

**ESSAY ON MUSICAL
INTERVALS, HARMONICS,
AND THE TEMPERAMENT OF
THE MUSICAL SCALE, &C**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649424184

Essay on Musical Intervals, Harmonics, and the Temperament of the Musical Scale, &c by W.
S. B. Woolhouse

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

W. S. B. WOOLHOUSE

**ESSAY ON MUSICAL
INTERVALS, HARMONICS,
AND THE TEMPERAMENT OF
THE MUSICAL SCALE, &C**

ON
MUSICAL INTERVALS,
HARMONICS,

&c.

ESSAY

ON

MUSICAL INTERVALS,
HARMONICS,

AND THE

TEMPERAMENT OF THE MUSICAL SCALE,

&c.

BY W. S. B. WOOLHOUSE,

HEAD ASSISTANT OF THE NAUTICAL ALMANAC ESTABLISHMENT.

27

LONDON:

J. SOUTER, 73, ST. PAUL'S CHURCH-YARD.

1835.

421



Printed by J. and C. Adlard,
Bartholomew Close.

PREFACE.

THE substance of the following Essay was written some years ago at the express wish of several musical friends; but its publication has been delayed by fortuitous circumstances, to which, however, it will not be necessary to advert.

There can be but little difference of opinion as to the practical, as well as theoretical, advantages to be derived from a correct knowledge of the natural relations that exist amongst the several sounds in the musical scale; and, to all who can fully appreciate these advantages, it must be an acquisition to possess a concise view of the most important principles and results. The Author is not aware of any work of this kind fully adapted to the increasing wants of such musicians as are actuated by a love of

philosophical truth, a devotion to the science, and a desire to comprehend an exact knowledge of its resources.

In the present attempt to supply this deficiency, brevity has had the principal share of consideration, while the omission of any thing useful has been carefully avoided; and, though the work is compressed into very narrow limits, it is hoped that the practical musician will find in it the means of resolving any difficulty that may not have distinctly met with attention.

The calculation of the various combinations of musical intervals is much simplified when they can be arithmetically estimated in whole numbers. This object is attained without any sensible inaccuracy by dividing the octave into 720 equal intervals; and the values of the elemental intervals on this scale are given in article 14. As exercises on the use of these numbers in calculation, innumerable examples may occur, such as—What is the difference between twelve perfect fifths and seven octaves? What is the difference between three perfect

major-thirds and an octave? What difference is there between two perfect major-thirds and a perfect minor-sixth? &c. All such questions are immediately answered by the most simple arithmetical calculation, and to a degree of accuracy more than sufficient to satisfy every reasonable scruple.

Most writings that have appeared on the theory of musical sounds are grounded on the principle of the combination of ratios. This principle, though conveniently applicable to the calculation of the divisions of a monochord which answer to the perfect intervals, presents but little facility in the detection of *small* intervals. On the other hand, the division of the octave into a number of equal parts affords a precise view of the relative values of all intervals whatever; the extent of each interval, which on the monochord is represented to the eye, is by this means comprehended mentally; and the ear of a singer or violin player becomes considerably assisted in the acquirement of an accurate execution of either true or tempered melody.

The theories of the temperaments of the musical scale, and of the interesting phenomenon of the beats of imperfect concords, are of much importance to tuners, and the most useful elements of these theories are laid down with every attention to simplicity and precision.

It will be quite unnecessary to state any details of the plan and pretensions of so small a work as the present, the object of which is merely to furnish the means of a first step towards the general inculcation of the scientific principles of music amongst amateurs.

London:
March 20, 1835.