

(No. 60.)



1873.

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T A S M A N I A.

LEGISLATIVE COUNCIL.

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**TRANSIT OF VENUS, 1874.**

CORRESPONDENCE AS TO MAKING HOBART TOWN A POST  
OF OBSERVATION.

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Laid upon the Table by Mr. Chapman, and ordered by the Council to be printed,  
September 23, 1873.



## MEMORANDUM.

As the Governments and Scientific Bodies of Europe and America are now beginning to make the necessary preliminary arrangements for the observation of the Transit of the Planet "Venus" over the Sun's disc in 1874, the Governor's Responsible Advisers desire to bring under His Excellency's notice, for communication to the Secretary of State for the Colonies, some considerations which seem to indicate Hobart Town as an eligible and advantageous situation for the establishment of an Observatory with a special view to that interesting astronomical phenomenon.

Hobart Town was selected, under the Government of His Excellency's eminent and lamented predecessor, Sir John Franklin, as the site for a Magnetic Observatory, at which, with the sanction, if not by the directions, of the Admiralty, Magnetic Observations were continuously registered during the years from 1841 to 1854.

The precise Geographical position of the Hobart Town Observatory was ascertained by Captain Kay, R.N., then in charge of that Establishment, and defined by that officer as—

42° 52' 13.7" South Latitude.  
147° 22' 0.6" East Longitude.

This determination of the Latitude and Longitude of the Hobart Town Observatory was the result of a series of observations, extending over several years, conducted by Captain Kay, R.N., with the special object of supplying (to use his own words) "a correct knowledge of the Geographical position of the Observatory in connection with the Trigonometrical Survey then in course of operation in this Island;" and his views on this important and interesting scientific problem were communicated to the Royal Society of Tasmania, in a Paper read before and printed in the Transactions of that Body, (Vol. II. Part II., January 1852). A copy of that Paper is appended to this Memorandum, and its perusal will fully justify the conclusion arrived at in 1861 by Lieutenant Brooker, R.N., and Mr. Francis Abbott, F.R.A.S., and communicated by the late Sir H. E. F. Young, then Governor of Tasmania, to the Lords of the Admiralty and the Astronomer Royal; namely—"that Captain Kay's communication to the Royal Society of Tasmania in 1852 of the Geographical position of the Magnetic Observatory, Hobart Town, gives such an elaborate detail of the means adopted for ascertaining its Latitude and Longitude, that, with verification by chronometric measurements and (what may be possibly thought) accidental accordance from the measurements obtained between the Cape of Good Hope and Hobart Town, it may be fairly and reasonably assumed that the Longitude of the Observatory is (if not correctly known) but very little in error,—less than half a mile: for, in his tabulated record of the numerous observations by eclipses of the sun, by Jupiter's satellites, by moon culminating stars, and by chronometric measurements extending over a period of several years, by several Observers, the extreme range of difference amounted to only 3½ miles. However, by the means of eight general results, it is reduced to less than half a mile of the probable truth." (*Royal Society of Tasmania, Papers and Proceedings, January, 1864*).

Probably the Geographical position of Captain Kay's Observatory is more correctly determined than that of any point in the Continental Colonies, with the single exception, perhaps, of the Paramatta Observatory in New South Wales; and, as the Transit will certainly be officially observed at that Station and in Melbourne, an opportunity would be afforded for verifying the Longitude of both these Observatories by bringing them into direct telegraphic communication with the Hobart Town Station by means of the Bass' Straits Submarine Magnetic Cable.

There are other reasons, besides the precise definition of the Longitude of the Hobart Town Observatory, which point to Tasmania as a desirable position for observing the approaching Transit of Venus. The position of Hobart Town so much further to the South of the Line than any portion of Continental Australia, must recommend it to Geographical and Astronomical authorities as a specially eligible spot for the object contemplated in the Memorandum.

Again, the atmospheric conditions essential to the satisfactory conduct of important astronomical observations are likely to be more favourable in Hobart Town than at any other point that could be named in the Australian group.

Mr. Breen, the Assistant Astronomer to the Royal Observatory, has published an illustration of the illuminated portions of the earth's surface during the approaching Transit of Venus over the Sun's disc, which exhibits Tasmania as illuminated throughout the whole period of the Transit from ingress to egress. The conjunction has been calculated as visible in Hobart Town at 1h. 57m. 54s. P.M. on the 9th December, 1874. This date indicates the hottest period of the summer in the continent of Australia, and the vapour generated by the extreme heat is likely to diminish in Melbourne and Sydney the perspicuous clearness of the atmosphere in a far greater degree than is observable from similar causes at the same season in the more temperate climate of Hobart Town.

The general brightness and clearness of the atmosphere of Tasmania, as compared with that of continental Australia, arising from a less extensive evaporation, may be taken as an established fact.

In support of this theory reference may be made to the valuable publication by the Royal Society of Tasmania, "Results of Twenty-five Years' Meteorological Observations for Hobart Town," by Mr. Francis Abbott, F.R.A.S., whose devotion to the cause of science has induced him to maintain for many years past, unaided by any contributions from the state or public bodies, a private observatory at which astronomical and meteorological phenomena are continuously noted with indefatigable accuracy, and communicated to the world with disinterested liberality.

Mr. Abbott's observations, of which the accuracy is as indisputable as their prosecution is praiseworthy, suffice to demonstrate the climatic and atmospheric superiority of Tasmania generally, and in a special degree of Hobart Town, and the consequent peculiar advantages enjoyed by this city for the conduct of the astronomical observations suggested by the approaching Transit of Venus.

The extent of cloud for the month of December in Hobart Town, as ascertained from Meteorological Observations extending over nearly Thirty years, is exceedingly small; and this fact suggests a very strong probability that an unclouded sky may be calculated upon for the object desired on the date indicated above.

A copy of Mr. Abbott's "Results" above referred to is transmitted with this Memorandum.

Tasmania was favourably mentioned by the Astronomer Royal in a paper read before the Royal Astronomical Society on the 8th April, 1857, as a locality that might be profitably selected for the observation of the approaching Transit; and the Governor's advisers are anxious that the Secretary of State should be made aware that, in the event of any European Government or scientific body wishing to observe that phenomenon in Hobart Town, the Government of Tasmania is prepared to afford all the assistance in its power, and would place at their disposal the buildings formerly occupied by Captain Kay, R.N., and his assistants, and such site as may be determined upon as the most suitable position for an observatory in the Queen's Park, where a position for fixing instruments can be easily secured uninterrupted by noise or motion or other disturbing influences.

His Excellency will scarcely deem these suggestions premature, though the event to which they refer is still nearly three years distant. There is reason to believe that the Governments and scientific societies of Europe are already beginning to make arrangements for its observation.

The visit last year to this port of the Russian Imperial Corvette "Boyarin," Captain Basil de Serkoff, confirms the accuracy of this view, one of her officers, Lieutenant Elagin, being specially charged with the selection of a site in Siberia for the official observation of the approaching transit. The Governor, who has always evinced a lively interest in the advancement of the Colony, and is the President of the local Royal Society, will know how to appreciate the anxiety of his Ministers to see Tasmania associated in the way suggested with the progress of philosophical enquiry and astronomical science.

A communication through the Secretary of State to the Lords of the Admiralty and the Astronomer Royal of the considerations submitted in this Memorandum, and of the views and wishes of the Government of Tasmania, may serve to draw the attention of the scientific world to the advantages which Hobart Town enjoys—perhaps lead to its selection as a site—for the official observation of the great astronomical event of 1874.

(Signed) J. M. WILSON.

Colonial Secretary's Office, 14 June, 1871.

*His Excellency the Governor.*

(No. 26.)

*Government House, Tasmania, 15th June, 1871.*

MY LORD,

I HAVE the honor to forward to your Lordship a Memorandum addressed to me by Mr. Wilson, the Colonial Secretary and Premier of this Colony, in reference to the preliminary arrangements which the Governments and Scientific Bodies of Europe are now beginning to make for the observation of the Transit of the Planet Venus over the Sun's disc in 1874.

This Memorandum enters very elaborately into various considerations which seem to indicate Hobart Town as an eligible and advantageous situation for the establishment of an Observatory with a special view to that interesting Astronomical phenomenon. I have no hesitation in endorsing the request made by my Advisers, that your Lordships would be pleased to communicate the contents of the Memorandum to the Lords Commissioners of the Admiralty and the Astronomer Royal; and I shall be glad if the considerations therein submitted prove of sufficient value to lead to the selection of Hobart Town as a site for the official observation of an Astronomical event which the scientific world is anticipating with such profound interest.

I have, &amp;c.,

(Signed) CHARLES DU CANE.

*The Right Hon. the Earl of KIMBERLEY.*

TASMANIA.

No. 25.

*Downing-street, 12th September, 1871.*

SIR,

I HAVE to acknowledge your Despatch, No. 26, of 15th June, on the subject of the arrangements now being commenced for the observation of the Transit of Venus in 1874.

With reference to your suggestion that Hobart Town should be selected as a site for the observation of the Transit, I have to inform you that the Astronomer Royal, to whom your Despatch and its enclosures were communicated, has stated that, in his opinion, Auckland or Canterbury offers more advantages for the observation of the Transit than Hobart Town.

I have, &amp;c.,

(Signed) KIMBERLEY.

*Governor DU CANE.*

TASMANIA.

No. 26.

*Downing-street, 21st September, 1871.*

SIR,

WITH reference to your Despatch, No. 26, of 15th June, and to mine of the 12th instant, No. 25, on the subject of the proposal of your Government that Hobart Town should be selected as a Station for the observation of the Transit of Venus in 1874, I have to inform you that the Lords Commissioners of the Admiralty, to whom your Despatch was communicated, have stated that they do not consider it advisable that the Station selected in New Zealand should be changed for one in Tasmania, and that they do not feel justified in incurring the expense of another Station in addition to the five already fixed upon.

I have, &amp;c.,

(Signed) KIMBERLEY.

*Governor DU CANE.*

TASMANIA.

No. 13.

*Downing-street, 11th July, 1873.*

SIR,

I TRANSMIT to you copies of correspondence with the Foreign Office on the subject of an application from the United States Government for permission to establish Stations in Tasmania and New Zealand for the observation of the Transit of Venus.

I have received, through the Governor of Victoria, a Telegram stating that your Government consents to the proposal; and I shall be glad if your Government will also give effect to General Schenck's request that the Instruments required for the Observation may be admitted free of Duty.

I have, &amp;c.,

(Signed) KIMBERLEY.

*Governor DU CANE.*

*Mr. HAMMOND to the Under Secretary, Colonial Office.*

(Copy.)

*Foreign Office, 12th June, 1873.*

SIR,

I AM directed by Lord Granville to transmit to you a copy of a note from the United States Minister requesting that the Secretary of the United States Navy may receive permission for the establishment of Stations for observing the Transit of Venus at certain points in Her Majesty's Colonial Dominions; and I am to request that you will move the Earl of Kimberley to inform Lord Granville what answer should be returned to General Schenck's application.

I have, &c.,

(Signed) E. HAMMOND.

*The Under Secretary of State, Colonial Office.*

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*General SCHENCK to Earl GRANVILLE.*

(Copy.)

*Legation of the United States, London, 7th June, 1873.*

MY LORD,

I HAVE the honor to inform your Lordship that a letter was addressed to the Department of State at Washington on the 16th ultimo, by the Secretary of the Navy of the United States, requesting Mr. Fish to obtain from Her Majesty's Government permission for the establishment of Stations for the purpose of observing the Transit of Venus, at the following-named points:—

One at Hobart Town, Tasmania; one at the Southern part of New Zealand; and one at Auckland or Campbell's Island.

In compliance with this request, I have now the honor, under instructions from Mr. Fish, to apply to your Lordship for the desired permission; and also to ask that orders may be issued for the free admission, at the points mentioned, of the Instruments, &c. to be used by the parties making the Observations.

I have, &c.,

(Signed) ROBT. C. SCHENCK.

*The Right Honorable Earl GRANVILLE.*

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*Mr. HOLLAND to the Under Secretary, Foreign Office.*

(Copy.)

*Downing-street, 20th June, 1873.*

SIR,

I HAVE laid before the Earl of Kimberley your letter of the 12th instant, relating to the application of the United States Government for permission to establish Stations in Tasmania and New Zealand for the observation of the Transit of Venus.

I am directed to acquaint you, for the information of Earl Granville, that Telegrams have been sent to the Governments of those Colonies asking whether they consent to the proposal.

The answers will be communicated to the Foreign Office as soon as they are received.

I have, &c.,

(Signed) H. T. HOLLAND.

*The Under Secretary of State, Foreign Office.*

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*Mr. HOLLAND to the Under Secretary of State, Foreign Office.*

(Copy.)

*Downing-street, 23rd June, 1873.*

SIR,

WITH reference to the letter from this office, of the 20th instant, respecting the application of the United States Government for permission to establish Stations in Tasmania and New Zealand for the observation of the Transit of Venus, I am directed by the Earl of Kimberley to acquaint you, for the information of Earl Granville, that the following Telegram has been received from the Governor of Victoria:—

“Tasmania gladly accepts request of United States. Will send reply from New Zealand when received.”

I have, &c.,

(Signed) H. T. HOLLAND.

*The Under Secretary of State, Foreign Office.*

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*Mr. HOLLAND to the Under Secretary of State, Foreign Office.*

(Copy.)

*Downing-street, 10th July, 1873.*

SIR,

WITH reference to the letter from this office of the 23rd ultimo, and to previous letters, respecting the application of the United States Government for permission to establish Stations in Tasmania and New Zealand for the observation of the Transit of Venus, I am directed to acquaint you, for the information of Earl Granville, that the following Telegram has been received from the Governor of Victoria :—

“Just heard that New Zealand Government consents to the United States having Station there for observing Transit of Venus.”

I have, &c.,

(Signed) H. T. HOLLAND.

*The Under Secretary of State, Foreign Office.*

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MEMO.

IN returning the Despatch from the Right Honorable the Secretary of State, No. 13, of the 11th July last, forwarding General Schenck's application to Earl Granville requesting, on behalf of the Government of the United States, permission to establish a Station at Hobart Town for the purpose of observing the Transit of Venus in 1874, and that the Instruments, &c. to be used by the parties making the Observations may be admitted free of Duty, the Colonial Secretary has the honor to express the desire of Your Excellency's Advisers to promote as far as lies in their power the important objects in view, and to afford every assistance to the members of the Expedition.

Instructions will be issued to admit free of Duty and Wharfage all Instruments, &c. which may be imported by the parties conducting the Observations; and any site at the disposal of the Government that may be deemed most suitable will be placed at their service.

(Signed) THOS. D. CHAPMAN.

*Colonial Secretary's Office, 22nd September, 1873.*