

THE JOURNAL  
OF  
PHARMACOLOGY  
AND  
EXPERIMENTAL THERAPEUTICS

EDITED BY

E. K. MARSHALL, JR.  
Johns Hopkins University

AND

J. A. GUNN  
University of Oxford

IN ASSOCIATION WITH

H. G. BARBOUR,  
Yale University  
J. H. BURN,  
Pharmacological Laboratory, Pharmaceutica  
Society of Great Britain, London  
J. T. CASH,  
University of Aberdeen  
A. J. CLARK,  
University of Edinburgh  
H. H. DALE,  
London  
W. J. DILLING,  
University of Liverpool  
C. W. EDMUNDS,  
University of Michigan  
S. FLEXNER,  
Rockefeller Institute for Medical Research  
P. J. HANZLIK,  
Leland Stanford Junior University  
R. A. HATCHER,  
Cornell University Medical College  
V. E. HENDERSON,  
University of Toronto  
A. D. HIRSCHFELDER,  
University of Minnesota  
SIR FREDERICK G. HOPKINS,  
University of Cambridge

REID HUNT,  
Harvard University  
P. D. LAMSON,  
Vanderbilt University  
W. DEB. MACNIDER,  
University of North Carolina  
C. R. MARSHALL,  
University of Aberdeen  
E. MELLANBY,  
Sheffield University  
F. RANSOM,  
London  
A. N. RICHARDS,  
University of Pennsylvania  
TORALD SOLLMANN,  
Western Reserve University  
R. STOCKMAN,  
University of Glasgow  
CARL VOEGTLIN,  
U. S. Public Health and Marine Hospital  
Service  
G. B. WALLACE,  
University and Bellevue Hospital Medical  
College

VOLUME XLIX  
1933

BALTIMORE, MARYLAND

This One



5UNC-9EU-ATCY