

traditions and ably utilising them in the interests of science, are nevertheless not willing to be slaves of these traditions; the science which has the courage and determination to smash the old traditions, standards and views when they become antiquated and begin to act as a fetter on progress, and which is able to create new traditions, new standards and new views.

NEW YEAR STATEMENT

by academician Peter Kapitsa

(Kapitsa has won world fame for his work in physics, notably his investigation of behaviour of materials in strong magnetic field. He is also a talented engineer. He invented the expansion turbine for the providing oxygen in huge quantities for acceleration of number of technological processes in iron and steel, nonferrous metal, chemical and other industries).

"You ask what I am working on now? Instead of an answer let me reply with a question: what is hydrogen? Many people think hydrogen is gas, but they forget that it is really metal in gaseous state.

If you like, I shall show you the institute which the Soviet Government built for my experiments. There you can see hydrogen in the form of hard, gleaming, transparent crystal. I obtained solid hydrogen which is visible to naked eye by freezing gas at two hundred and sixty-one degree below zero by centigrade. On the threshold of the absolute zero I "killed" thermal motion of atoms of hydrogen and saw this metal in the state of rest.

Come with me. When I close this switch on the desk the current of seventy-five thousand amperes is released. The huge magnet immediately turns hydrogen into gas and it evaporates.

Investigations to which I have devoted so much attention are of great importance in building up a new theory of metal.

My wishes for 1946? I'll tell you quite frankly. My plans of work are very extensive and my wishes do not in any way differ from those of an ordinary man in the Soviet Union. I want to work with the greater persistence for the benefit of the State which is giving everything for the peaceful life of creative work for progress of culture, science and art."