

hyoid cartilage (or bone) usually, but not always in direct contact with that structure. They are placed either between the hyoid cartilage and the hyoglossus muscles, or else immediately to the outer side of the latter, just anterior to the point of their convergence. Their structure is similar to that of other thyroid glands. The paper is accompanied by eighteen uncoloured and two coloured drawings, illustrating the subjects described.

## II. "Note to the Paper on the Structure of the Immature Ovarian Ovum in the Common Fowl and in the Rabbit."

By E. A. SCHÄFER, F.R.S. Received November 24, 1880.

Attention was drawn in the above mentioned paper ("Proc. Roy. Soc." vol. 30, p. 239, and fig. 9) to certain peculiar bodies (pseudo-nuclei) in the vitellus of some immature ovarian ova of the bird, the origin and interpretation of which were left in doubt. In a paper by Rauber,\* which I had not seen at the time, the bodies in question are specially noticed, and an account of them is given which agrees closely with mine. I confess, however, I should be slow to acquiesce in the opinion (which Rauber seems disposed to adopt) that they are either directly or indirectly products of immigrated white blood-corpuscles. So far as I can see they appear to be nothing else than condensations of vitelline substance.

I would further take this opportunity of mentioning that the convoluted tube delineated in fig. 35 of the paper referred to in the heading of this note is not to be supposed to represent any part of an egg-tube, but the remains of a tubule derived from the Wolffian body. It is inserted to show the distinction between the two kinds of tubes which may be met with at the same time in the ovary.

## III. "Note on a Communication made to the Royal Society by Professor Roscoe, LL.D., F.R.S., 'On the Absence of Potassium in Protagon prepared by Dr. Gamgee.'" By J. L. W. THUDICHUM, M.D., F.R.C.P. Lond. Communicated by JOHN SIMON, C.B., D.C.L., LL.D., V.P.R.S. Received November 25, 1880.

With reference to a communication which Professor Roscoe has recently made to the Royal Society on the subject of "Protagon"

\* A. Rauber, "Ueber den Ursprung der Milch und die Ernährung der Frucht im Allgemeinen." Leipzig, 1879.

prepared by Dr. Gamgee, I beg leave to submit the following brief statement.

In order to decide whether "Protagon," as described in 1864 by Oscar Liebreich, is really a definite chemical body, a true immediate principle of the brain, it is of course essential to know whether the substance, prepared as Liebreich directs, does or does not contain other matters than those for which he accounts in his formula of "protagon;" and on this question (or rather on part of it) Professors Gamgee and Roscoe have joined issue with me before the Royal Society.

My contention for some years had been that Liebreich's "protagon" does always contain matters which are foreign to its alleged formula, that it contains them in ponderable quantity, and, among them, notably *potassium*: and a year ago, in my "Annals of Chemical Medicine," I published details of many analyses to show that, in connexion with trifling differences in the extraction-process, the proportion of potassium in different specimens of "protagon" could be made to range from a trace to  $1\frac{2}{3}$  per cent.—See *op. cit.*, Art. XIX.

This position of mine Dr. Gamgee sought to refute before the Royal Society by adducing a note from Professor Roscoe to the effect that Professor Roscoe, having examined spectroscopically the carbonised residue of a certain gram of "protagon," had found in it only a quantity of potash which he estimated not to exceed  $\frac{1}{20000}$  part of the whole. See "Proc. Roy. Soc.," vol. 30, p. 111.

On this challenge I submitted to the Society that Professor Roscoe's examination had at any rate established as fact the presence of potassium in the "protagon," and that, for reasons which I stated, the quantity of the potassium could not be rightly inferred from any such examination as that which Professor Roscoe had made. See "Proc. Roy. Soc.," vol. 30, p. 278.

Professor Roscoe, apparently in answer to that criticism, has now brought before the Society the result which he obtained in a second examination. Having, in this examination, analysed 5 grms. of "protagon" with regard to the potassium contained in it, he reports that he found it to contain potassium in the proportion of 0.0236 per cent. See "Proc. Roy. Soc.," vol. 30, p. 365.

My reason for asking leave to trouble the Royal Society with the above recapitulation, and with a few words of comment on the present state of the case, is, that Professor Roscoe, in closing his recent communication to the Society, alludes to certain fresh spectroscopic experiments which he has made, and says that they have convinced him of the correctness of the conclusions contained in his original letter. I do not myself quite understand in what sense Professor Roscoe intends that statement, seeing that his later examination of "protagon" had yielded him nearly seven times as much potassium as he had originally

estimated the body to contain. And lest the language now used by him should lead to any misapprehension with regard to the essential issue which has been raised before the Society, I would ask leave to point out that, inasmuch as the specimen of "protagon" which Professor Roscoe analysed yielded him a ponderable quantity of potassium, this result, so far as it goes, thoroughly confirms what I have stated on the subject. In the face of it, none can maintain that "protagon" is the pure chemical body which it claimed to be. Also, adverting to the fact that Professor Roscoe's communication refers to but one analysis, I may perhaps be permitted to express my conviction that, if Professor Roscoe were led to extend his examinations over an area commensurate with mine, I should be indebted to him for further and more decided confirmation of my statements.

Finally, too, I would wish to insist on this contrast: that while "protagon," as I have shown, always on analysis betrays the presence of matters which are foreign to its alleged chemical formula, no such conflict between fact and formula, no so-called "unavoidable impurity," is to be found attaching to those bodies—the kephalines, myelins, lecithins, phrenosins, kerasins, and cerebrinic acid, which I claim as true immediate principles of the brain.

IV. "Preliminary Note on the Existence of Ice and other Bodies in the Solid State at Temperatures far above their ordinary Melting Points." By THOMAS CARNELLEY, D.Sc., Professor of Chemistry in Firth College, Sheffield. Communicated by Professor ROSCOE, F.R.S. Received November 11, 1880.

In the present communication I have the honour to lay before the Royal Society a detailed description of experiments, proving that under certain conditions it is possible for ice and other bodies to exist in the solid state at temperatures far above their ordinary melting points. On a future occasion I hope to submit to the Society a full account of the investigation of which these experiments form a part, together with the conclusions to be drawn therefrom. The bodies whose behaviour I propose to discuss at present are ice and mercuric chloride.

*Ice.*

In the case of ice the great difficulty to be overcome is to maintain the pressure in the containing vessel below 4·6 millims., *i.e.*, the tension of aqueous vapour at the freezing point, for it will be easily understood that if the ice be but slightly heated the quantity of vapour given off would soon be sufficient to raise the pressure above that point. After