

# BIOPLASM:

▲

CONTRIBUTION TO THE PHYSIOLOGY  
OF LIFE.



BIOPLASM:  
AN  
INTRODUCTION  
TO THE STUDY OF  
PHYSIOLOGY & MEDICINE.

BY

LIONEL S. BEALE, M.B., F.R.S.,

*Fellow of the Royal College of Physicians, Physician to King's College  
Hospital, and Professor of Pathological Anatomy in King's  
College, London.*

WITH NUMEROUS ILLUSTRATIONS.

LONDON : J. & A. CHURCHILL.  
PHILADELPHIA : LINDSAY & BLAKISTON.

1872.

[All rights reserved.]

LONDON:  
HARRISON AND SONS, PRINTERS IN ORDINARY TO HER MAJESTY,  
ST. MARTIN'S LANE.

## P R E F A C E.

---

IN this little book an attempt has been made to determine and explain the nature of some of the most important changes which are characteristic of and peculiar to living beings. Technical terms have been as far as possible avoided. Many of the matters I have thought it desirable to consider are, however, complicated and intricate, indeed of a character not generally discussed in text books, and I fear that, in some instances, I have failed to render what I have tried to convey as clear and as intelligible as I desired. Most of the inferences I have drawn concerning very difficult questions rest upon actual facts of minute research, but I have ventured to speculate upon some matters which are at present beyond the sphere of observation.

The reader will probably admit that the first part of his task is not a difficult one, but as he progresses I fear he will find the book becomes more difficult to read. In the last four lectures some rather abstruse points in physiology have been brought under the student's notice, but the facts upon which the conclusions so far deduced have been based are recorded and explained.