

**Isomorphism and Chemical Homology.**

IN NATURE of Dec. 13, 1930, p. 916, is a communication by Prof. Willy Lange, of Berlin, referring to a letter by me<sup>1</sup> on this subject. The misunderstanding can be easily cleared up. Dr. P. B. Sarkar has been working in this laboratory for a long time on the chemical homology and isomorphism of complex ions, and his first paper on the subject, on the homology of fluoberyllates and sulphates, was published in 1929.<sup>2</sup> In continuation of this work, and proceeding on the basis of Goldschmidt's principles of isomorphism, he was investigating the possible cases of isomorphism among the inorganic complex radicles or ions. It was a pure accident that he should have been working on the isomorphism of monofluophosphates and sulphates when Prof. Lange's paper appeared in the *Berichte* of the German Chemical Society. As in this paper only the simple monofluophosphates and sulphates were described, and crystallographic investigation only of the same was promised, it was not considered necessary to give up that part of Dr. Sarkar's work which dealt with the isomorphism of double monofluophosphates and double sulphates, and even then a year was allowed to pass by in awaiting further communication on the subject by Prof. Lange. As nothing appeared in the interval giving any indication on Prof. Lange's part that he would extend his work in this direction as well, I did not consider it justifiable to withhold the publication of this part of Dr. Sarkar's work any longer. Prof. Lange's petition to the Notgemeinschaft der deutschen Wissenschaft on April 29, 1929, regarding the formation of alums by the fluophosphates did not appear in any scientific journal or abstracts, and hence could not attract our notice.

However, I deplore the omission of Prof. Lange's name in my note, which was not made with any desire to claim priority; complete recognition of his work will be made when Dr. Sarkar's work is published in full.

P. C. RAY.

University College of Science and Technology,  
Calcutta, Mar. 3.

<sup>1</sup> NATURE, Aug. 30, p. 310.

<sup>2</sup> *Jour. Indian Chem. Society*, vol. 6, No. 6; 1929; and NATURE, Sept. 28, 1929, 124, p. 480.

**The Karoonda (S.A.) Meteorite of Nov. 25, 1930.**

FOLLOWING on my letter of last week [see NATURE, Mar. 14, p. 402] concerning the Karoonda meteorite, I now enclose a brief report by Mr. A. R. Alderman, of the Geology Department, University of Adelaide, giving the results of a petrographical and chemical examination made by him of the substance of the meteorite.

The final results of the chemical analysis will not be available for some months.

KERR GRANT.

The University of Adelaide,  
Adelaide, Feb. 13.

The dark greyish interior of the meteorite consists of a dull ground-mass relieved by numerous black chondrules and spangles of a brassy mineral which is probably troilite (ferrous sulphide). The chondrules are very hard and compact and may quite easily be rubbed away from the friable ground-mass by the fingers.

Undoubted metallic nickel-iron is present in such small amount as to be indistinguishable in the hand specimen.

A rough microscopical examination reveals that olivine is by far the most important mineral in the ground-mass. Some hypersthene is also present.

The chondrules consist of these minerals with a good deal of glassy material. Minute granules of nickeliferous iron are but rarely seen, but grains of an opaque brassy mineral are of very variable size and are apparently troilite.

The chemical analysis (not yet completed) is in agreement with the mineral composition. Silica is very low, about 34 per cent, whereas in the silicate material ferrous iron is present in greater amount than is magnesia.

An accurate estimate of the percentage of metallic material is not yet available, but it seems probable that metallic iron constitutes less (possibly much less) than 0.3 per cent of the specimen analysed. Nickel is of the order of 0.03 per cent.

**Medicinal Cod Liver Oil.**

IN our recent Report to the Empire Marketing Board on the Relative Values of Cod Liver Oils from Various Sources (E.M.B. 35), noticed in NATURE of April 4, p. 538, an unfortunate blunder has arisen during the revision and proof-reading of the introductory chapter.

Reference 6 on page 9 is incorrectly given and should, of course, refer to the important paper by Prof. Steenbock and his colleague Dr. Boutwell in the *Journal of Biological Chemistry*, vol. 42, p. 131; 1920.

Immediately our attention was directed to the error we wrote to Prof. Steenbock expressing our great regret and, although he desired that we should give no further attention to the matter, we feel that we must override his wishes and make public our correction of the mistake.

On the same page the reference to Prof. E. Mellanby's pioneer researches on the causation of rickets might suggest that his results were not published before 1921. We were, of course, well aware of his earlier contributions to the subject but thought it better, in a brief summary, to refer the reader to the full account of his earlier work which was published by the Medical Research Council.

We would like to express our apologies to these distinguished investigators.

J. C. DRUMMOND.

University College, London.

T. P. HILDITCH.

University of Liverpool,  
Mar. 25.

**Atomic Weight of Krypton.**

WHILE measuring the dielectric coefficient of a particularly pure sample of krypton, it occurred to me that a density determination would be of interest in view of Aston's recent statement that the accepted value of the atomic weight appeared from his measurements on the relative quantities of the isotopes to be much too low.

I made a comparison of the densities of krypton and oxygen by means of the microbalance and found that at 25° the pressures at which the two gases had equal densities were 301.15 mm. and 787.8 mm. If the compressibility corrections were proportional for the two gases, the atomic weight of krypton would be 83.71, while using the most probable value for the compressibility of krypton which I calculated in 1910, the figure reduces to 83.62.

While these results must not be considered final, it appears highly probable that Aston's figure 83.77 is more accurate than the accepted 82.9.

H. E. WATSON.

Indian Institute of Science,  
Bangalore, India, Mar. 17.