These magnetons are supposed to be due to the rotation of electrons in their orbits.

A similar theory has been proposed by Parsons, which suggests that the electron itself is magnetic and its magnetism is due to its rotation. Parsons imagines the electron to be in the form of a ring rotating on its axis with high speed. This ring is called, "the magneton," by Parsons. This magneton has the virtue of being easier to visualize. But all of these theories are incomplete and open to criticism. If the magnetic effects are electronic and affected as we know by temperature, we may hope that experiments, carried on at excessively low temperatures where the heat vibrations are very small, will lead to the clearing up of many difficulties. To paraphrase the words of a recent writer we may say that in magnetism we have a field of physics in which investigators have toiled for nearly a century, and all that we have are disconnected facts, a few scattered theories and a feeling of helplessness when we attempt to get a larger view of the facts and theories.

In the atoms of certain of the chemical elements, notably radium, there are changes that are peculiar. Occasionally one of these atoms loses one or more of its elementary charges. These elementary charges leave the parent atom with prodigious speed and cause the phenomena associated under the name radio-activity. These phenomena are electronic in origin and independent of the temperature. This suggests the view already mentioned that the vibrations of the atoms, which we call heat, do not control the motions of the electrons. This has been proved experimentally down to the temperature of liquid hydrogen. It would be interesting to push the experiment further and lower the temperature to the helium region. There is no reason to expect anything new, but there was no expectation of finding a super-conducting state.

One more question whose solution may appear with continued cryogenic experimenting is one raised by the density of liquid helium. We have good reason to believe that the element helium in the gaseous state is monatomic, i.e. its elementary particles are single atoms. Then its inertness, forming as it does no chemical combinations, indicates a comparatively simple structure. When liquefied at —268.8° the density of