

The Tech

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Although communications may be published unsigned if so requested, the name of the writer must in every case be submitted to the editor. The Tech assumes no responsibility, however, for the facts as stated nor for the opinions expressed.

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Contributions for The Lounger and The Tack should be addressed specifically to them at the office of The Tech.

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WEDNESDAY, FEBRUARY 7, 1917

THE ENGINEER'S PLACE IN THE WAR

MARS may or may not interrupt with mailed fist the peaceful regime America has enjoyed while Europe has been embroiled, but once aroused this country will not fail to respond to the martial note. The United States has been caught before in a state of unpreparedness, but volunteers and servitors were not lacking when it came time to strike. We have never leaned toward militarism and have not encouraged a large standing army. Yet in necessity the nation's defenders have appeared as if by magic. Our forces are dormant but ready to make themselves felt.

All of which comes down to the fact that the strength of any country lies in its raw material, and this country has an abundance of this whether the consideration be men or goods. Estimates give as high as forty-eight million men between the ages of eighteen and twenty-one as the number theoretically available in a period of five years, trained from the rustic recruit to the dutiful soldier. And with its wealth of minerals and manufacturing and agricultural accomplishments it is in a position to dictate with emphasis, whether with the typewriter or powder.

The young men are the fighting blood. They bear the brunt of the battle in its vital stages. The college man in particular is to be seen in his place in the file of those who assume the responsibilities of the nation's fight for supremacy. At Technology, at Harvard, at Yale, at Princeton—at a score of schools of higher education, a movement has been on foot to hasten the formation of a rifle team of voluntary regimental service and engineering corps and a cadet corps. Votes have been taken to establish a sentiment either way in regard to preparedness and compulsory military training. Pro and con the argument has wandered with the majority, at this time when war seems so near, in distinct favor of training the college for service.

If war comes, Technology is ready to give valuable service. It would be nothing short of criminal for men who have specialized to enlist as infantrymen. The environment of the technical school has its effect on even the freshman. The students at this institution have all had some military work in the two hours a week in the Technology regiment during the first year. For the general student body, the Engineer Corps offers the opportunity for self advancement in military points. And the engineering field is where Technology could shine. Today the government needs between five hundred and six hundred officers in its reserve engineering training corps. The examinations for these and other positions which will eventually place men in line for officer's commands are what should attract the college man.

In the present exigent situation haste is indeed the waster, as President Maclaurin pointed out at yesterday's overflow meeting. There are ways in which the talent of the Institute may be put to better advantage than would be gained by a concerted rush to assume the duties of the trench-digger. Self-communion and calm reflection should occupy the student before he commits himself to any branch of service and when he does, let him be sure that he is to serve in his most efficient capacity.

Technology is ready. The call may or may not come. But let serious reflection have its sway before the die is cast. Technology men can and will do their part but must serve among the leaders where the skill they have attained will be of more remuneration to the country.

E. E. SOCIETY TRIP

Party Inspects Plants at Buffalo, Schenectady, and New York

Several members of the Electrical Engineering Society had an interesting inspection trip to Schenectady, Buffalo, and New York, where they were able to see how many of the theories which they have learned are employed in actual practice.

The first plant which was inspected was that of the General Electric Company in Schenectady, where the men were cordially entertained and a whole day was spent inspecting the various shops.

Among other things the party saw a new method of regulating the speed of induction motors for rolling mill use. By means of an auxiliary commutating A C generator the voltage drop in the rotor winding of the induction motor was increased when it was desired to increase the slip and lower the speed. When it was desired to run above synchronous speed the I R drop in the rotor was first overcome, then the rotor of the induction motor began to pump back power into the commutating A C machine, thus becoming an induction generator and revolving above synchronous speed. The whole process was controlled by regulating the shunt field of the commutating generator. By this method it is possible to obtain a regulation of fifty per cent over or under synchronous speed. The great advantage of this method of regulating the speed of rolling mill machinery, is that the speeds obtained are definite, and not subject to more than five per cent change with change of load.

Men graduating from Technology this year will be offered \$12.85 per week for a year's apprenticeship in the test department of the General Electric Company with good prospects of advancement as soon as they have demonstrated their ability. There is at present a ten per cent bonus paid on this salary, but this is not guaranteed. The company will take men only until its needs are satisfied.

The next day of the trip was spent in inspecting the works of the American Locomotive Company, where the complete process of building a locomotive was observed.

From Schenectady the party went to Buffalo, where the Lackawanna Steel Works were inspected the following day. Probably the most spectacular sight of the trip was witnessing the huge converters spouting forth their gusts of livid flame, the hissing streams of molten steel, and the bars and rails of glowing steel darting over the floor as if alive.

In the afternoon a trip was made to a large power station in process of construction. This plant will take some of the load from the hydraulic plants at Niagara Falls. At present only one large unit is in operation, but it is expected that the whole plant will soon be completed. Nearly all the current around Buffalo is either 25 cycles or direct. The flicker of the 25 cycle lamps is at times quite disagreeable.

The following morning was spent in visiting the hydraulic developments around Niagara Falls, and the afternoon was devoted to sightseeing. On account of the war the party was not permitted to inspect the Canadian plant.

At New York City the next day the men inspected the Edison and New York Railway's central plants, and one D. C. sub-station of the Edison Company. All the electrified street railways in New York City use the slotted track third rail system.

The following morning was spent in inspecting the laboratories of the Western Electric Company, where tests are made on all kinds of telephonic apparatus, and experiments are conducted with a view of improving the service and lessening costs. Among other things which the men inspected were wireless telephones, loud speaking telephones, and an automatic exchange system, which it is proposed for use generally if it proves more economical and efficient than the manual system, which is employed at present. Luncheon was taken with some of the Western Electric Company's men upon their invitation.

A man from the Western Electric Company will visit Technology in a few weeks and explain opportunities for employment with this corporation.

Further details of the trip will appear in the March issue of the Technology Monthly.

WEARERS OF THE "T"

All wearers of the "T" will meet at Notman's Studio Saturday at 1.15 o'clock for the photograph of the Insignia Club.

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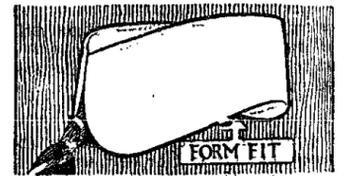
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