

An Astronomical Observatory for Toronto



An outline of a project prepared by a committee
representing the University of Toronto and the
Royal Astronomical Society of Canada



UNIVERSITY OF TORONTO PRESS

AN ASTRONOMICAL OBSERVATORY FOR TORONTO

I. THE NEED OF AN OBSERVATORY

THE UNIVERSITY has no equipment for the teaching of practical astronomy, much less for making astronomical investigations and discoveries. This great want has been felt for years. Indeed it would be hard to find a university with a standing comparable to that of the University of Toronto, so poorly equipped in this regard.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA needs suitable headquarters where it can hold its meetings and can put its library and instruments at the service of the public.

FROM THE PUBLIC there are numerous and continued requests for the opportunity of viewing the celestial bodies through a powerful telescope.

These requests come from people of all ages, including Boy Scouts, Girl Guides and similar organizations which demand an acquaintance with the sky as a part of their training.

II. OUTLINE OF THE PROJECT

In 1914 a committee was appointed by the Royal Astronomical Society of Canada to consider means for meeting the above needs. It brought in a report, the chief provisions of which were:

1. That the City should provide a site for the observatory.
2. That the University should maintain it.
3. That the Astronomical Society should have accommodation for its library, instruments and other purposes.
4. That the public should have easy access to the institution.

Before any substantial progress in the campaign for the new institution had been made, the war broke out and pre-

vented an appeal for assistance. However, it was thought advisable to prepare plans for the building. On explaining the project to a well-known firm of architects they offered to make the sketch-plans, and these were sent to various astronomers during the war for their consideration and criticism.

The plans provide for a lecture-room, a visitor's room, a library, as well as offices, laboratories, and computing rooms. In the equipment is included a large telescope, not less than twenty inches in diameter, to be devoted chiefly to astronomical research, but to be placed at the service of the public on one evening each week. Another instrument of considerable size (nine inches in diameter) is to be given over almost exclusively to amateurs and the citizens generally. Indeed it is intended to have it employed in a special department for interesting and instructing the public.

In the spring of 1919 it was decided that the time was come to revive the project. A strong deputation met the Board of Control and asked that a ten-acre lot on Bathurst St., belonging to the City, be made a public park and that some three acres of it be allotted as a site for the observatory. After a conference with the Commissioners of Finance, Parks, and Assessment, and the City Solicitor, an agreement was drawn up embodying the proposal, and in due time it was approved by the Board of Control and the City Council. Thus an admirable and valuable site has been secured.

The University is willing to maintain the observatory, and the Astronomical Society is willing to place its valuable library, which it has been accumulating for thirty years, in the observatory and to maintain it open to the public. All that is now needed to complete the scheme is the building and the equipment.

III. THE STUDY OF ASTRONOMY

Some persons have the notion that astronomical investigations and studies have slight practical application in ordinary life, but such is far from being the case. Astronomy gives us accurate time, supplies the fundamental information used

by the surveyor and the mariner, and provides a sure foundation for ancient chronology. The gas helium, which has had such a wonderful history, was discovered through observations at a solar eclipse. It is believed that in time our knowledge of the sun will enable us to forecast, months in advance, the general nature of the seasons. Such an achievement will be of incalculable value. But the greatest effect produced by astronomical studies has been upon the mind of man. They have powerfully moulded the development of human thought by appealing to the imagination, giving a broader outlook and making life more worth living. Astronomy has been an essential agent in evolving our high type of civilization.

IV. THE PUBLIC AND THE OBSERVATORY

The interest of the public in astronomical work and their desire to see the heavenly bodies for themselves has been seen in many places.

The Lick Observatory in California was founded by James Lick, and began its work in 1888. Lick was not himself an astronomer, but he had been deeply impressed with the glory of astronomical discovery, and wished to advance science as well as give the people facilities for observing the heavenly bodies. The observatory is on the summit of Mount Hamilton, and to reach it one must drive 26 miles up a mountain road; and yet over 5,000 people do this every year. The institution is open to the public every day, but on Saturday evening the staff are on duty to receive the visitors and to guide them in using the great telescope. The observatory has brought lasting fame to its founder and distinction to California.

But a still better example of an observatory with a public department is to be found at Pittsburgh, Pa. The present fine building of the Allegheny Observatory, which is located there, is due chiefly to John A. Brashear, who recently died. While working in the rolling mills he was permitted to look through a small telescope, and this little incident inspired in him the determination to give to the people facilities for viewing the heavens. He became one of the greatest makers

of telescope lenses and mirrors in the world. One of the features of the Allegheny Observatory is a telescope continually open to the public, and the number of those using the privilege is remarkable. The following are the numbers for the years 1909 to 1919 inclusive: 1909, 1,620; 1910, 2,779; 1911, 1,817; 1912, 2,410; 1913, 2,588; 1914, 3,278; 1915, 3,941; 1916, 4,290; 1917, 3,373; 1918, 2,957; 1919, 4,198. Total, 33,251.

Under date April 21, 1919, Doctor Brashear wrote:

May I say that, while I have been interested in scientific work for nearly half a century and have done my best to bring the beautiful things in science to the comprehension of laymen—yes, to the boys and girls—in lectures, etc., nothing outside my purely educational work has given me so much pleasure as the free department of our observatory—the realization of a dream of my late childhood. The demand is as great as ever for admission to see the beauties of God's Universe, and apart from the scientific side its high *moral* worth counts every time and all the time.

During 1920 there were almost 5,000 visitors, and the full accommodation of the building is usually engaged two months in advance.

The city of Oakland, Cal. (population, 150,000 in 1910), has an observatory which was established by Anthony Chabot, one of its citizens, for the use of the pupils of the city schools and the public generally. Between 3,000 and 3,500 visitors are received every year.

In Des Moines, Iowa (population, 86,000 in 1910), the Drake University Observatory has a telescope of aperture $8\frac{1}{4}$ inches. The public department of this institution has become so popular that a separate observatory, especially for the citizens, has been erected, and is open to the public several evenings each week.

The Yerkes Observatory, of the University of Chicago, is located at Williams Bay, 75 miles north-west of Chicago. It possesses the largest refracting telescope in the world. Here the public are not allowed to use the instruments at any time, but on Saturday afternoons during the summer months visitors are conducted through the institution and the uses

of the different instruments are explained to them. In 1919 over 8,000 people visited the place, 1,300 being present on a single afternoon.

The Dominion Government observatories at Ottawa and Victoria, B.C., are devoted exclusively to research, but there is one public evening each week. Many visitors come and the privilege is highly valued.

V. AN ATTRACTION TO TORONTO

The observatory will be an outstanding attraction for Toronto. There is nothing like it in the Dominion. It will be a notable addition to our educational institutions, and it will not simply serve the city but will exert a beneficial influence throughout the entire country.

Lastly, the observatory will be a fine memorial to any one associated with its foundation. For generations to come it will continue to add to our knowledge of the heavens and to disseminate information which will improve and elevate the mind.

CONDITIONS ON WHICH THE CITY HAS PROVIDED THE SITE FOR THE OBSERVATORY

The City shall dedicate the property *as shown on plan herewith*, as a park for the citizens.

2. The north-easterly portion, comprising approximately three acres, shall be leased for one dollar per year, to a Board of Trustees, composed of the Mayor of the City, the President of the University, and the President of the Royal Astronomical Society, the lease to run for forty-two years, and thereafter to be perpetually renewable for twenty-one-year periods at the same rate.

3. This Board shall facilitate the erection thereon within ten years of an Astronomical Observatory, according to plans which shall be approved by the City Architect and the Commissioner of Parks.

4. Should the land and buildings cease to be occupied by the Royal Astronomical Society and the University of Toronto, for the purposes herein specified, the same, together with all improvements, shall thereupon revert to, and become the property of the City, without any cost or charge, and may be used by it for such purposes as may then be determined.

5. The City shall maintain the park, and also any portion of the site allotted to the observatory, which is not in actual use for the purposes of the observatory, the citizens being allowed the use of this unoccupied portion on the same conditions as obtain for the rest of the park.

6. No fence shall be erected upon the property, and no physical change shall be made thereto without first having obtained the consent of the City.

7. The University shall maintain the observatory. The Government of it shall be vested in a Board of Management, consisting of seven members. The Professor of Astronomy in the University shall be *ex officio* the Chairman of this Board, and three members shall be nominated annually by the Board of Governors of the University, two by the Council of the Astronomical Society, and one by the City.

8. The citizens shall be admitted to the observatory on conditions to be approved from time to time by the Board of Management.

9. The Royal Astronomical Society shall be provided with accommodation for its library, and for the storage of its instruments in the building.

10. The Society shall maintain the library, and shall allow the citizens to use it on conditions similar to those of the Toronto Public Library.

11. The Society shall have accommodation for its regular and general meetings, and on other occasions, as approved by the Board of Management.

Further information regarding the project may be obtained from the convener of the committee,

C. A. CHANT,

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