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## EDITORIAL

Steel is the material most in demand for "General Engineering" work in India. For structural work Mild Steel is the commonest in use. But Cast Steel is coming increasingly into use wherever lightness has to be combined with strength, particularly for mobile structures, such as the under-carriages of Railway wagons, or Stems and Sternposts and propeller-shaft brackets for ships. The production of Cast steel is still in its infancy in India and there are few firms which produce accurate and reliable cast steel parts. During the last world-war, just past, Cast steel parts were required for a number of Naval Craft. But there were so few producers that orders had to be placed six months ahead and yet completion of vessels was held up considerably for delay in receipt of castings. In several cases, the castings were not according to pattern. In other cases they had twisted out of shape. Improvement in the quality of castings and increase in the rapidity of production would be a great boon to the country. In order to obtain this improvement it is necessary to have a knowledge of the past as well as the present methods of steel manufacture. These are briefly described in the paper read on the 17th November, 1949 before the Association of Engineers by Mr. N. G. Chakravarti and published elsewhere in this issue.

The paper does not touch on Alloy Steels as this would be too large a subject. Alloy steel's which combine lightness with strength and at the same time resist corrosion by atmosphere and sea water are extremely desirable. There are some types at present in the market but their price is prohibitive for general use. The production at reasonable cost of some material that would not require costly periodical painting to protect it against corrosion would indeed be a great boon to all and efforts for its production should be constantly maintained. For this a research laboratory is essential. The cost

accounting of laboratories is somewhat ambiguous. The profits derived from laboratory work cannot be directly seen as much time has necessarily to be spent before results are achieved and the value of the achievement assessed. To most people a laboratory is an expensive hobby and few care to spend money on it. But if producers in this country are to stand up to competition from abroad, they must maintain laboratories to improve the quality of their work.

Indian steel is still suffering from bad reputation and Indian engineering from shortage of production of steel. At present there are a large number of proposals on hand for replacement of over-aged vessels that could not be replaced during war time. Many of these could well be built in this country but it is apprehended that the steel position will force the orders for these to be placed abroad. Due to unavailability of steel at the moment required, no manufacturer is in a position to guarantee a date of completion and delivery. Authorities controlling the steel distribution must see to it that delivery dates are not adversely affected by their methods of control.

As in the case of Research so in the case of Education expenditure is too often looked upon as a doubtful investment and whenever means for reduction of national expenditure is sought for, the first expenditure to be cut is that on education. While the administration in India was under foreign control it was thought that this neglect of education in India was due to a natural step-motherly attitude. But it is regrettable that the same attitude is now being shewn by the Indian administration which is now in vogue. They apparently cannot find the means of increasing the revenue and must perforce cut down expenditure. But we do not understand how reduction of expenditure on education is going to help the country. If the logical consequence were followed and every parent reduced the expenditure on the child's education in order to balance his budget what would the country come to?

Technical education in this country is sadly suffering for want of sufficient schools, equipment and properly paid teachers. The standard at present maintained is unavoidably low and requires greater funds for improvement.

Immediate returns in money value for expenditure on education must not be looked for. Education is a long-term investment and its results cannot be shewn in account books. But a comparison between countries with and without high expenditure on education will show the differences in development of those countries and the importance of this expenditure.