

meeting of the board held on March 16th Dr. W. H. HASKELL moved the following resolution:

That in cases of instrumental and abnormal labour this board, having ascertained on inquiry that the midwife acted in a bona-fide manner in sending for a medical man other than the Poor Law medical officer pay the former a fee not exceeding 1 guinea.

On the suggestion of Mr. GARLAND the words "was justified" were substituted in place of "acted in a bona-fide manner," and with this alteration the motion was carried unanimously.

### TRANSMUTATION OF ELEMENTS.

SIR WILLIAM RAMSAY, in delivering his presidential address before the Chemical Society on March 25th, contended that recent experiments conducted in the laboratories of University College made it at least probable that thorium nitrate engendered carbon dioxide, or in other words, that one of the disintegration products of thorium was carbon. Carbon was also stated to have been produced from zirconium, but not from mercury or lead, and what is even more remarkable, from bismuth.

Sir William Ramsay summarized the various arguments in favour of transmutation. These were, briefly, as follow:

1. The subtraction from or addition to an atom of an element of one or more electrons, by virtue of which it is converted into an ion, completely changes the properties of that element.

2. The fact is incontestably proved that certain elements termed radio-active are losing electrons, and are thereby being converted into other forms of matter, which in our present nomenclature have equal claims to be considered elementary.

3. The influence of ultra-violet light on many, if not all, elements is manifested in causing them to part with electrons; it is not, however, thereby proved that they yield other elementary forms of matter.

4. The effect of chemical change is usually manifested in a gain or loss of energy. There is reason to believe that change from one elemental form of matter into another would be accompanied by an unusually large gain or loss of energy, for it is known that the "degradation" of radium is coincident with the loss of a relatively enormous amount of energy. This energy, moreover, is in a highly concentrated form; much energy is contained in small volume, or, what amounts to the same thing, in small mass, using the word in the sense of quantity of matter.

5. It appears that the irregular regularity of the numbers representing the atomic weights can be represented on the hypothesis that the addition or subtraction of definite groups of electrons is the cause of their divergence from a perfectly regular series.

Sir William Ramsay then discussed briefly the experiments of Mme. Curie and Mlle. Gleditsch and suggested as a possible reason why they had failed to transmute copper to lithium was that the conditions of his experiment had not been exactly observed. It was, of course, also possible that in presence of emanation and a copper solution, a trace of lithium was dissolved from the glass vessel which escaped solution in the absence of emanation. Passing from this point he detailed the results of Mr. Cameron's hitherto unpublished experiments on silver nitrate subjected to the action of radium emanation, and showed the results to be negative, the energy of the emanation having been largely expended in separating and depositing a relatively large quantity of metallic silver. He then described the experiments conducted on thorium nitrate. Successive experiments with this substance, undertaken to test the evolution of helium had failed to settle the question definitely, but 270 grams of acid thorium nitrate were found to produce in 173 days 1.08 c.cm. of carbon dioxide. On the other hand, 300 grams of mercuric nitrate in a little over seven months produced only 0.015 c.cm. of carbon dioxide.

On treatment of thorium nitrate with radium emanation carbon dioxide had also been found to be evolved. Zirconium nitrate treated with radium emanation had generated carbon dioxide, and a small quantity of the gas had also been obtained from hydro-silico-fluoric acid;

the treatment of lead nitrate with emanation had given a negative result.

A still more interesting apparent transformation was that obtained on treating bismuth perchlorate with emanation. Despite the fact that bismuth belonged to the nitrogen group, carbon dioxide had been generated in very appreciable quantity, but no nitrogen.

Sir William Ramsay described some of the precautions taken to ensure accuracy, and it may be mentioned here that the possibility of the carbon dioxide being produced from grease on the stopcocks of the apparatus was disproved; further, that special precautions were taken to exclude the presence of even traces of air. Sir William Ramsay concluded as follows:

"Such are the facts. No one is better aware than I how insufficient the proof is. Many other experiments must be made before it can be confidently asserted that certain elements, when exposed to 'concentrated energy,' undergo degradation into carbon."

### LITERARY NOTES.

THE forthcoming double section of the Oxford English Dictionary, which is by Dr. Craigie, contains the words from Ribaldric to Romanite, 3,161 in number. Of these words, 2,747 are illustrated by quotations, and altogether no fewer than 17,677 quotations are given. Comparison shows that the largest number of words recorded in any other dictionary which is at all comparable is 1,366, and of quotations 1,664. Some of the more interesting words are rick, rickets, rifle, rigmarole, roam, roar, Robin Hood, rhodomontade, and rogue. This instalment will be followed by a portion of S by Dr. Bradley.

In *Chambers's Journal* of March 1st Mr. A. Stodart Walker continues an interesting series of articles entitled "Some Celebrities I Have Known." The present list includes Huxley and William Rutherford, the physiologist. Of the former he says that on hearing Robert Louis Stevenson's depreciatory estimate of the Edinburgh climate he said: "I quite agree with him. I now understand why Edinburgh people are so strong; your *summer* kills off all the weak ones." Rutherford, whose assistant Mr. Stodart Walker was, he describes as "genial if eccentric." We have no wish to revive the echoes of

Old, unhappy, far off things,  
And battles long ago,

but we may be allowed to say that Mr. Stodart Walker seems to have been more fortunate in his personal relations to Rutherford than some other assistants of the distinguished teacher. The stories told of him are mostly "chestnuts" in more or less inept metamorphoses. But the stories told of his encounters with noisy students show that in that rough form of controversy Rutherford was quite able to hold his own.

In the *JOURNAL* of March 6th a summary of observations made by Dr. Elmer E. Jones on himself as to the waning of consciousness under chloroform was given. The following account (which we take from the *Guy's Hospital Gazette*) of the experience of a small boy while under the influence of gas in the dentist's chair may be interesting:

The sensation is very queer, but it is soon over. You dream very many things, and very funny things. I will just give a few facts of my dreams. At first I felt as if I were sinking down in the earth; then I found myself in a cave with 1,000's of little beings generally known as demons, which were very fat. Then one demon eat another, and that one another, and another one eat that one, and so on until only a few very fat ones were left. These turned very thin and very tall until they turned into strings, and then (somehow or other, a way which I can't remember) they multiplied until there were 1,000's of strings (very long). Then my head, which jumped off my shoulders, jumped on top of them, and then snakes appeared and hooked on to each other, and formed (altogether) a sort of large tassel. Then the tassel got smaller and came to a tassel of a railway carriage blind, and all of a sudden I was in a railway carriage. This, however, woke me up, and I was in the dentist's chair with the tooth extracted.

In a recent number of *Public Opinion*, which, by the way, gives week by week in a condensed form the cream of the best that is said by leaders of opinion of all shades throughout the world, there is the following story:

"Mr. President," said a United States Senator, speaking in the House, "I am confident that before our financial physicians