

THE FRANKLIN INSTITUTE

COMMITTEE ON SCIENCE AND THE ARTS

No. 2863 Subject Franklin Medal
2864

Applicant

Address

Date of Application

Inventor

Address

COMMITTEE :

Dr. James Barnes Chairman

Mr. Charles E. Bonine

Mr. G. H. Clamer

Dr. H. J. M. Creighton

Mr. Benjamin Franklin

MEETINGS :

December 10, 1927

December 17, 1927.

Report presented to
General Committee:

January 5, 1927

Award The Franklin Medal

to Doctor George Ellery Hale
and to Doctor Max Planck

Final Action :

February 2, 1927

medal and certificate presented
~~Report sent to Inventor~~
representatives of the medallists

May 18, 1927.

THE FRANKLIN INSTITUTE OF THE STATE OF PENNSYLVANIA

For the Promotion of the Mechanic Arts

Committee on Science and the Arts

Cases No. 2863 and No. 2864.

Hall of the Committee,

Philadelphia, January 5, 1927.

Report of Sub-Committee on Awarding The Franklin Medal.

Sub-Committee: Doctor James Barnes, Chairman

Mr. Charles E. Bonine

Mr. G. H. Clamer

Doctor H. J. M. Creighton

Mr. Benjamin Franklin

To the Committee on Science and the Arts:

Your Sub-Committee has considered with care those workers in physical science or technology, not previously recognized by the award of The Franklin Medal, who have contributed greatly to the advancement of science.

The members of your Sub-Committee are unanimously of the opinion that two Franklin Medals should ^{again} be struck and awarded this year, one to Doctor Max Planck, Professor of Mathematical Physics and Director of the Institute of

COMMITTEE ON SCIENCE AND THE ARTS, THE FRANKLIN INSTITUTE

1 Theoretical Physics of Berlin:

2 In recognition of his valuable contributions to the field
3 of thermodynamics, particularly for his law of radiation, in
4 the development of which he employed, for the first time, the
5 revolutionary idea of the fundamental indivisible quantity of
6 radiant energy called the 'quantum'.

7 Max Planck was born at Kiel on April 23, 1858. He studied at
8 the Universities of Munich and Berlin and in 1879 he received the degree of Ph.D
9 from Munich. There he remained as Privat Dozent till 1885 when he was appointed
10 to the professorship of physics at Kiel. In 1889 he became Professor of Mathem-
11 atical Physics and Director of the Institute of Theoretical Physics at Berlin.
12 In 1913-14 he was Rector of the University of Berlin and in 1920 he received the
13 Nobel Prize for his physical investigations.

14 Professor Planck has devoted himself to the study of theoretical
15 physics and in particular to that of thermodynamics. He gained international
16 fame by his law of radiation, proposed in 1901, which asserts that radiation is
17 emitted and absorbed in integral multiples of a certain indivisible quantity of
18 energy which depends only on the frequency of the radiation. In several fields
19 of physical investigations his theory has been confirmed with the most surprising
20 accuracy, especially in the study of the specific heats of solids, in the kinetic
21 theory of gases, in spectroscopy and photo-electricity.]'

22 He has published numerous papers and essays and among his books
23 the following may be noted:

- 24 "Treatise on Thermodynamics" - 1903
25 "Lectures on Theoretical Physics (delivered at Columbia University in 1909)
"Das Prinzip der Erhaltung der Energie" - 1913
"Survey of Physics" - 1925

1 And - one to Doctor ² George Ellery Hale, Honorary Chairman of the National
 2 ~~Research Council and Past Director of the Yerkes and Mount Wilson Observatories~~
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4 In recognition of his numerous and highly important researches,
 5 inventions and discoveries in solar physics, of his eminent success
 6 in organizing and directing astronomical observations and of his
 7 establishment and promotion of plans and means for coordination
 8 and advancement among the sciences.

9 George Ellery Hale was born in Chicago on June 29, 1868. He was
 10 graduated from the Massachusetts Institute of Technology in 1890 and was at once
 11 appointed Director of the Kenwood Observatory in Chicago. In 1897 he was appointed
 12 Professor of Astro-Physics at the University of Chicago. From 1892 to 1895 he was
 13 Editor of "Astronomy and Astrophysics" and is now one of the editors of the
 14 Astrophysical Journal. In 1895 he became Director of the Yerkes Observatory and
 15 in 1904 he was appointed the Director of the Mount Wilson Observatory of the Carnegie
 16 Institution.

17 The formation of the National Research Council was largely due to
 18 Doctor Hale's efforts and he is now its Honorary Chairman.

19 Doctor Hale's outstanding scientific accomplishment is the invention
 20 of the spectroheliograph, an instrument whereby different layers of the solar
 21 atmosphere (called the chromosphere) are photographed by the different lines
 22 emitted by incandescent hydrogen and calcium. His outstanding discovery is the
 23 observation of the Zeeman effect in sun-spots and the determination of the
 24 magnitude of their magnetic fields.

25 Doctor Hale has been the recipient of medals from numerous
 scientific societies and of honorary degrees from many Universities in this

1 country and abroad.

2 He is the author of a very large list of contributions to the
3 astronomical and astrophysical journals and in addition he has written several
4 books,]² among which may be noted:

- 5 "The Study of Stellar Evolution" - 1908
- 6 "The Rotation Period of the Sun as Determined from the Motion
of the Calcium Flocculi" (1908)
- 7 "Ten Years' Work of a Mountain Observatory" - 1915

8 Respectfully submitted,

9 *James Barnes*
10
Chairman

11 *Bey. Franklin*
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13 *H. Germain Beighton*
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15 *Charles E. Rouer*
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