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The Canadian Society of Civil Engineers.

INCORPORATED 1887.

ADVANCE PROOF—(*Subject to revision.*)

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NOTES ON POLYPHASE EQUIPMENTS OF SOME EUROPEAN HIGH SPEED ELECTRIC RAILWAYS.

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The operation of railways systems by electric power is a subject of special interest to countries like Canada, possessing such remarkable natural resources in the way of water power.

The application of alternating current induction motors to electric railroading has not made much headway in this country and in the United States, continuous current motors having almost absolute sway. In Europe, however, much work has been done, and at the suggestion of our President, I will endeavor to point out very briefly the characteristics of two high tension three phase R.R. systems, viz: The Valtellina R.R., in the north of Italy and the Berlin-Zossen Road in Germany.

The Valtellina three phase 3,000 volt R.R. system has been equipped by Ganz & Co. of Budapest. The length of this road is slightly over 66 miles and the maximum grade 2%.

The power is derived from a waterfall on the Adda River, near the town Morbegno. The station consists of three 1,500 K.W., 3 phase, 20,000 volt, 15 cycles generators, direct connected to three 2,000 H.P. Francis turbines working under 100 foot head. Three phase current is sent on an overhead line to twelve sub-stations.