705	2,495
December	3	...	1,494	1,986	1,821	1,624	2,089	1,213	2,302	0,799	2,439
	15	...	1,380	2,031	1,710	1,692	1,988	1,302	2,219	0,899	2,376
	27	...	1,264	2,075	1,594	1,761	1,881	1,393	2,128	1,004	2,307

(Dates given to nearest day).