6. Mines are going to great depths: the Village Deep on the Rand has now reached a depth of 7,600 feet below the surface, or about 2,000 feet below sea level. This introduces new problems in rock support, hoisting and ventilation.

7. Methods of mining, ore dressing and metallurgical treatment are becoming more complex and scientific.

8. Lower-grade material is being mined, which requires greater economy and closer attention to details of operation.

9. Increasing technical demands make specialization almost essential, but the graduate has little opportunity to choose his specialty and must have a sufficiently broad training to enter any field. This he can do if he is well grounded in the fundamentals.

10. Mining engineers are more and more being called upon to assume the general management of mining enterprises.

These tendencies in mining make a greater demand upon the mining engineer and necessitate his having a broad scientific training. At present it is desirable for a mining engineer to have, in addition to the fundamental knowledge necessary in all branches of engineering, a working knowledge of electrical engineering, inorganic chemistry, the geological sciences, surveying, ore dressing and non-ferrous metallurgy. In addition to this he needs at least elementary knowledge of mechanical engineering, hydraulics, structural engineering, the strength of materials, and methods of mining. An elementary knowledge of organic, physical and colloid chemistry is desirable for those engineers who intend to follow milling but cannot be given except in post graduate years or as optional subjects. The introduction of options into