

supposed. As the theory which he proposed for estimating the conducting powers of substances has been controverted by M. Lenz, he has been induced to reconsider the subject, and finds reason to be satisfied with the correctness of his former views. He farther finds that with feeble magnetic needles the deflecting forces are not proportional to the force of the current, but approach nearer and nearer to that proportion by increasing the magnetic power of the needles; a result which the author thinks is strictly deducible from the universal law of nature, that the attraction mutually exerted by two bodies is measured by the sum of their masses. He shows that the formula of Ohen, expressive of the conducting powers of wires, and of the resistances which they offer to currents of voltaic electricity, is an approximation to the truth only in the case of feeble currents, and that with the same metal, the conducting powers are not as the lengths of the wires.

The author next inquires into the relation between the heat developed, which he finds to be, in the same wire, as the square of the intensity of the current; and in wires of the same diameter, and conducting equal quantities of electricity, it is inversely as the conducting power, or directly as the resistance which they oppose to the current. The facts he has adduced in this paper seem to be at variance with the generally received theory of caloric, and to be in perfect accordance with the undulatory theory.

He concludes by describing an experiment confirming the views he has elsewhere advanced with regard to the difference between the physical, the physiological, and the chemical effects resulting from the employment of coils formed of wires of different lengths, being dependent on the time required by the conductor for returning to its natural state.

“On the Ipoh or Upas poison used by the Jacoons and other aboriginal tribes of the Malayan Peninsula.” By Lieut. T. S. Newbold, Aide-de-Camp to Brigadier-General Wilson, C.B. Communicated by P. M. Roget, M.D., Sec. R.S.

The author gives an account of the process by which the Jacoons, an aboriginal tribe inhabiting the mountains and forests of the Malayan Peninsula, prepare the poison applied to the points of the slender arrows which are propelled from the *Simpitan* or blow-pipe. Three preparations are employed for this purpose, distinguished by the names of *Krohi*, *Tennik* or *Kennik*, and *Mallaye*; the last of these is more powerful than the other two, and is obtained from the roots of the *Tuba*, the *Perachi*, the *Kopah*, and the *Chey*, and from that of the shrub *Mallaye*, whence it derives its name. The *Krohi* poison is prepared from the root and bark of the *Spoh* tree, and the roots of the *Tuba* and *Kopah*, with the addition of red arsenic and the juice of limes; and the *Tennik* from the same ingredients, omitting the *Kopah* root. A few experiments are related, made by the author with a view to ascertain the effects of the poisoned arrows on living animals, from which it appears that the train of symptoms commence in a few minutes after the infliction of the wound, and

terminate fatally with more or less rapidity, according to the size of the animal.

"Della Velocità del Vento. Memoria diretta alla Regali Società di Londra per essere iscritta nelle Transazioni filosofiche, et pel concorso del premio annuale di fisica : di Luigi Dau, Dottore in Matematica e Fisica." Communicated by Charles Konig, Esq. For. Sec. R.S.

The author endeavours to investigate the relation which he believes exists between the velocity of the wind and the oscillations of the barometer, and thence to derive rules for calculating the former from observations of the latter.

"Considérations physiques sur le passage Nord-ouest;" by the same. Communicated by the Right Hon. the Earl of Minto, G.C.B. F.R.S.

The author of this memoir, considering that the practicability of a North-west Arctic passage must depend on the mean summer atmospheric temperature of the most northern point of the continent of America being above that at which the congelation of sea water takes place, applies himself to the determination of these temperatures. The results of his calculations are given in a table, exhibiting the extreme and the mean temperatures of the atmosphere for each of the summer months, from May to September, at all degrees of latitude, from  $60^{\circ}$  to  $80^{\circ}$  inclusive. According to this table, the temperature of zero, which is about the freezing point of sea water, prevails, at  $60^{\circ}$  of latitude, on the 10th of May; at  $61^{\circ}$  lat. on the 20th of May; at  $63^{\circ}$ , on the 1st of June; at  $65^{\circ}$ , on the 10th of June; at  $67^{\circ}$ , on the 20th of June; and at  $71^{\circ}$ , during the whole of the months of July and August. The author concludes that navigators can reach, without danger of being obstructed by ice, the latitude of  $71^{\circ}$  during these latter months: and that since the American continent does not probably extend beyond  $70^{\circ}$  north latitude a passage to the North-west is then open. He recommends, however, that instead of attempting it by the dangerous navigation of the polar sea, a coasting voyage between the continent and the numerous islands which exist in that ocean should be undertaken; or, what he thinks still more promising of success, an expedition by land for exploring the country intervening between the Coppermine River and Hudson's Bay.

"Causes de la Variation diurne de l'Aiguille aimantée, de la Lumière zodiacale, des Aurores Boreales, et Méthode simplifiée pour le relevement des Longitudes, Mémoire soumis à la Société Royale de Londres, pour le concours du prix d'Astronomie. Par Demonville."

The author's speculations proceed on the hypothesis he has adopted, that the Sun, Moon, Jupiter and Mars perform a diurnal and perfectly circular revolution round the earth.

"On the elementary structure of the Muscular Fibre of Animal and Organic Life;" by Frederic C. Skey, Esq., Assistant Surgeon to St. Bartholomew's Hospital, F.R.S.

The author having withdrawn the paper bearing the same title