

# **INDUSTRIAL FATIGUE AND EFFICIENCY**

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Industrial fatigue and efficiency by H. M. Vernon

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**H. M. VERNON**

**INDUSTRIAL  
FATIGUE AND  
EFFICIENCY**



# INDUSTRIAL FATIGUE AND EFFICIENCY

BY

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## PREFACE

The object of this book is to give a fairly complete account of our present-day knowledge concerning Industrial Fatigue and its influence on Efficiency. The information adduced relates only to workshop practice, as laboratory investigations on fatigue, though holding out promise of useful results in the future, have hitherto not afforded much evidence of direct and practical value. I have not attempted to discuss Scientific Management, for I have very little first-hand knowledge of it, and, moreover, the subject is so large a one that it needs independent treatment. For similar reasons I have not attempted to deal with Vocational Selection in industry.

I wish to take this opportunity of expressing my indebtedness to Professor E. L. Collis for his kindness in reading through my manuscript, and for making many useful suggestions.

H. M. VERNON

OXFORD

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## CHAPTER I

### FATIGUE AND ITS MEASUREMENT

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Introduction—The objects of Fatigue Study—Fatigue and Efficiency—The Measurement of Fatigue—Performance Tests—The Individual and the Group—Other Methods for measuring Fatigue.

#### INTRODUCTION

Fatigue is defined by the Health of Munition Workers Committee<sup>1</sup> as "the sum of the results of activity which show themselves in a diminished capacity for doing work." The British Association Committee on 'Fatigue from the Economic Standpoint'<sup>2</sup> defined fatigue as a 'diminution of the capacity for work which follows excess of work or lack of rest, and which is recognised on the subjective side by a characteristic malaise.' The latter half of this definition, though true in many instances, is not so invariably. To make still another quotation, Dr. Rivers points out<sup>3</sup> that "A distinction must be made between the sense of fatigue—the sensations which supervene during the performance of work, and the lowered capacity for work executed. These conditions, which may be spoken of as subjective and objective fatigue respectively, do not always run parallel courses. In the performance of mental work especially, decided sensations of fatigue may be experienced when the objective record shows that increasing and not decreasing amounts of work are being done; and there may be complete absence of any sensations of fatigue when the objective record shows that the work is falling off in quantity, or quality, or in both."

In the study of Industrial Fatigue it is natural for us to pay special attention to the objective side of the phenomenon, the capacity for work, though sooner or later we are inevitably driven to study the subjective side as well, and in no less degree. Though a worker suffering from fatigue sufficient to diminish his working capacity may not at first experience subjective sensations of

<sup>1</sup> Memo. No. 7, 1916.

<sup>2</sup> British Association Reports, 1915, p. 283.

<sup>3</sup> Quoted from British Association Report, 1915, p. 284.