prised a second specimen of pitchblende from the same locality as the first; carnotite from Montrose County, Colorado; gummite from North Carolina; and pitchblende from Bohemia. All the minerals, with the exception of the gummite, contained both copper and lithium in easily recognisable amounts. The qualitative analysis of 1 gram of the gummite showed no copper, but did show the presence of lithium in small amount.

The discovery of lithium and copper in uranium-radium minerals does not necessarily indicate the change of copper into lithium, since the presence of lithium may have been fortuitous; but assuming the accuracy of Prof. Ramsay's observation, the presence of lithium in uranium-radium-copper minerals is precisely what one should expect. The presence of lithium and absence of copper in the sample of gummite may be explained by the assumption that the change of copper into lithium has been completed. It may be added that even if further investigation should reveal the absence of lithium in any uranium-radium-copper mineral, the result would not constitute a valid argument against Prof. Ramsay's hypothesis, since the latter referred to copper in solution and not in the solid state.

HERBERT N. MCCOY.

University of Chicago, November 6.

A Convenient Formula in Thermodynamics.

It is possible that many teachers of thermodynamics may not have noticed that the characteristic equation for 1 kilogram of air takes the easily rememberable form $p v = T/10$, when p is measured in standard atmospheres, v in cubic feet, and T in thermodynamic centigrade degrees, the accuracy of the even integer being fully as great as that of the gas law itself. These units are, of course, a curious mixture of the English and Continental systems, but this seldom makes much difference in actual problems, and the convenience of the formula for rough mental computations is sometimes very great.

The data upon which this computation of the gas constant is based are the statements in the third (1905) edition of Landolt and Boernstein, that 1 litre of air under standard conditions weighs 1.2928 grams, and that an English yard is 0.91438 metre, and the value $T_0 = 273^{\circ}.13$ given by Buckingham in the Bulletin of the Bureau of Standards for May. The value $R = 0.1$ is consistent with these assumptions within less than one-fiftieth of 1 per cent.

The corresponding values of C_p and C_v , reduced from the mean of the results of Regnault (1862), Wiedemann (1876), and Witkowski (1896), are $C_p = 0.3467$ and $C_v = 0.2467$ cubic-foot-atmospheres.

Cambridge, Mass.

HARVEY N. DAVIS.

A Miocene Wasp.

IN NATURE of June 13, 1901 (vol. lxiv., p. 158), I described a curious variation in a bee (*Epeolus*), the second transverso-cubital nervure of the wings having its lower half absent. This aberration was evidently an example of "discontinuous variation," and from its occurrence in several specimens captured at the same place, it seemed that it must be inherited. There is a genus of Scoliid wasps, *Paratiphia*, in which the absence of the lower part of the first transverso-cubital nervure is normal. The species, found principally in the southern and western parts of North America, are quite numerous; and the broken nervure, looking exactly like the aberration described in the bee, is a good generic character. Nothing has hitherto been recorded concerning the past history of this genus, but I have before me a well-preserved *Paratiphia* from the Miocene shales of Florissant, Colorado, collected by Mr. S. A. Rohwer at station 14 in 1907. This insect, which I shall call *Paratiphia prae fracta*, is black, with the thorax large and robust (about 4 mm. long and $3\frac{1}{4}$ mm. broad); the head rather small (slightly more than 2 mm. diameter); the antennæ thickened; the abdomen constricted between the first and second segments, and parallel sided beyond; the hind

tibiae dentate on the outer side; the wings clear hyaline, anterior wing about 7 mm. long, with the large stigma very dark, the nervures light ferruginous. The specimen is a male. The venation is perfectly normal for *Paratiphia* in every respect, including the broken transverso-cubital vein.

It is certainly an interesting fact that a character like that of an imperfect vein, which can arise suddenly as a mere aberration, should persist from Miocene times (at least) to the present, and characterise a whole genus. From observations on bees and other Hymenoptera, it is evident that this modification has occurred many thousands of times without becoming permanent; that it has become so in the case of *Paratiphia* is therefore all the more remarkable.

T. D. A. COCKERELL.

University of Colorado, Boulder, Colorado,
November 7.

The Eggs of the Platypus.

SINCE writing the notice of Mr. le Souef's book on Australian wild life in NATURE for October 24 (vol. lxxvi., p. 635), I have been making inquiries as to the existence in collections of any examples of platypus egg definitely known to have been taken from the nest after extrusion. It has been suggested to me that Mr. Caldwell and Dr. Semon might possess such specimens. The former gentleman told me, however, some years ago that he never found an extruded specimen, and I learn from Dr. Semon that he was equally unsuccessful in this respect. In his letter he writes that "I have never found extruded eggs of *Ornithorhynchus*, but only intra-uterine specimens. To obtain the former, it would be necessary to open a very large number of burrows."

In the central hall of the British Museum is shown an egg-shell of a platypus sent from Queensland by Mr. G. P. Hill in 1902, but this, like Mr. le Souef's specimens, was doubtless found in its present broken condition.

Such broken shells might, apparently, be extruded from the uterus with the foetus; and, so far as I can find, there still appears to be no definite evidence that the eggs are really laid entire.

THE REVIEWER.

November 15.

Literature relating to Australian Aborigines.

IN NATURE of May 9 (vol. lxxvi., p. 32) I observed a communication from Mr. R. H. Mathews in which he makes certain statements imputing to me, by insinuation, what amounts to literary dishonesty. Will you kindly permit me to express my views on the subject?

Mr. Mathews says that I have "ignored" certain statements made by him in communications to scientific societies, and which were published before the appearance of my "Native Tribes of South-East Australia" in 1904, in which I record the same facts.

Mr. Mathews speaks of my account of the Dora ceremony, and makes the following insinuation:—"Dr. Howitt 'ignores' that I described that rite in January, 1900. If he did not avail himself of my work, which appeared four years earlier than his, then there is a wondrous agreement in our details."

My account of the Dora ceremony was given to me by Mr. Harry E. Aldridge in 1882. It was from his own experiences at the ceremonies on more than one occasion, and he had a knowledge of the tribal language.

Mr. Mathews also says that I "ignore" a map which he published in 1900, and which is substantially the same as one at p. 44 of my work. He adds the following sentence:—"In comparing the two maps and the explanatory letterpress accompanying mine, we observe a marvellous coincidence. Many other examples could be cited."

The map showing the native tribes of South Australia at p. 44 of my work was compiled from data supplied by the Rev. Otto Siebert, who obtained them by careful and protracted inquiries from persons knowing the several localities, as well as from personal knowledge. Practically