Letters

Comet Holmes in 1892

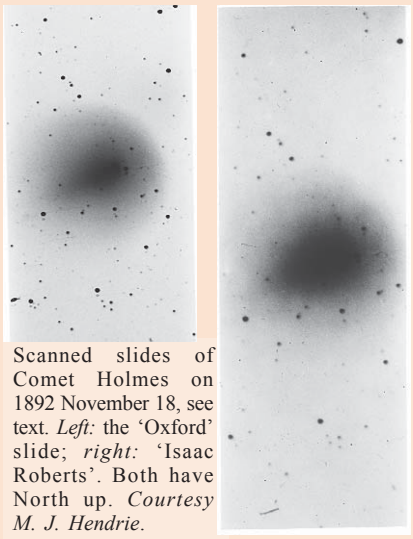
From the former Director of the Comet Section, 1977–1987

There have been many excellent images published of the recent outburst of comet 17P/Holmes. Reference has been made to the similar outburst that the comet was undergoing at the time of its discovery on 1892 November 6 and the second brightening in 1893 January. The distances from the Sun and the Earth were similar in both 1892 and 2007.

On one of my visits to Oxford when I was a newish member of the Comet Section, Dr Gerald Merton, the then Director, gave me two boxes of old 3.25-inch (82mm square) glass slides. They included a number of comet photographs from about the turn of the century, with two of Comet Holmes which I have not seen reproduced. As they bear a close resemblance to the visual view of the comet during the first half of 2007 November I thought they might be of interest. I have scanned them to give negative prints.

Both were taken on 1892 November 18, show the same stars, and both were 75 minute exposures. I was puzzled by the apparent lack of trailing of the comet or stars but investigation shows the comet's motion in the interval was only 21 arcsec in p.a. 195°. Comet Holmes was in Andromeda, not far from M31, when discovered.

The larger scale slide is marked Isaac Roberts and may have been taken with his 20-inch (508mm) f/5 reflector then at Crowborough in Sussex. The second photograph may have been taken elsewhere, possibly at Oxford as the slide is marked 'Univ Obs:Oxford.', though that may refer to the slide collection. It is also marked '×2', and *if* the slide were a two-times enlargement it would indicate a focal length of about 8 ft (2.4m) which would not fit with either the 12.2-inch (310mm) Grubb refractor at Oxford or an astrographic telescope. One must conclude the instrument and observer for this slide are unknown.



Scanned slides of Comet Holmes on 1892 November 18, see text. *Left:* the 'Oxford' slide; *right:* 'Isaac Roberts'. Both have North up. *Courtesy M. J. Hendrie.*

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Seeing objects during total eclipses

From R. F. Tindall

I refer to Sheridan Williams' article 'The total solar eclipse of 2008 August 1' in the 2007 October *Journal*.

I saw nothing in the sky apart from the eclipsed Sun in March 2006. Admittedly the view was somewhat restricted (possibly Rigel and Betelgeuse might have been visible) and there was almost certainly a layer of dust from the Sahara which scattered the light from outside the area of totality, however the only object I heard of anyone seeing at either the 1999 or 2006 eclipses was the planet Venus, which was outside my field of view.

The Beehive Cluster (mentioned in the article) is marginal on a clear moonless night. Its visibility to the naked eye would be inconceivable during a total eclipse of the Sun.

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Slides of historical subjects and portraits

From the Director of the Historical Section

If any member has standard 35mm slides of historical astronomical subjects or portraits etc. which they no longer need, I would be prepared to purchase them. If anyone has any please contact me via my e-mail address in any issue of the *Journal*.

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Global warming on Earth and Mars

From Mr John Turley

The report of the Mars Section in the October *Journal* (*J. Brit. Astron. Assoc.*, **117**(5), 2007) refers to warming of the south polar region, deduced from spacecraft imagery of fine details upon the cap over successive martian summers, but puts this down to variations in the insolation of the planet, arising from albedo changes, rather than increases in solar radiation.

I am interested to know why suggestions that changes of the Sun are responsible for global warming both on Earth and Mars, rather than manmade carbon dioxide emissions in the case of the Earth, have been dismissed by most of the scientific community.

As observers of Mars will be aware, the closest approach of Mars to the Earth in 2005, took place on October 31, with opposition occurring a few days later on November 7. These are very similar circumstances to those which occurred in 1973 October (closest approach being on October 17 and opposition on October 25), the martian season being late summer in the southern hemisphere. In 1973 October, before the onset of the great dust storm, the south polar cap, although small, was clearly visible through my telescope, and one drawing I made in particular, compared well with one made by the late Paul Doherty and printed in his excellent book, *Atlas of the Planets*. However in 2005 October, I could not make out the polar cap at all, despite using a better instrument.

Originally at the time, I put this down to poor atmospheric conditions either on Earth or Mars. However recently, I found on the internet a photograph of Mars taken in 2005 October, through the Hubble Space Telescope, which obviously gives much better resolution than I can obtain. The south polar cap was still visible, but was much smaller than in 1973, and as such would not have been visible through my telescope.

In 2005 data from NASA's *Mars Global Surveyor* and *Odyssey* missions revealed that Mars' south polar cap has been diminishing for three summers in a row, and the Russian astronomer, Habibullo Abdussamatov, head of the Pulkova Astronomical Observatory in St Petersburg, cites this as evidence that the current martian global warming is being caused by changes in the Sun. Mainstream scientific opinion has however dismissed this suggestion, and suggested that the martian heatwave is caused by changes in the Red Planet's rotation on its axis rather than solar radiation.

It would be an interesting exercise to go back over drawings of Mars produced over the last few hundred years, and see if there is any relationship between the extent of the

polar caps on Mars, and global temperatures on Earth. If there is a relationship, this would surely be strong evidence in favour of solar radiation being the main cause of global warming, rather than manmade carbon dioxide emissions. To me it does seem surprising, if as mainstream climatologists are currently suggesting, that it is pure coincidence that both Earth and Mars are experiencing global warming at the same time, due to two completely unconnected causes.

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From the Director of the Mars Section

Thank you for showing me Mr Turley's letter. The question of global warming on the Earth has become an emotive issue with strong political overtones, and I do not want to explore these aspects in the *Journal*. This note is just to comment upon the aspects of Mars discussed in the letter.

The analysis of observations of the S. polar cap must always be done with care, for the cap becomes highly asymmetric as it shrinks. Thus the comparison of just two individual observations (both made during the same southern summer season) is fraught with danger. Indeed, if the tilt of the S. pole towards Earth (D_e) is not sufficiently southwards, the summer cap may actually be invisible when viewed from the Elysium hemisphere of Mars. Mr Turley's views in 1973 October and 2005 October were not at very different L_s (which was about 292° and 298° respectively at the start of each month), but the 2005 observation was made when D_e was less southerly (–11° against –15° in 1973). Furthermore, in 2005 October a significant regional dust storm was in progress, and dust obscured the S. polar cap for some time (R. J. McKim, *J. Brit. Astron. Assoc.*, **116**(1), front cover and page 6 (2006)).

There have been several attempts in the past to correlate solar activity (expressed in terms of sunspot numbers) to the interannual variability of the polar caps of Mars. The first efforts were due to G. A. Shajn, E. M. Antoniadi and the Abbé Moreux. My personal opinion is that the quality of the data these early astronomers had to work with was inadequate for them to have reached any definite conclusion.

I do not think that any modern astronomer has made a thorough analysis of contemporary polar cap data for comparison with terrestrial temperatures or solar activity, but perhaps this is because the changing distribution of dust in the atmosphere and on the surface of Mars is nowadays thought adequately to account for the interannual variations observed in the polar caps.

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The solar eclipse of 2008 August 1

From Mr Peter Macdonald

The track of totality on 2008 August 1 crosses extreme northeastern Canada, northern Greenland, the Arctic Ocean, Novya Zemlya, Russia, the extreme northeastern tip of Kazakhstan, western Mongolia and northern China. The greatest duration (2m 27s) occurs in Siberia, near the Gulf of Obskaja. [See also *J. Brit. Astron. Assoc.*, **117**(5), 231 (2007)].

In the British Isles a partial eclipse is visible during the morning, the magnitude ranging considerably from 0.16 in Scilly to 0.49 in Shetland, the corresponding duration varying from 1h 19m to 1h 58s. The Table gives some local circumstances. The angle P is measured from the north point of the solar disk through east while the angle V is reckoned anticlockwise from the vertex.

The penumbra over the British Isles is illustrated in the Figure, from which it is possible to obtain the UT time and magnitude of greatest eclipse for any location.

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Solar eclipse of 2008 August 1: Local circumstances in the British Isles

	Begins			Middle		Ends		
	UT	P	V	UT	Mag	UT	P	V
	h m	°	°	h m		h m	°	°
Edinburgh	8 25	332	7	9 17	0.35	10 11	71	96
Greenwich	8 33	343	22	9 18	0.22	10 05	62	90
Liverpool	8.27	338	15	9 15	0.27	10 05	66	94
Plymouth	8 32	346	27	9 12	0.18	9 54	57	91