

# SCIENCE

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FRIDAY, MARCH 31, 1899.

A NATIONAL OBSERVATORY.

## CONTENTS:

<i>A National Observatory</i> .....	465
<i>Discussion of a National Observatory</i> : PROFESSORS SIMON NEWCOMB, ASAPH HALL, C. A. YOUNG, T. C. MENDENHALL, R. S. WOODWARD, C. L. DOOLITTLE, W. H. PICKERING, ARTHUR SEARLE, FRANK W. VERY, DAVID P. TODD, G. W. MYERS, E. A. FUERTES, W. L. ELKIN, JAMES E. KEELER.....	467
<i>The Atomic Weights—A Quarter Century's Progress</i> : PROFESSOR F. P. VENABLE.....	477
<i>Hermaphroditism in Ostræa Lurida</i> : PROFESSOR F. L. WASHBURN.....	478
<i>Agricultural Electrotechnics</i> : PROFESSOR R. H. THURSTON .....	480
<i>Scientific Books</i> :— <i>Geology of the Edwards Plateau and Rio Grande Plain</i> : PROFESSOR FREDERIC W. SIMONDS. <i>Solly's Medical Climatology</i> : DR. G. HINSDALE.	481
<i>Scientific Journals and Articles</i> .....	485
<i>Societies and Academies</i> :— <i>Biological Society of Washington</i> : O. F. COOK. <i>The Washington Botanical Club</i> : DR. CHARLES LOUIS POLLARD. <i>The New York Section of the American Chemical Society</i> : DR. DURAND WOODMAN. <i>Section of Astronomy and Physics of the New York Academy of Sciences</i> : R. GORDON. <i>Academy of Science of St. Louis</i> : PROFESSOR WILLIAM TRELEASE.....	486
<i>Discussion and Correspondence</i> :— <i>Plymouth, England, and its Marine Biological Laboratory</i> : DR. EDWARD G. GARDINER. <i>The Duplication of Geologic Formation Names</i> : F. B. WEEKS. <i>The Berlin Tuberculosis Conference</i> : DR. CH. WARDELL STILES.....	488
<i>Astronomical Notes</i> :— <i>The Rutherford Photographs; The Solar Eclipse of May 28, 1900</i> : PROFESSOR WINSLOW UPTON	492
<i>Notes on Physics</i> :— <i>The Effect of Commutators on the Field of Dynamos and Motors; Telegraphy and Magnetic Induction</i> : F. C. C.....	493
<i>The Bequests of the late Professor Marsh</i> .....	494
<i>Scientific Notes and News</i> .....	494
<i>University and Educational News</i> .....	496

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

THE letters which we publish in this number from prominent American astronomers on the general subject of a national observatory may be regarded as a sequel to Professor Skinner's admirable history of the Naval Observatory found in our issue of January 6th. Justice to the latter institution demands that we should point out certain features of the case which have generally been overlooked. It has been too hastily assumed that the Naval Observatory should fill the requirements of a national astronomical observatory, and that, if it did not, some one must be at fault. To correct this view we have only to cite some authoritative statements on the subject. The matter was stated very forcibly and clearly by Commodore Belknap, Superintendent of the Observatory, as far back as 1885, when the building of the new observatory was about to begin, and when, in consequence, its purposes were the subjects of public discussion. He wrote:

It is first of all a *naval* institution, its astronomical work being, so far as the *naval service proper* is concerned of a purely secondary consideration. \* \* \* \* If the time has come when the purely scientific side of the institution has outgrown the needs of the naval service the converse is true, namely, that the navy

has no need of it or of the scientific staff. If the so-called scientific men of the country think that the time has come to apply to Congress for money to build a national observatory the Navy will not stand in their way; only it will take no responsibility for it, and will be glad to see it go to another department of the government, and to be under purely civilian control, including professors with civilian appointments instead of Naval commissions.\*

This official view is enforced by the absence of legislation providing for the organization and government of the institution or prescribing its purposes or functions. Not only has Congress never uttered a word as to its purpose, but it has never, so far as we can learn, provided any authority to determine what work it should undertake. The highest officials recognized in the annual appropriations are assistant astronomers, but there is no statement whom they are to assist. Everything else is left with the Navy Department, which has no way to complete the organization except to order naval officers and professors to duty at the observatory, and establish such rules for their guidance as it may see fit. We are not aware that any regulations have ever been issued prescribing a well-defined plan of astronomical observations. All this accentuates the secondary character of its astronomical work, and justifies the modesty of the part which it has played in the progress of astronomy since the new buildings were erected.

If we accept the preceding view of the functions of the observatory, then we are the only one of the great nations that does not support a national observatory for the promotion of astronomical science. The

question is whether our astronomers should not act on the suggestion of Admiral Belknap and petition Congress for the establishment of such an institution as they want. An astrophysical observatory is already supported by Congress under the auspices of the Smithsonian Institution; why should not one for astrometry in its widest range be established under the same or other scientific auspices?

How such a proposal would be met by Congress goes without saying. The first questions would be: Have we not already such an institution? Has not Congress already expended an unprecedented sum in the erection of an observatory? Is it not supported at a greater annual expense than any other similar institution in the world? What has it to do but prosecute the very researches you want prosecuted and make the very observations you want made?

It would be hard to meet these questions without exposing what, at first sight, would seem a weak point. It might not be difficult to convince Congress that an institution where the prosecution of astronomical work was 'of purely secondary consideration,' and which was not specially organized as an institution for astronomical work, could never be expected to fulfil the requirements of a national observatory. But how reconcile the subordination of scientific to naval work with what Congress has actually done? Why should our navy need a great establishment costing nearly a million dollars and fitted up with large and expensive astronomical instruments any more than the English or French or German navy? The English navy has its chronometers rated at the Greenwich Observatory at a very small expense,

\* Senate, Ex. Doc., No. 67, 49th Congress, 1st Sess.

and the other countries have small and inexpensive establishments for this purpose. All the national observatories but ours have purely civilian organizations. Why should ours be an exception?

Under these conditions what is wanted is that our astronomers and naval authorities should come together and agree upon a plan. Nothing can be worse than the continuation of a system under which the country goes to all the expense of supporting a great observatory without reaching results commensurable with the expenditure. It is sometimes claimed that naval officers will not give up any part of their control. It seems to us that this claim involves a reflection upon their patriotism and their regard for their country's interests which they should not tolerate. Congress gives its munificent support to the observatory under the belief that it is supporting a great and useful scientific establishment which is extending the fame of our country in the intellectual field as the observatories of Greenwich and Paris have extended the fame of the countries which have supported them. If this belief is ill founded the claim in question amounts to nothing less than saying that our naval officers will fight for the privilege of expending large sums for objects which neither increase the efficiency of the service nor promote the scientific standing of the country in the eyes of the world. We cannot suppose them animated by so low a spirit as this attitude presupposes. We believe that they are sincerely desirous of seeing the great institution established at such expense made a credit to the country, and that if fifty years' experience shows that

this end can be reached only by separating the naval from the scientific work of the establishment, and placing the latter under the only sort of control that can ever be really successful, they will, in the words of Commodore Belknap, 'not stand in the way.' It is the duty of our astronomers to use their influence in making the exact facts of the case known, and in promoting such a solution of the problem as will conduce to the good name of American science.

Were we dealing with a small institution to which Congress extended only a niggardly support, we might look with indifference on a corresponding paucity of performance. But when Congress bestows a far more liberal support on our observatory than England, France or any other nation bestows on its national observatory, and does this in the belief that it is promoting astronomical science to a corresponding extent, patriotism demands that our astronomers should inform our authorities whether this belief is or is not in accord with the fact.

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#### DISCUSSION OF A NATIONAL OBSERVATORY.

IN response to a letter sent to a number of leading American astronomers the replies printed below have been received.\*

The letter asked for answers to the following questions:

1. Is it desirable that the government of the United States should support a national astronomical observatory?

\* In addition to these replies a committee appointed at the Harvard Conference of Astronomers and Astrophysicists, consisting of Professor E. C. Pickering, Harvard College Observatory (Chairman); Professor George E. Hale, Yerkes Observatory, and Professor George C. Comstock, Washburn Observatory, has drawn up a report on the subject, which we hope to publish after it has been presented to the next Conference.