

II. "Note on Rev. Robert Harley's paper, 'Professor Malet's Classes of Invariants identified with Sir James Cockle's Criticoids.'" By JOHN C. MALET. Received March 7, 1885.

In 1882, a paper of mine "On a Class of Invariants" appeared in the "Philosophical Transactions," in which I used, for the determination of theorems, two classes of functions of the coefficients of linear differential equations. In consequence of a communication from the Rev. Robert Harley, I appended to the paper the following note:—

"Since the publication of the abstract of this paper, the Rev. R. Harley has mentioned to me that the first class of functions treated of here have [has] been already investigated by Sir James Cockle; having consulted the memoirs I was referred to by Mr. Harley, I think little similarity will be found between Sir James Cockle's results and mine.—J. C. M."

One omission I certainly made,\* through ignorance, in this note, and I regret it; I did not notice that the second class of functions had also been treated of by Sir James Cockle; this omission, however, appears to me to be a slight one, for anyone treating of the first class would almost as a matter of course be led to treat of the second also, and the existence of the functions is so obvious as hardly to need proof, and the determination of them was with me a process of calculation carried on as far as was necessary for the purposes of my paper.

As far as concerns the mere existence of these functions, certainly those of the first class, the credit of discovering them might be fairly claimed for the writers who first pointed out the strict analogy that exists between linear differential equations and ordinary algebraic equations, for when the second term of an equation is removed, the new coefficients will of course be functions of the old. It never, therefore, occurred to me that anyone reading my note would suppose that I there meant to assert that the functions previously treated of by Sir James Cockle were not identical with those I made use of, and that the latter part of my note referred to the mere calculation of them.

However, more than two years after the publication of my paper, Mr. Harley communicated to the Royal Society the paper mentioned in the heading of this note, and which I have just seen in the number of the "Proceedings" recently published. In this paper Mr. Harley says:

"Professor Malet says that having consulted the memoirs to which I referred him, he thinks 'little similarity will be found between Sir

\* Due, no doubt, to oversight on my part.—J. C. M.

James Cockle's results' and his own. The object of this communication is to show that there is not only similarity but absolute identity, the two classes of functions considered by Professor Malet coinciding in every point with the ordinary and differential criticoids discussed by Sir James Cockle."

My object in writing this note is to call attention to the fact that, by the omission of the first part of my note, and his own comments on the partial extract he makes from it, Mr. Harley represents me as making a statement bearing an interpretation very different from that I meant it to bear.

Having done so, I will trouble the Society with the matter no further, and will leave it to those who may be interested, to judge if the general results of my paper are identical with Sir James Cockle's.

### III. "The 'Paralytic' Secretion of Saliva." By J. N. LANGLEY, M.A., F.R.S., Fellow and Lecturer of Trinity College, Cambridge. Received March 16, 1885.

It was shown by Claude Bernard that section of the chorda tympani nerve in the dog, causes, after an interval of about twenty-four hours, a slow "paralytic" secretion of saliva from the sub-maxillary gland; the secretion continues for several weeks, and is accompanied by a gradual diminution in the size of the gland. Heidenhain confirmed these observations, and he found further that the effect was not confined to the gland on the side of the body on which the nerve had been cut, but extended also to the corresponding gland of the opposite side of the body, so that section of *either* chorda tympani nerve caused a continuous secretion from *both* sub-maxillary glands. Since Heidenhain's paper in 1868, nothing has, so far as I know, been published on this subject. I purpose to give a brief account of some observations which were made by me several years ago, and which may serve to recall attention to certain curious facts touching both nerve and gland physiology.

Since the secretion, which takes place on the side of the body on which the nerve is cut, is called the "paralytic" secretion, we will call the corresponding secretion, which takes place on the opposite side of the body, the "anti-paralytic," or more briefly the "antilytic" secretion.\*

I will consider first the paralytic and antilytic secretions during the first day or two of their occurrence. During this time the

\* A fuller account will be published in the forthcoming number of the "Journal of Physiology."