

**RECENT ADVANCES IN  
OPHTHALMIC  
SCIENCE. THE BOYLSTON  
PRIZE ESSAY FOR 1865**

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Recent advances in ophthalmic science. The Boylston Prize Essay for 1865 by Henry W. Williams

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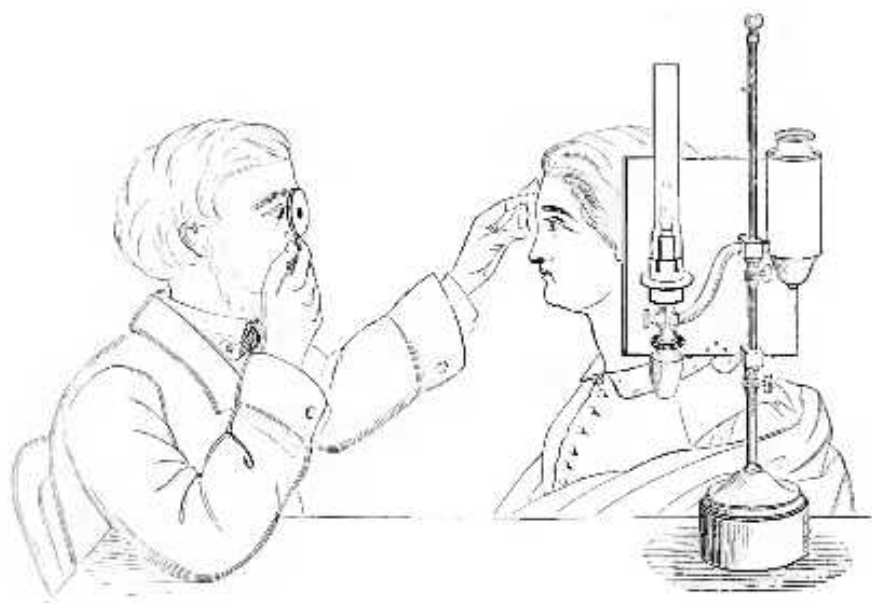
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**HENRY W. WILLIAMS**

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PRIZE ESSAY FOR 1865**





AFTER POLLIN.

RECENT ADVANCES

IN

OPHTHALMIC SCIENCE.

THE BOYLSTON PRIZE ESSAY FOR 1865.

BY

HENRY W. WILLIAMS, M. D.,

OPHTHALMIC SURGEON TO THE CITY HOSPITAL, BOSTON; UNIVERSITY LECTURER  
ON OPHTHALMIC SURGERY IN HARVARD UNIVERSITY; MEMBER  
OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY;  
ETC., ETC., ETC.

"Nimia oculi longitudo facit myopiam." — BOERHAAVE.



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THE Boylston Medical Committee, appointed by the President and Fellows of Harvard University, consists of the following physicians:—

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HENRY J. BIGGLOW, M. D.	

At the Annual Meeting, held June 1, 1865, the Premium was awarded to HENRY W. WILLIAMS, M. D., for the best Dissertation on *Recent Advances in Ophthalmic Science*, bearing the motto: "Nuncia oculi longitudo facit myopiam."

By an order adopted in 1826, the Secretary was directed to publish annually the following votes:—

1st. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2d. That in case of publication of a successful Dissertation, the author be considered as bound to print the above vote in connection therewith.

J. MASON WARREN, *Secretary*.





## · P R E F A C E .

THIS essay, to which was awarded the Boylston Prize, offered by Harvard University for the best dissertation on "*Recent Advances in Ophthalmic Science*," is not devoid of the faults incident to such a treatise, which, from the nature of the question proposed, embraces a variety of subjects, but ought not to exceed moderate limits.

It is hoped, however, that it may in a measure supply the demand, which becomes every day more urgent, for a work which, without being too elaborate, may assist the student and the general practitioner in acquiring a knowledge of the principles of the Ophthalmoscope and of its practical application, — and which may also elucidate, so far as is possible in a brief *résumé*, other important points in regard to which immense progress has been made within a few years, leading to a more correct understanding of the optical powers and functions of the eye, and of the results of aberrations from the normal standard.

I have endeavored, without introducing the niceties of abstruse mathematical calculations, to give a concise and clear exposition of the many new facts and principles, of which the recent demonstration, by Professors Donders, Graefe, Helmholtz, and others, has conferred a fresh lustre upon Ophthalmology, and entitled it to a high place among the departments of medical science.

I am indebted to the accurate scientific knowledge and artistic skill of my friend, Dr. John Green, for drawings of the plates which so greatly enhance the value of the work: and I think it will be admitted that these illustrations, — especially those explaining the Ophthalmoscope, and those which relate to the functions of the eye in refraction and accommodation, — afford to the novice in these studies a more perfect demonstration of the principles involved, and of their application, than can be found in any work which has hitherto appeared.

15 ARLINGTON STREET, BOSTON,  
1st January, 1866.