

TEXT A. BETTER METALS ARE VITAL TO TECHNOLOGICAL PROGRESS

Since the earliest days the preparation of metals for mechanical use was vital to the advance of civilization.

Gold, silver and copper were the first to be used by a primitive man, as they were found free in nature. Today we know more than sixty-five metals available in large enough quantities to be used in industry.

Metals are mostly solids at ordinary temperatures and possess comparatively high melting points with the exception of mercury. They are for the most part¹ good conductors of heat and electricity, and silver is the best in this respect.² They can be drawn into fine wires and hammered into thin sheets.

As to³ their chemical properties the first point to be mentioned is that they vary widely in degree of chemical activity: some are enormously active and others are inert. The Earth contains a large number of metals useful to man. Of all metals to be utilized in industry iron remains by far⁴ the most important. Modern industry needs considerable quantities of this metal either in the form of iron or steel.

To get the desirable characteristics in metals or to improve them the art to mix metals and other substances began to develop. The first alloys that were formed in this way were sometimes stronger, tougher, harder and more elastic than the metals of which they were composed. To estimate nowadays how many alloys there exist in the modern world is difficult because their numbers increase daily.

To serve special uses modern metals and alloys must be lighter yet stronger, more corrosion-resistant, more suitable for automated fabrication yet less expensive than those available before.

Scientists are developing new processes and improving old ones in order to produce metals and alloys that will meet the present-day requirements. One of the most interesting purposes is, for instance,⁵ to make metals stronger, in other words, to strengthen them by reinforcing them with fibres.

Today transportation, communication, farming, construction and manufacturing all depend on the availability of suitable metals and alloys.

Notes on the Text

1. for the most part — большей частью
2. in this respect — в этом отношении
3. as to — что касается
4. by far — несомненно
5. for instance — например