

2. Zinc vapour, when injected into Bunsen flames, is not ionised, and does not emit any light characteristic of the spectrum of zinc.

3. A Bunsen flame which is supplied with cadmium vapour emits light of wave-length  $\lambda = 3260.17$  A.U. when the intensity of the flame is weak, and when burning strongly it emits light of wave-length  $\lambda = 2288.79$  A.U. as well. The cadmium vapour in such flames does not appear to be ionised.

4. Magnesium vapour which is fed into the flame of a Bunsen burner emits light of wave-length  $\lambda = 2852.22$  A.U., and the vapour in the flame is ionised. The ionising potential for atoms of magnesium vapour appears to be 4.28 volts.

5. Thallium vapour, when it is fed into a Bunsen flame, becomes strongly ionised, and under these circumstances emits light of the wave-lengths  $\lambda = 5350.65$  A.U. and  $\lambda = 3775.87$  A.U.

6. The combined results of the investigation neither conclusively support nor definitely tend to invalidate Bohr's theory of atomic structure.