

sets out to give examples of some of the types of work involved, what qualifications are needed, and how best to make, or develop, an approach.

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There are two main divisions—**TRADE** and **PROFESSIONAL**.

The electrical **TRADE** may be divided into two sections:—

(a) *The Manufacturing Section*, which deals with the manufacture of electrical equipment and fitting—switches, switch-boards, conduit fittings, motors, generators, solenoids, magnetic fittings, heaters etc. This is a vast field.

(b) *The Servicing Section*, which handles the installation of manufactured appliances, and their maintenance, repair and periodical testing.

In the former section the main trade divisions, excluding the designer, are involved.

They can be summarised as follows:—

(1) Electrical fitter and turner, who handles the actual mechanical side, and who, in addition to a thorough knowledge of machine shop practice, must have a good understanding of the electrical application.

(2) The Electrical Serviceman who handles the assembly of various components and the testing of the completed article.

(3) The Electrical Wiremen and their Assistants who deal with the circuit assembly and final testing, and in many cases the installation of equip-



ment and preliminary operation of the gear.

(4) Specialist Process workers are also found in this section. These were originally only semi-skilled operators; but to-day are considered skilled artisans in the winding of coils, assembly of the component parts,

transformers etc; and also the operation of permanent testing installations. It is important to note that the man whose job it is to test electrical equipment can very rarely see the fault or trouble. If a steam turbine, a reciprocating steam engine, a petrol



engine, or a machine-tool refuses to function correctly, the source of the trouble can in almost every case be traced by a visual examination of the machine parts.

To become a registered electrical wireman requires a period of apprenticeship and attendance at a technical school. The Electrical Wiremen's Examination must be sat in the apprenticeship period. Candidates for registration must gain their practical experience under the supervision of a Wireman already registered. The minimum period of apprenticeship before registration is three years. Keen wiremen may possibly desire to branch out to a higher paid work, such as is available in power stations, and operators in large industrial plants.

From the above information the reader will no doubt visualize many attractive opportunities for men who have previously, through force of circumstances or because of lack of information, have been working in unskilled positions where advancement was limited, and who have since received introductory experience of the trade.

For the man who is prepared to work hard and undertake diligent study, this ever-increasing field of electrical work offers opportunity and an indispensable position in the development work of to-morrow.

A *professional engineer* generally means in New Zealand one who has after his name the letters B.E. (Bachelor of Engineering) or A.M.I.E.E.