

## COMET HALLEY IN 1910, AS VIEWED FROM A MALTESE PERSPECTIVE

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**Abstract:** Comet Halley's return in 1910 was keenly anticipated globally by scientists and the lay public alike. Although cometary science had progressed rapidly during the last quarter of the nineteenth century, superstition remained significant in different parts of the world and there were fears that people would die if the prediction that the Earth would pass through the comet's tail were correct.

Malta was a small British island colony in the Mediterranean, and the inhabitants there were no exception. Local newspapers reported concerns from their readers and from foreign sources, but they also included reassuring scientific information about comets. Under the patronage of the colonial government a local amateur astronomer named Francis Reynolds reassured the public through lectures that he delivered. Overall the local population appeared to have been calm about the impending return. The first recorded sighting from Malta was on 24 April 1910 and the first naked eye sighting occurred the following day. Accounts were published in the local newspapers and in private correspondence, suggesting a high level of public interest in this object. No photographs of the comet from Malta have been traced, but the aforementioned Mr Reynolds and a well-known Maltese artist, G. Cali, did make a number of paintings. On the night when the Earth was due to pass through the comet's tail many local people congregated around the bastions of the city under an overcast sky in the early hours of the morning, but no untoward events were experienced.

**Keywords:** Comet Halley, Malta, newspaper accounts of comets, paintings of comets, superstition and comets

### 1 INTRODUCTION

To the public, Comet Halley<sup>1</sup> is undoubtedly the best-known of all comets, and Stephenson and Yau (1985) have traced records of its apparitions back possibly to 240 BC. Depending upon the circumstances of each apparition, the appearance of the comet may be particularly impressive or of mediocre interest (see Hughes, 1985). After the spectacle created in 1835, the return of the comet in 1910 was expected to be an even more favourable event:

What made the earth's encounter with Halley's Comet in 1910 so interesting and unusual was that our planet was positioned in such a manner that the comet passed precisely between the earth and the sun. At that time earth was closer to the comet but as the two swept by one another travelling in opposite directions, the comet passed directly in front of the sun ... In addition, cyanogen, a poisonous gas, was discovered in its coma by spectroscopy. Needless to say, the prospect of cyanogen poisoning the earth, when the tail brushed the planet, caused consternation among nonscientists. Despite assurances that the comet posed no threat, numerous stories worldwide testify to the public's panic. (Olson and Pasachoff, 1998: 312).

The occupants of the islands of Malta<sup>2</sup> in the Mediterranean Sea were no exception, and this paper presents an account of the 1910 return of Comet Halley as experienced in Malta, based primarily upon contemporary newspaper reports.

### 2 MALTESE REPORTS OF COMET HALLEY IN 1910

At this time Malta featured English, Italian and Maltese language newspapers, each representing different political allegiances and aspirations. Between them, from the early spring of 1910 these newspapers covered the return of the comet in considerable detail. The local reporters certainly were familiar with the latest scientific knowledge regarding comets, and they had access to up-to-date information about the impending return of the comet. They also were aware of the fear with which some local people viewed comets.

As a result, a succession of articles appeared in the English-language newspapers *The Malta Herald* (1910a; 1910c; 1910e; 1910f and 1910h) and *The Daily Malta Chronicle* (1910c; 1910f; 1910i; 1910j and 1910n) explaining the true nature of comets, the specific dynamics of this return and the scientific observations being undertaken worldwide. There were also concerted attempts to reassure the readers that no harm would befall them. Similar articles appeared in the Maltese-language newspapers *In Nahla ta' A. Levanzin* (1910a; 1910b and 1910c) and *Malta Taghna* (1910b). The Italian-language press followed suit (e.g. see *Malta*, 1910b).

It is clear that there were individuals in Malta who were very familiar with the nature of comets. One of these was Francis J. Reynolds, Inspector of Elementary Schools, who on Saturday 16 April 1910 lectured to a capacity audience in the University Hall in Valletta (the capital of Malta). The lecture was advertised in the local newspapers, and interested persons were urged to collect their free tickets from the Office of Public Instruction (*The Daily ...*, 1910a). The audience was described as intelligent, select and eager, and the lecture was introduced and concluded by the Honorable Professor Magro, Director of Public Instruction. Reynolds described the nature of comets as known at the time, and specifically traced the history of Comet Halley. He sought to reassure his audience that no harm would befall human beings even though the Earth was expected to pass through the tail of the comet. Reynolds was commended in the local press for presenting a potentially technical and tedious subject in a simple way which everyone could understand, as well as for the illustrations that he screened using an electric lantern. However, the correspondent bemoaned the fact that a bigger audience could not be accommodated (*The Malta Herald*, 1910b). Reynolds eventually repeated the lecture at the same venue on 19 April 1910 (*The Daily ...*, 1910a), and it was suggested that he should publish his lecture and that A.M. Galea (no relation to the author), who was in the audience, could translate it into Maltese in order to

make it available to a larger percentage of the local population (*The Malta Herald*, 1910b).

The timing of Reynolds' lectures was significant, for a few days later reports began reaching the local press of the impact the impending return of the comet was having upon populations around the world. Although cometary science had made remarkable progress during the second half of the nineteenth century (Guillemin, 1877) and especially since the advent of astronomical spectroscopy and photography (e.g. see Clerke, 1893: 109-133; 392-449), superstition and fear associated with the return of the comet abounded. The fact that the Earth was due to pass through the comet's tail on 19 May did not help any, for spectroscopic studies had revealed the presence of cyanogen, which when combined in a salt produces cyanide, a deadly substance even in small quantities. But as Sagan and Druyan (1985: 123) point out, it was not absolutely certain that the Earth would in fact pass through the comet's tail, and even if it did cometary tails were very tenuous objects and cyanogen was only a minor chemical component. Meanwhile, the local newspapers did their best to allay community fears.<sup>3</sup>

Nonetheless, reports soon surfaced of widespread concern for the welfare of the Earth's population. In Austria-Hungary, the comet was a source of great terror, and many peasants prepared to sell their property and indulge in one final wild act of debauchery. The government endeavoured to calm the population by means of priests and teachers (*The Daily ...*, 1910b). A similar state of affairs was reported in France (*ibid.*). In Croatia, some sold off their possessions to pay for a final earthly indulgence (*Malta Taghna*, 1910a). In the American West, itinerant patent medicine vendors were selling comet pills to ward off its evil influence and cashing in on the gullible public (see Brown, 1985: 126). Reports from China suggested a population in fear of their lives (*The Daily ...*, 1910d). Sustained national panic lasted weeks in Japan and Russia, residents of Chicago stuffed rugs under their doors, and Pope Pius X denounced the hoarding of oxygen cylinders in Rome. In Kentucky, people held all-night vigils in preparation of their impending demise. Some people took their own lives (see Sagan and Druyan, 1985: 123). In Nikolsk (Russia), the inhabitants fasted and prayed, and the day before the expected passage of the Earth through the comet's tail they solemnly took baths, donned clean linen and sat down beneath the icons in the corners of their rooms to await the end (*The Malta Herald*, 1910j).

In the British Empire, matters were not helped when King Edward VII suddenly passed away in London on 6 May 1910 (see Brown, 1985: 126). It was clear to the observant that not only did Comet Halley return but for the first time in many years Good Friday fell on Lady Day in 1910, therefore fulfilling the ancient saying "If Our Lord falls on our Lady's lap England shall have a great mishap." (*The Malta Herald*, 1910g).

Needless to say, there was certainly a measure of unease among the Maltese population regarding the impending approach of the comet. On 28 April 'E.N.P.' wrote that he felt reassured by the report of a lecture delivered by Father Cortie S.J., in England, and that by reproducing this in the local newspaper he hoped that it would also reassure others (*The Daily ...*, 1910g). The report was correct in its overall con-

clusion that passing through a comet's tail would not be harmful, but we now know that it was incorrect when it stated that it would still not have been dangerous if the Earth hit the comet's nucleus as this was a sandbank of particles—which would merely produce a meteor storm—and not a solid body. The available newspaper reports do not reflect a general state of panic amongst the Maltese population, so it would seem that Reynolds's public intervention and various reassuring reports in the press were successful.

Cycil Leach from the University's meteorological station carried out a systematic search for the comet, and was the first person in Malta to publicly report a visual sighting of it, at 3:40 am local time on 24 April 1910. In the 25 April issue of *The Daily Malta Chronicle* (1910e) he described how he swept the skies with his field glasses and found the comet 20° to the left of and 5° below Venus. It became clearer between 4.00am and 4.20am, and its tail was broad and twice as long as the diameter of the Moon (i.e. 1°), with streams away and upwards to the right at an angle of forty degrees. The nucleus was discernable to the naked eye for a couple of minutes around 4.15 am. The comet grew fainter from 4.30am onwards, probably due to twilight, but could still be seen through field glasses until 4.45am. Despite these successful observations, Leach mentioned that the conditions were not ideal for cometary observing at the time. The next to sight the comet was W.B. Smith of Sliema, who claimed to have briefly seen the comet with the naked eye at 4.13am on 25 April, and pointed it out to others (*The Daily ...*, 1910f).

On 27 April, shortly after the comet reaching naked eye visibility, Reynolds travelled to Gozo, the smaller sister island to Malta, and gave his Comet Halley lecture in English at the Elementary Schools in Victoria (the capital of Gozo), presided over by the Bishop of Gozo and W.C. Milliard, the Assistant Secretary to the Government. The report in *The Malta Herald* (1910d) once again commended Reynolds for successfully presenting a subject he was clearly familiar with in a simple manner, thereby keeping his audience engaged.

Comet Halley appears to have left a considerable impression on the Maltese population. Writing at the time of the 1985 return, A. Dougall claims to have heard from several old people who remembered seeing the comet in 1910, and were full of awe at its splendour, with its "... fiery peacock-shaped tail." (*The Times ...*, 1985b). This is reflected in the following account, which was published in *The Daily Malta Chronicle* on 16 June 1910 (1910p): "Nearly every man and woman and most of the children, who are old enough to concern themselves with the things around them, have looked up for many nights ...", some in wonder and others in scientific enquiry.

A compelling local eyewitness account of the 1910 return of Comet Halley was provided by Paul Mamo (b. 1898) in a letter addressed to The Astronomical Society of Malta and written on 13 September 1985. He recalled that in 1910 he was twelve years old and remembered going with other boys and his 10-year-old brother, John, to the Upper Barracca Gardens, a popular vantage point overlooking the Grand Harbour in Valletta which afforded an almost unimpeded view of the eastern sky. Paul Mamo described seeing the com-

et in the night sky over Fort St Angelo towards the fort of Ricasoli further north. He remembered the large crowd at the Barracca, and squeezing himself through so that he always managed to get a place by the railings on the gallery overlooking the harbour. It can be inferred from this letter that Paul Mamo made such observations on several occasions, and that the atmosphere he experienced was similar each time. The comet was beautiful and brilliant, and he stated that it was impossible to find the proper words to describe it. Mamo was 87 when he wrote the letter, and he expressed the hope that he would live to see the return of Comet Halley for a second time. Although his account was written from memory seventy-five years after the grand event, I believe that it provides a reasonably accurate indication of the general atmosphere that existed among those who went out in the middle of the night to view the comet.

There are no known photographs of the comet as seen from Malta in 1910, but its return was recorded by two artists. One of these was the well-known Maltese artist, Giuseppe Cali (1846–1930), and in 1985 Brigadier A. Sammut Tagliaferro stated how Cali knew his father very well and had presented him with a painting of the comet as a memento. Tagliaferro remembers the painting as being about 36 × 13cm and was drawn against a grey background, showing at the extreme left the Lower Barrakka gardens with Ball's monument in the foreground, then to the right Fort Ricasoli, Rinella, the Bighi Hospital, etc. The picture was described as a superbly-executed night scene with the comet itself displaying its magnificent tail, heading north-east, high above the Bighi area. During the fierce German evening bombing raid on Valletta on 7 April 1942 the Tagliaferro's third floor flat at 10 South Street, Valletta, was hit and practically demolished. The family lost everything, but one wall of the building survived in isolation and Cali's picture hung inaccessibly from that wall of what would have been the sitting room, forty feet above the ground. After this, Tagliaferro never saw the picture again (*The Times* ..., 1985a).

In 1985 Dougall examined a similar painting by Cali measuring about 40 × 25cm in a private collection, which was about the same size as one bearing catalogue number 308 which was exhibited during Cali's centenary exhibition at the Palazzo De La Salle in Valletta, late in 1947. This exhibited painting was lent by a Mr E. Sammut Tagliaferro, and it is unclear whether this was the same painting referred to above or another one. After learning of this exhibition and talking with one of Cali's descendents Dougall (*ibid.*) concluded that Cali must have made quite a few replicas of the comet painting, of various sizes. Indeed, it would seem that E. Sammut Tagliaferro's picture was painted in 1912 (Bonnici-Cali, 1946: 46).

Apart from the aforementioned works, Cali is known to have donated a picture of the comet to the Royal University in 1910 (*Malta*, 1910a). A member of the Astronomical Society of Malta remembers seeing it at the meteorological observatory on the campus of the University in St Paul Street, Valetta, while studying in the late 1950s (*The Times* ..., 1985c).

Mr T. Tanti of the Astronomical Society of Malta came into possession of a photograph of a postcard showing Comet Halley's 1910 return as seen from

Malta, the original being in possession of Mr Graham Smeed of Ashford, England. The picture (Figure 1) is very similar to, if not a direct copy of Cali's painting of the comet over the Grand Harbour: the comet has the same appearance and orientation and there are the same landmarks in the background. Several stars are depicted in the night sky, some of which are shining through the comet's tail. A computer simulation (using Redshift 2) for 3.00am on 13 May 1910, the same time as the painting, indicates that some stars can be recognisable but that there is also a certain amount of artistic license as other stars are difficult to identify. The four stars creating a square shape just above the comet's head are likely to be the Great Square of Pegasus while the bright object to the lower right of the comet's head and just above the skyline corresponds to Venus (*cf. The Times* ..., 1985c).



Figure 1: Giuseppe Cali's painting of Comet Halley over the Grand Harbour, Malta on 13 May 1910.

Another depiction of the comet, this time a watercolour, was painted at 3.00am on 13 May 1910 by the amateur astronomer, Francis Reynolds. This showed the comet set against background stars, with both Venus and the comet being reflected in the sea. Reynolds later painted two other watercolours, the first on 20 May showing the comet in the early evening just after twilight. The comet's nucleus is very clear, and the tail is split into two. In the other painting the comet and tail are smaller in size, and three arrows indicate the position of the comet on 7, 8 and 10 June (see Ventura, 2002: 219).

The climax of Comet Halley's 1910 return was expected on the night of 18/19 May when the Earth was supposed to pass through the tail. Local newspapers warned of no danger, and some raised the possibility of seeing atmospheric disturbances similar to the aurora borealis or a meteor storm (e.g. see *The Daily* ..., 1910k), potentially the most impressive storm ever seen (*The Daily* ..., 1910h). However, one report mentioned the probability of a tidal wave that would also cause difficulty with respiration due to the anticipated increased atmospheric pressure (*The Daily* ..., 1910j). That night, while the streets of Paris were deserted, there was a carnival atmosphere in Milan. People in Naples, Palermo (*The Daily* ..., 1910n) and Alexandria (*The Malta Herald*, 1910i) remained out all night in an ultimately futile anticipation of observing something, while fear appeared to be the predominant reaction in the United States (*The Daily* ..., 1910m).

In Malta there was overcast weather, but in the early hours of the morning many people congregated on the bastions of Valletta in anticipation of seeing the comet, but nothing untoward was observed (*ibid.*). Later the *Malta Taghna* newspaper (1910c) expressed relief that the atmosphere had not been poisoned and that no hail of stones was experienced. However it reported that around twenty hours after the comet's passage the sky turned overcast and it started to drizzle gently and between 10.00 and 11.00pm snakes of fire (an aurora?) appeared silently in the sky! The correspondent wondered whether these natural phenomena could be related to the passing of the comet. Some people were of the same belief when a storm hit London in the early hours of that same night (see *The Daily ...*, 1910m).

### 3 CONCLUDING REMARKS

The return of Comet Halley in 1910 was well publicised in Malta, and the nature of comets, the dynamics of the return and the events surrounding the potential passage of the Earth through the comet's tail were well explained in the local English, Italian and Maltese language newspapers with a view to reassuring the public that no harm would befall them. As a result, there was no sense of panic; instead, the comet was seen as an object of wonder, and many people made a point of observing it. It was also recorded in a series of paintings, but most of these no longer survive.

### 4 NOTES

1. The correct designation for this comet is 1P/Halley, but for the purposes of this paper I will simply refer to it throughout as 'Comet Halley'. There is some controversy over the pronunciation of the name 'Halley': should it rhyme with 'valley' or with 'poorly'? Cometary expert, Professor David W. Hughes (1983) discusses this and opts for the former pronunciation.
2. Malta (longitude 14.35° E and latitude 35.50° N) is an archipelago in the centre of the Mediterranean Sea made up principally of the islands of Malta and Gozo. Malta lies south of Sicily and north of Libya and is approximately equidistant between Gibraltar in the west and Alexandria in the east. The islands passed to Great Britain in 1800 and became a strategic military and trading post in the centre of the Mediterranean due to the quality of its main harbour. The islands were administered by a British Governor, and an expatriate community resided there.
3. They should also have pointed out that the Earth had earlier passed through the tail of the Great Comet of 1861 (C/1861 J1, Tebbutt), and despite considerable public apprehension, no ill effects were experienced (see Orchiston, 1998).

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