



# SHAKING STARS



## The Remarkable Guernsey Meteor and Earthquake of 1843

by *Geoff Falla*

**M**eteors or 'shooting stars' are not that uncommon, and most of us must have seen these at some time or another. Those of us who are interested in astronomy, and look at the night sky more often, will have seen meteors quite frequently. Usually seen as just a brief streak of light, lasting perhaps for a second or so, a meteor can be missed if we happen to be looking in just a slightly different direction at the time. Some meteors are much more spectacular, very bright and leaving a luminous trail in the sky, fading away after a short time. Even these occasional, much brighter meteors are not expected to be in view for more than perhaps five or ten seconds at most.

Meteors are not usually thought of as being related to earthquakes in any way. After all, meteors are a phenomenon of the sky, with only some of the larger ones continuing down to the ground as meteorites. Earthquakes are a result of movements in the Earth's crust, mostly happening near ocean margins and in areas of geological fault lines.

Earthquakes or earth tremors of any intensity are fortunately rare in the Channel Islands, but they do happen very occasionally. The most significant event of this kind was recorded in Guernsey in 1843, and was preceded by what was thought to be a large and very slow moving meteor. However, all meteors travel at great speed as they burn away in the atmosphere. There is occasionally a report of a large 'fireball' type of meteor which remains visible for longer than normal, because of its size and the time taken to burn away, but meteors of any kind are certainly not known for slow progress across the sky.

The luminous object seen over Guernsey in December 1843 was something really exceptional. A book on the islands and local history by D.T. Ansted, *The Channel Islands*, describes the object as a very remarkable meteor. The *Guernsey Star* newspaper, in a report published on December 25, 1843, describes the appearance as a round luminous object "like a clouded Moon." It was seen at 7 p.m. on Wednesday, December 20, and continued to be visible for an extraordinary length of time ten to fifteen minutes. No tail was mentioned behind the moving object, which would be more normal in the case of any large, swiftly moving meteor. The major subject of this *Guernsey Star* report was that, two days after this remarkable object was seen in the sky, the island was shaken by an earthquake, at just after 3.50 p.m. on Friday, December 22. Buildings were reported to have swayed, and there was a considerable amount of minor damage. Many people rushed out of doors for safety. The earthquake was noted as being of very considerable violence, and the movement was such that the Town Church bell struck twice. A loud rumbling

or undulating noise was heard in every part of the island at the same time, and there was a second tremor about an hour later.

It was also mentioned in this report that the sky had an unusual appearance at the actual time of the earthquake. It had been a fine, bright day until around 3 p.m. but the clouds were then noted as being tinted with particular colors of pale green, red, and purple. These strange luminous effects also suggest that the earlier luminous object in the sky was probably not a meteor, since it was far too slow in its movement. It seems more likely that these appearances were, indeed, directly associated with the earthquake activity, as other reports also seem to confirm.

#### LUMINOUS PHENOMENA AND EARTHQUAKES.

The British Isles do not suffer from earthquakes to the same extent as in many other countries, but the most destructive one to be recorded in Britain was centered near Colchester in Essex, on April 22, 1884. The earthquake, at 9.18 a.m., only lasted five or ten seconds, but was felt strongly over a wide area including London, and damaged over a thousand houses in the Colchester area and on Mersea Island. Here, as in Guernsey about forty years earlier, an unusual luminous effect was seen, as it was noted that there was a red appearance in the sky over Colchester at the time of the earthquake. Something similar to the round luminous object or 'clouded Moon' as described moving over Guernsey in 1843, has also been seen elsewhere on other occasions, also at the time of earthquakes.

One of the earliest of these reports was in the 18th century. On June 7, 1779, the day of an earthquake at Boulogne, on the Channel coast of France, it was reported that a large number of luminous globes also filled the air. Another example was when there were earth tremors at Bucharest in Romania, on December 27, 1793, at 7.30 p.m. In a description of this event, it was noted that "the ground

trembled three times, and on the following evening at the same time the Moon performed a miracle, as it transited through the sky for half an hour.”

These reports seem very relevant to what was seen over Guernsey, shortly before the earthquake of 1843. A catalogue of earthquakes felt in the Channel Islands was compiled by A.E. Mourant, of Jersey, and was published by La Societe Guernesiaise in the *Transactions* in 1930. A supplement was also produced, and published in 1937. This describes the Guernsey event of December 22, 1843, and its effects in some detail, noting that it was by far the most intense of those recorded with a centre in or near Guernsey, and the only one to be felt beyond Guernsey and Sark. It was also reported from St Malo, the Normandy coast, and as far away as Brixham in Devon. This description of the Guernsey earthquake did not mention the round luminous object seen moving across the sky on the evening of December 20, or the strange color effects noted in the sky at the time of the earthquake on the afternoon of December 22, as recorded in the *Guernsey Star* report. Perhaps this was because, even if known, the author of the catalogue did not draw any connection between the luminous appearances and the earthquake itself.



Two reports from Italy in 1887 both described unexplained red glows in the sky at the time of earthquakes, similar to what was reported from Colchester just three years earlier. At 6 a.m. on February 23, 1887, an earthquake was felt in the city of Genoa, with a red glow of light in the sky. At other places along the nearby Riviera the earthquake was noted as being more severe, with a fiery appearance in the sky also described. On December 3, another earthquake destroyed almost a thousand houses at Roggiano, and there were descriptions again of fiery appearances in the sky at the time. These luminous appearances were put down by scientists to being just a coincidence, also concluding that glows in the sky could have nothing to do with geological disturbances.

At Worcester in England on December 17, 1896, an earthquake with several shocks at 5.30 a.m. was described as being accompanied by “a strange meteoric light.” An extraordinary meteor, at the time of the largest shock, traversed a large part of the disturbed area, completely lighting up the ground. This was the second most significant British earthquake of the 19th century, only exceeded in intensity by the 1884 Colchester earthquake.

On August 16, 1906, Valparaiso in Chile had an earthquake which was accompanied by “a terrible darkness,” and a flaming glow in the sky as if the whole sky was on fire. However, a seismologist who examined more than a hundred reports of lights seen in the sky at the time stated that people had perhaps seen lights from the city’s tramcars, or searchlights from warships. As in many kinds of unexplained phenomena, scientists have in the past often dismissed such reports without further investigation, mainly because no acceptable physical mechanisms have been available to explain the observations.

On the same night as a severe earthquake in Mexico in 1907, the captains of several ocean ships in the tropics reported seeing strong glows in the sky, and described as resembling the auroral displays of northern latitudes. These glowing effects were not, however, reported from anywhere further north. The occurrence of

glowing effects in the sky, as well as luminous objects appearing at around the same time as earthquakes has become well established, and has led more recently to these phenomena becoming known as 'earthquake lights'. These may be seen before, during, or after the earthquake activity.

One of the most substantial examples of these strange effects was when an earthquake affected the Idu Peninsula area in Japan, at 4.30 a.m. on November 26, 1930. About 1500 reports were collected relating to lights seen accompanying the earthquake. In most of the reports the sky was noted as being lit up as if by sheet lightning, but with the duration of each single flash of light being longer than ordinary lightning. Beams and columns of light were seen at different places, with descriptions also of lights like fireballs. Clouds were illuminated, and a reddish glow was seen in the sky. A most remarkable observation was reported from Hakona-Mati, near the epicentre of the earthquake, when a straight row of round lights was seen while the earthquake was at its strongest. Most observers described the color of the light during the earthquake as pale blue or white, with many descriptions also of reddish or orange colors. The lights were seen both before the earthquake and for some time afterwards, but were noted as being most conspicuous during the main part of the earthquake. More recently in Japan, many lights in the sky were also seen, and photographs taken, during a series of earthquakes in the Matsushiro area between 1965 and 1967. In England, just before an earthquake in 1957 which was centered on the Charnwood Forest area of Leicestershire, people in several counties not far away reported seeing lines of "tadpole shaped" lights in the sky.

On April 26, 1966, a scientist in the Soviet city of Tashkent reported being awakened soon after 5 a.m. by a brilliant light. At the same time, an engineer who was walking along one of the city streets heard a loud rumbling sound followed by a bright flash of light. Moments later there was a major earthquake which destroyed

a great many homes. When residents went out into the streets, they described seeing strange glowing spheres floating through the air, "like lighted balloons." Round luminous objects, described as being like a clouded moon moving across the sky – as seen before the Guernsey earthquake of 1843, luminous globes seen at Boulogne in 1779, and Bucharest in 1793, or the spheres like lighted balloons as at Tashkent – seem to be all very similar descriptions of the same kind of phenomenon.

As already noted in these and other examples, various glowing effects and meteor-like objects are sometimes reported as accompanying the arrival of an earthquake. How these phenomena are produced is not yet properly understood. It is thought that the effects are associated with varying levels of electrical activity in the Earth's crust, and in particular regions. One of the most remarkable events was reported from Veracruz, Mexico on March 27, 1968, when at just after 2 a.m. a strange 'meteor' was followed by earth tremors. The event was first seen from a ship in the Gulf of Mexico, the crew describing two or three objects in the center of a bright ball of fire. The crew of a Mexican warship also reported seeing a flaming object, and the crews of both ships described the waters of the Gulf as being churned into fountains of spray after the object had passed by. In Veracruz, on the western shore of the Gulf of Mexico, a deafening rumbling noise accompanied a brightening of the sky. It then became as bright as day as the 'meteor' was seen by the alarmed residents, who were awakened and went out into the streets. The object in the sky seemed to dip towards the ground, then rose again and moved away. The Head of the Mexican Department of Meteorology at Veracruz collected all of the reports, and conducted a careful investigation. His official summary concluded that the object was probably not a meteorite, because it had a curved trajectory, and did not fall to Earth. It seemed to have descended before going upwards again, and it was uncertain what the object actually was.

## FATIMA, PORTUGAL – THE GUERNSEY CONNECTION

The Fatima area is located about 80 miles north of the Portuguese capital, Lisbon, and was the scene of unprecedented events seen by many thousands of people in 1917. Between May and October of that year, there were monthly apparitions of a luminous figure, with other unexplained phenomena. The events were accompanied by color changes in the sky, reflected on to the surroundings, and with earth tremors also noted. The final happening – ‘The Miracle of the Sun’ – was on October 13, when at around midday, rain clouds cleared to reveal a well defined silvery object in the sky. As described by one of those present:

We saw a silver veil, round in shape, as if it was the Full Moon. Shortly it turned vivid purple, then to red, then to emerald green, and finally back to its original colour.

The object, which was evidently not the Sun itself, moved around in the sky for ten minutes or more, then began spinning before it descended towards the ground, producing great heat before returning upwards again. The events on this day were seen by more than 50,000 people at Fatima, and seen also from several towns and villages up to a distance of more than ten miles away. Although the extent of what was seen at Fatima was clearly of more importance than that experienced in Guernsey, in 1843, much of the description of the main event in Portugal on October 13, 1917, seems to be very similar in both cases: a round luminous object “like a clouded moon” seen moving in the sky for ten or fifteen minutes over Guernsey, and a “silver veil, round in shape as if it was a Full Moon” in the case of Fatima, where it was also noted that the object was seen moving in the sky for ten minutes or more. Earthquakes in the form of sharp earth tremors at around the same time were also reported in both cases. The colours noted in the sky – green, red, and purple – were

also the same in these descriptions in Guernsey and at Fatima, many years later.

Europe’s worst earthquake disaster was experienced in Lisbon in 1755, when a series of three major earthquakes destroyed the city. The largest of these earthquakes was reported as being a huge 9.0 in magnitude, and numerous ‘meteorites’ were also noted as accompanying the earthquake on October 15 that year. Fatima, where the extraordinary events of 1917 were witnessed by many thousands of people, is located in a geologically active area, and the major earthquake of 1755 also passed through this same region. The whole Fatima event was adopted by the Catholic Church as a supernatural, religious miracle, but the documents including detailed eyewitness descriptions of what was seen were kept secret, hidden from the public for many years. It was not until 1978, more than 60 years after the events of 1917, that access to the documents was granted to two Portuguese historians for the first time. Examination of these documents revealed the full extent of what was experienced, including the luminous apparitions, unexplained objects and other phenomena seen in the sky on several occasions, the strange color effects, and the major event: the ‘Miracle of the Sun’. The mention of earth tremors noted at Fatima in association with unexplained appearances in the sky, and the similar description of events in Guernsey, in December 1843, clearly suggests some link. Further scientific investigation of such incidents and unknown manifestations is needed, so that the cause and true nature of these events can perhaps become more fully understood.

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