

we are not surprised to find that Jellett's work is difficult of access to general readers, and on this ground, if on no other, we welcome the present attempt to bring the "Calculus" to the fore again. The author follows Airy and Todhunter in the view he takes of a variation, and Jellett and Strauch in the treatment of varying functions, but he has not neglected to give fairly full accounts of the conceptions and methods of other writers.

A good deal of the preface is taken up with details which might well be omitted should the work reach a second edition, as we hope it may.

There are in all five chapters (568 and xvii. pages) printed in good type and in excellent style.

Chapter i., maxima and minima of single integrals, involving one dependent variable is broken up into ten sections: Chapter ii., maxima and minima of single integrals involving two or more dependent variables in two sections: Chapter iii., maxima and minima of multiple integrals in six sections. Chapter iv., applications to determining the conditions which will render a function integral one or more times in two sections.

Chapter v. gives a historical sketch of the rise and progress of the calculus of variations founded upon Todhunter's "History," and closes with an account of the "Researches in the Calculus of Variations," referred to above.

We have nothing to say of Mr. Merriman's work in addition to what we have said already (NATURE, vol. xxx. p. 334): the works are identical, except in the title pages.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

Italian Aid to Biological Research

THE Committee appointed by the Royal Academy of the Lincei in Rome at the request of H.E. the Minister of Naval Affairs, to see that the best possible use in the interests of science be made of the natural history specimens collected by officers of the Royal Italian Navy, wishes to make known to all students of biology that rich material for study, consisting of a certain number of plants and extensive collections of animals of nearly all classes, is at present deposited at the Zoological Station at Naples. This material has all been collected by the officers of the Royal Navy, principally by the *Vittor Pisani* in a recent voyage round the world, and by other Italian men-of-war in the Red Sea and the Ægean Sea. These collections have been preserved by the best and most modern methods, and can be used for histological and morphological researches, in accordance with the actual requirements of science, as well as for systematic and faunistic investigations. The Committee places this rich material at the disposal of the men of science of all countries who will ask to take part in its illustration, either to complete monographs in course, or for monographical works or for special research on any organic system of a given group.

The requests, on which the Committee will decide, are to be sent to Prof. Trinchese, University of Naples.

Prof. TRINCHESE, Naples

Prof. TODARO, Rome

Prof. PASSERINI, Parma

Prof. GIGLIOLI, Florence

Lieutenant CHIERCHIA (Royal Italian Navy),
Naples

Prof. DOHRN, Naples

The Resting Position of Oysters

IN a letter from Mr. J. T. Cunningham in your impression of NATURE of October 22 (p. 597) it is sought to show that the oyster does not rest on its left but on its right valve. The evidence which appears to him conclusive on this question is "that the right flat valve is always quite clean, while the convex valve is covered with worm-tubes (*Sylva grossularia*) and Hydroids."

This observation is correct on the whole, but not decisive for the question under consideration. After reading Mr. Cunningham's letter I proceeded to examine 140 oysters in my collection of Schleswig oysters, and found only on a few right valves a worm (*Pomatoceros tricuspsis*) or a Cirripede (*Balanus crenatus*), whereas on many left valves I distinguished sponges (*Halicondria panicea*), *Alcyonium digitatum*, Hydroids (*Sertularia argentea*, *Tubularia indivisa*, *Eadendrium rameum*), Bryozoa (*Alcyonidium gelatinosum*), *Balanus crenatus*, *Pomatoceros tricuspsis*, or *Sabellaria anglica*. Of the 140 oysters examined 43 still bore on their shells the body on which as spawn they had reared themselves, namely pieces of oyster-shells, *Mytilus edulis*, *Mya arenaria*, *Mya truncata*, *Cardium edule*, or *Buccinum undatum*. All these adherent bodies were attached to the nucleus of the left valve, not one single piece to the nucleus of the right. And this is a circumstance decisive in the question raised by Mr. Cunningham. The places on the right valve, where living animals rest, did not stick close to fixed bodies, but the water flowed freely over them, thus admitting embryos to settle on them. The bottom of oyster banks is not a smooth surface, but is formed mainly of old oyster-shells on which many living oysters do not assuredly plant themselves closely and horizontally, but lie often obliquely. It is thus that Hydroids, Sponges, *Alcyonium*, and *Alcyonidium*, having settled on the right lower valve, are enabled to grow freely in the water and without let or hindrance develop to the length of four or five inches.

Kiel, October 31

KARL MÖBIUS

Universal Secular Weather Periods

I DO not want to pose as a statistical cycle-hunter, or to bolster up any mere apparent local periodicity of a certain meteorological element, but I wish to place before your readers the appended independent paragraphs from two journals, one on each side of the Atlantic, and to ask any unprejudiced person if we have not here some preliminary evidence (all the more valuable from its being so evidently incidental and unconscious) in favour of the march of certain secular weather areas, possibly connected with barometric waves, similar to those traced out by Messrs. Chambers and Pearson in India, across the Atlantic, from America to Europe.

I would not submit such slender evidence to criticism were it not that it concurs entirely with certain views put forward by myself in a recent paper in the Royal Meteorological Society's *Quarterly Journal*, on "The Height of the Neutral Plane of Pressure in India," and that I have long felt that the entire question demands attention both on scientific and economical grounds. Also both paragraphs include last year, thus bringing the apparent periodicity up to date.

Being at present fully engaged in two other branches of research, I am unable just now to take up this hopeful and important problem, but I would suggest that if we ever intend to forecast the general character of the weather of a season or year, which even in this country undergoes long periodic changes, during which it remains for weeks and months together of the same type, some such method as the following must be adopted:—

Annual and seasonal mean barometric charts must be constructed from records at principal stations in America, Europe, and Asia for the past fifty or sixty years, and from them barometric abnormalities for each year, and for each season, must be calculated, and charted. An examination of these ought to throw great light on, if not to some extent solve, the question of the motion of the larger pressure areas which in turn guide and control the motion of the smaller diurnal systems. The work would, I admit, be one of some considerable magnitude, but surely it is one imperatively demanded in the interests of the science, besides being a *priori* likely to yield valuable results. It has long been a cherished idea of mine to endeavour to carry out the scheme myself, and it is only because I feel precluded from doing so at present by the pressure of other work that I throw out the suggestion for the benefit of any who feel disposed to take it up.