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978-1-107-49493-0 - The Elementary Theory of Direct Current Dynamo  
Electric Machinery

C. E. Ashford & E. W. E. Kempson

Frontmatter

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THE ELEMENTARY THEORY  
OF  
DIRECT CURRENT  
DYNAMO ELECTRIC MACHINERY

by

C. E. ASHFORD, M.A.

Head Master, Royal Naval College, Dartmouth

and

E. W. E. KEMPSON, B.A.

Assistant Master, Royal Naval College, Dartmouth

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## PREFACE

THE authors of this little book believe that in the training of an Electrical Engineer there should be included a knowledge of the theory of the subject built up logically from first principles, each step being illustrated with the help of some piece of machinery or practical appliance of a general and simple rather than an elaborate or necessarily up-to-date type; and that he should be taught not to accept statements without evidence of their truth. If he follows this plan he will be able to understand any piece of electrical machinery which he comes across, not because he has ever seen or heard of it before, but because he can recognise it is a particular case of a general class whose fundamental principles he has mastered. If on the other hand he attempts to learn one by one all the various commercial machines and appliances on the market at the moment, his task will be unending. The creation of new types is unceasing, but the principles are permanent.

Of the elementary text-books dealing with continuous current dynamo electric machines, the majority dismiss the theory of the subject with a few brief statements and worked examples, and devote many chapters to the discussion of special forms of machines together with full explanations of their mechanical details; or if they do attempt a more extended investigation of the theory, it is of a disjointed nature and contains many

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statements of propositions which it is said may easily be proved, but whose proofs are omitted. The latter is a procedure essentially bad from an educational standpoint; the former would be justifiable were the intention to provide a handbook to workshop practice for students familiar with the theory.

The present book does not cover much ground, but the authors have attempted to present as logical a treatment as is possible in so elementary a work. It is of course intended to be used only as a note book accompanying a course of experimental lectures; many paragraphs require amplification, this being especially the case where the treatment is of the generally accepted type. Where however the treatment differs from that usually adopted, as in the chapter on the magnetic circuit, the notes have been given more fully.

If it is desired to present a still easier course to the student, omitting many proofs and giving merely a descriptive treatment of the subjects, the following paragraphs may be read:—

Articles 1—34, 39—44, 56—58; or for a still shorter course, Articles 1—19, 27—33, 56—58.

C. E. A.

E. W. E. K.

*September, 1908.*

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