

**LECTURES DELIVERED TO  
THE EMPLOYEES OF THE  
BALTIMORE AND OHIO  
RAILROAD COMPANY**

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Lectures Delivered to the Employes of the Baltimore and Ohio Railroad Company by Various

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**VARIOUS**

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1944-8

# LECTURES

DELIVERED TO THE

EMPLOYEES

OF THE

## Baltimore and Ohio Railroad Company

BY

PROF. H. NEWELL MARTIN,  
*Of the Johns Hopkins University,*

AND

DRS. HENRY SEWALL, WM. T. SEDGWICK AND WM. K. BROOKS,  
*Associate Instructors in the Biological Department of the University.*

FOR FREE DISTRIBUTION AMONG THE EMPLOYEES OF THE BALTIMORE  
AND OHIO RAILROAD COMPANY.

BALTIMORE

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1882.



IN accordance with the following circular, which was extensively distributed among the employes of the Baltimore and Ohio Railroad Company, a course of four lectures, now printed in pamphlet form, was delivered in Baltimore in the month of February, 1882:

### LECTURES

#### *For the Employes of the Baltimore and Ohio Railroad Company.*

A course of Free Lectures, specially designed for employes of the Baltimore and Ohio Railroad Company, will be delivered in the month of February by Professor H. Newell Martin, of the Johns Hopkins University, and the Associate Instructors in the Biological Department of the University, as follows:

Friday, February 3—Prof. H. NEWELL MARTIN:  
*How Skulls and Backbones are Built.*

Friday, February 10—DR. HENRY SEWALL:  
*How We Move.*

Friday, February 17—DR. WM. T. SEDGWICK:  
*On Fermentation.*

Friday, February 24—DR. WM. K. BROOKS:  
*Some Curious Kinds of Animal Locomotion.*

These Lectures will be delivered in Hollins Hall, corner of Hollins street and Carrollton avenue, at 8 P. M., on the dates named. All employes of the Baltimore and Ohio Railroad Company are cordially invited.

The privilege of attending these Lectures is also extended to the wives and daughters of employes of the Company.

Tickets for admission to the course of Lectures can be obtained from MR. A. J. FAIRBANK, General Agent, Camden Station.

MR. CASPAR HUSSELL, Foreman, Bailey's,

MR. L. F. BEELER, General Agent, Locust Point.

MR. E. L. McCAHAN, Time Keeper, Riverside.

MR. E. E. SHELDON, at the Library Room, Mount Clare, from 12 to 1 P. M. daily.

JOHN W. GARRETT,  
*President.*

Rec'd 11-11-34

Mr. Garrett was present on each occasion and introduced the lecturers.

At the conclusion of the last lecture, which was delivered on Friday, February 24th, 1882, Mr. John N. Conway, foreman of the Company's foundry at Mount Clare, Baltimore, offered the following resolution, which was unanimously adopted :

*Resolved*, That the acknowledgments of the employes of the Baltimore and Ohio Railroad Company are due, and are hereby tendered, to Mr. John W. Garrett, President, for the kindly interest he has manifested in their behalf in connection with the course of Free Lectures arranged for them by him in the month of February, 1882; and that they desire also to express their acknowledgments to Prof. H. Newell Martin, of the Biological Department of the Johns Hopkins University, and the Associate Instructors in that Department, Drs. Henry Sewall, Wm. T. Sedgwick and Wm. K. Brooks, for their kindly co-operation, and for the practical and interesting lectures which they have delivered.

President Garrett was called for, and, after the applause with which he was greeted had subsided, said :

*My Friends :*

When the suggestion was made that lectures of this character might prove interesting and entertaining to the employes of the Baltimore and Ohio Railroad Company and their families, it was hoped that result would be realized. It is, therefore, very agreeable to the President of the Company to join the employes in their acknowledgments to Prof. Martin and his Associates for the very interesting lectures which they have delivered.

The President has the pleasure of stating that these gentlemen have consented to prepare their lectures, which will be printed in pamphlet form, and distributed to all of you who may desire to read and study them.

It is hoped, as these lectures have been so well attended and so thoroughly appreciated, that on other occasions, and in other seasons, arrangements can be made for a similar character of lectures, or those of a like entertaining and instructive nature, and that they may hereafter be regarded as a feature connected with the service of the Baltimore and Ohio Railroad Company.

I am happy to say that many celebrated lecturers, among others the eminent traveller, Mr. Paul du Chaillu, have offered their services in connection with the course of lectures to the employes of the Company.

This pamphlet is printed by Mr. Garrett for free distribution among the employes of the Baltimore and Ohio Railroad Company. Copies can be secured by written or personal application at the President's office in Baltimore.

## INTRODUCTORY NOTE.

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The delivery of the lectures printed on the following pages had an almost accidental origin. In the course of a conversation one evening with President J. W. Garrett, the reading room at Mount Clare Works, which was established in December, 1869, and in which there are about 1000 volumes selected for the advantage of the employes of the Baltimore and Ohio Railroad Company, and the reading room at Canton, came under discussion. At these rooms the current newspapers and magazines are provided for the intellectual recreation of those citizens whose daily work is more with hand than head, and whose incomes are such as to make the purchase of more than a small number of books impracticable. In consequence of the generosity of Mr. Enoch Pratt, every Baltimorean will in future have the opportunity to read at home any standard work which he may desire to study; but such was not the case at the time of the conversation above referred to.

I had already some knowledge of the working of the Canton Institute, based in part on personal investigation, and in part on conversations with the Reverend J. Wynne Jones, whose energy has founded the Institute and whose earnestness has kept it going. His experience was that but a small percentage of those for whose enjoyment the reading room of the Canton Institute was maintained, made any use of it. When I stated this to Mr. Garrett, he said that to some extent the same thing had been found in connection with the reading room at Mount Clare Works; many local employes of the Baltimore and Ohio Railroad used and enjoyed it, but many never came near it. Reading rooms therefore doing obviously but a part of the work, the problem still remained,—how to make intellectual recreation after working hours accessible and attractive to those who were often too weary to read magazines or enjoy a game of chess or checkers?

As the conversation proceeded, reference was made to the courses of evening lectures organized in England for citizens whose occupation was such as to preclude any great amount of thought as to Art, Literature, or Science. In London and Manchester such lectures had proved very successful; and Mr. Garrett said that if such evening lectures could be organized in Baltimore, he would earnestly do what he could to promote their success. I asked for a few days' time to consult my colleagues in the Biological Department of the Johns Hopkins University, in order to find if they were willing to co-operate with me in delivering a series of popular scientific lectures. They all willingly assented.



The lecturers having been secured, Mr. Garrett undertook to provide the lecture hall, and to pay for the necessary lantern slides, diagrams, and assistants. This pamphlet, containing the text of the lectures and illustrated with lithographs of the figures and experiments displayed, has been prepared at his request and printed at his expense, in order that the lectures given in Baltimore may not only be available in print to those who heard them, but may reach employes of the Baltimore and Ohio Railroad at locations far from Baltimore City.

Before concluding, I take this opportunity to express, on behalf of my colleagues and myself, our appreciation of the attention which our unexpectedly large audiences gave us. Anticipating but two or three hundred hearers, we were confronted with six hundred; and we fear that now and then the diagrams exhibited were not of such size as to be distinctly visible to those at the far end of the lecture room. Our hearers were, however, kind enough to condone such occasional failings, and to send us home grateful to them and pleased with ourselves. No one of us desires to ever lecture to a more friendly audience, or one more generous in its sympathy.

H. NEWELL MARTIN.

I.

**HOW SKULLS AND BACKBONES ARE BUILT.**

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Vertical line on the right margin.

