others make him responsible only when he is aware of their character.

Altogether the four reports show a growing interest in the subject of adulteration and an increasing tendency to legislate on the subject. It would appear, however, that no general results will be obtained until there is some national law which will regulate the trade between states in adulterated goods. When such a law is passed we may soon expect an efficient control and a consequent greater field for chemical usefulness and employment. C. L. PARSONS.

KRÄFTE DER CHEMISCHEN DYNAMIK. VON DR. LUDWIG STETTENHEIMER. pp. 88. 8 vo. Frankfurt am Main: H. Bechhold. 1895. Price, 6 m.

These three lectures appear to have been held before a mixed audience, containing probably more mathematicians or physicists than chemists. They are of a polemical nature, against the molecular hypothesis, but they confine themselves to general problems and do not touch at all upon the purely chemical relations, such as those of isomerism, polymerism, and organic reactions. As far as can be extracted from a somewhat involved line of argument every substance whether a mixture, compound, or simple substance is to be regared as a homogeneous individual as long as chemical reaction does not take place. There is no separation into molecules, but every atom reacts upon every other atom in a purely mechanical way, as do the celestial bodies; atoms near one another simply influencing each other to a larger degree than those further apart. The introduction of any new atoms, whether of the same or of another sort, disturbs the equilibrium which can be restored either by an equal distribution of the new atoms throughout the mass without disturbing the relative positions of the old atoms, or by a total rearrangement of the positions.

In the discussion of the solid state, views similar to those of the late T. Sterry Hunt are developed, but they are extended over the liquid and gaseous condition as well.

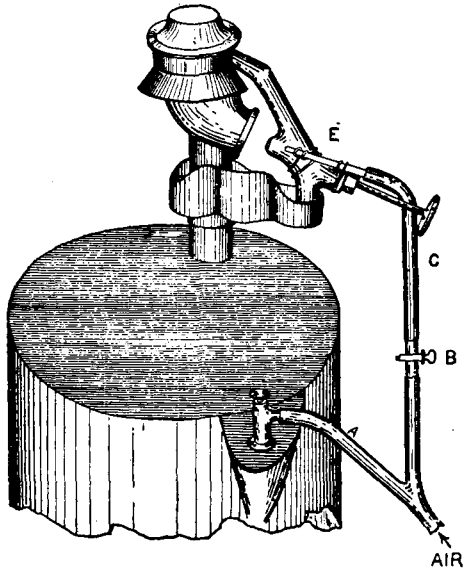
All disturbances of the relative positions of the atoms are considered chemical reactions, whether these be performed by simply separating them mechanically, as in pouring half of a liquid into another vessel, or by what are ordinarily known as chemical changes or, by electrolysis, change of aggregation, etc. The

various modes of energy are all considered to depend exclusively upon relative changes of position between the atoms. Such views as those of Williamson's hypothesis are discarded because atoms are not even momentarily associated into real molecules.

It is difficult to criticise the reasoning, inasmuch as it is based upon the most general forms of phenomena and deals with these in the largest possible fashion, dealing with infinitesimal disturbances in very large masses. Until the subject is applied to purely chemical reactions in greater detail no gain can be perceived in these new assumptions. The grounds upon which the molecule, as a physical identity, is abandoned, appear to be somewhat trivial. M. L.

NOTES.

An Improvement on the "Dangler's Laboratory Lamp."—The enclosed sketch illustrates an improvement on the "Dangler's Laboratory Lamp." After using this lamp for about two years it began to burn with a smoky flame. I then introduced a small jet of air into the flame as shown. By the help of the glass stop-cock the air is regulated, while a steady pressure is exerted on the gasoline through the side tube A. In this way the lamp will burn all day with a uniform and most perfect flame, strong or weak, as desired; no gas-burner can possibly give better satisfaction.



B. Glass stop-cock.
C. Rubber tubing.
E. Glass tip kept in place by a copper wire.

The air-blast is obtained from a Bunsen filter-pump, which is supplied with water from an artesian well.

ANDREW LUNDTEIGEN.