SCIENCE IN ITALY*

THE energetic revival of scientific activity in Italy, to which attention has been before directed, is still progressing satisfactorily. The mere fact that the Transactions of the Royal Institution of Lombardy report the proceedings of the sittings of the 24th June, of the 4th and 18th of July, of the "ordinary sittings of the 1st August," and "the solemn sittings of the 7th of the same month," afford to any Englishman who has *summered* on the Plains of Lombardy, very strong presumptive evidence of scientific enthusiasm and industry. Even in our lukewarm climate such meetings are suspended during the summer months, in spite of the insatiable activity of Englishmen. It does not appear that the worship of the "*dolce far niente*" has profaned the Milanese shrine of science.

In the course of these summer meetings thirty-nine original papers, besides academical reports and addresses, were read. During the year ending August 7, ninety such papers were read in the Department of the Mathematical and Natural Sciences, including subjects in pure and applied mathematics, hydraulic engineering, physical geography, astronomy, experimental physics, chemistry, natural history, animal and vegetable physiology, geology, agriculture, anthropology, anatomy, pathology, surgery, therapeutics, hygiene, medical statistics, and the history of science. In addition to these a number of original papers were read in the Department of Literature and Moral and Political Science. This statement of the quantity of work done is a sufficient excuse for my not attempting anything like a complete analysis of it. A few of the most interesting papers may however be mentioned.

June, 20.—"On the Anthropometry of 400 criminals in the Penitentiary of Padua." This is an analysis and a summary of the results obtained by Dr. Pellizzari and Dr. Berretta, the full record of which fills a large volume. Some curious results come out of the tables of these measurements. The tallest and heaviest men are those who have committed murder and manslaughter; the shortest and lightest those who have committed rape. The head measurements are very interesting and suggestive, sufficiently so to warrant a continuation of such investigations over an area sufficiently large to obtain more reliable averages than the 400 measurements afford. There is another paper of the same date by Dr. Giglioli, that I suspect will prove very interesting to comparative anatomists, on some remarkable teeth of whales (Cetodonti) that were collected by Sig. Corelli, among other things, during a residence of forty years at Rio de Janeiro.

July 4.—"On the epoch of the upheaval of the sienitic rocks of the chain of Adamello, in the Province of Brescia."—"On another analogy between electrical and magnetic polarity," by Prof. Cantoni. (Another paper in continuation on the same subject was read on July 18.)—Note on the "Heat of Combination of Bodies," by Prof. Cantoni. This contains some suggestive speculations on the philosophy of thermodynamics, in which the author points out experimental difficulties, and goes a long way in the direction of atom-splitting, in order to find an explanation. He compares the combination of two chemical atoms or molecules, to a collision between two stellar systems or nebulae, where the development of heat would not be merely that due to the velocity of each system considered as a whole, but in addition to this, to the disturbance of rotatory and orbital motion of the planets, satellites, &c., within each system. He supposes the ordinary atom or molecule to be a system of minor atoms, having orbital and rotatory movements, the disturbance of which, when atomic collision occurs, contributes to produce the heat of combination. It is not for me, a heretical disbeliever in the existence of either atoms or molecules, to make any comment on the merits of such a hypothesis.

"On the Drainage of the Lago Fucino" by Carlo Possenti, refers to an important undertaking which is proceeding at the cost and risk of Prince Torlonia. The author points out the difficulties and possible sources of failure of the enterprise.

"On the Prediction of the Movement of Tempests and the Phenomena which accompany them," by M. Harold Tarry, Vice-Secretary of the Meteorological Society of France; communicated by Prof. Schiaparelli. This is an exceedingly interesting paper, mainly based upon observations made by the author on the great cyclones which have deposited in Italy some of the sand uplifted from the desert of Sahara, &c. It is worthy of a special and separate abstract.

* "Rendiconto del Reale Istituto Lombardo," for July, August, and September, 1872.

July 18.—"On the Velocity of Molecular Movements in Aeriform Fluids," by Prof. Brusotti. This is a contribution to the mathematical theory of thermodynamics.

"On the Origin of Atmospheric Electricity," a series of experiments on the electrical disturbances due to the rarification and condensation of air, both in its ordinary condition and when subjected to artificial dessication with a view to answer the question proposed.

"On the Burning of Dead Bodies," by Dr. G. Polli. The author points out many sanitary, economical, and sentimental objections to the existing customs of burying the dead, and advocates a revival of the ancient system of rapid decomposition by burning and preservation of the ashes, in order to satisfy sanitary requirements of the public, and the affections of friends and relatives.

Prof. Corradi contributed a long and interesting account of the voluminous manuscripts of Lazzaro Spallanzani, obtained in 1801 by the communal library of Reggio from Dr. Nicolo Spallanzani, the brother of Lazzaro. A perusal of this paper shows that the industry and attainments of this great naturalist were more extensive than we are accustomed to suppose in England. His manuscripts in Italian, French, and Latin are collected in 193 volumes, and include travelling diaries, notes of experiments and observations, letters, &c., some of which have been already published.

Besides these I may refer to Prof. Stoppani's observations on the eruption of Vesuvius April 24, 1872, and also to Prof. G. Cantoni's researches on the Rust of Wheat; but cannot attempt any account of their contents without extending this notice much beyond its proper limits.

The "solemn sitting" of the August 7 was chiefly devoted to the annual addresses of the Secretaries of the Mathematical and Physical, and of the Literature and Moral and Political Departments, Sig. Luigi Cremona, and Sig. Giulio Carcano, and to other annual business.

I should add that a monthly meteorological report is regularly published, with the Transactions of this society.

The papers in the Department of Literature and Moral and Political Science are few in number. Passing over the mere literature altogether, I may refer to one paper on a strictly scientific subject which in Italy, as in England, is too commonly left in the hands of mere talkers and writers, who *discuss* many things and *investigate* very few or none. I allude to political economy, and to a paper by Prof. Marescotti on Rent and Profit. This paper abounds in political argument, rather than political science. The author describes the rent of land as the remuneration of the landed proprietor for the capital which he has invested in rendering the soil productive, and although writing for the purpose of justifying the payment of rent, appears quite unacquainted with Ricardo's demonstration of the natural and independent origin of rent, as another element totally distinct from the reimbursement of the proprietors' outlay on the land.

The summer and autumn numbers of the *Gazetta Chimica Italiana*, and the Transactions of the Academy of Sciences of the Institute of Bologna must be reserved for another notice.

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SCIENTIFIC SERIALS

THE *Geological Magazine* for the present month (No. 103) opens with a note by the editor on fossil remains of insects which have been described in previous volumes of the magazine, as an introduction to a paper by Mr. A. G. Butler describing a most interesting wing of a butterfly belonging to the Nymphalide group, found in the Stonesfield slate. This butterfly Mr. Butler proposes to name *Palaeontina oolitica*, and, as he remarks, it is the most ancient member of its group yet discovered.—Mr. R. H. Tiddeman describes the Victoria Cave at Settle in Yorkshire, and notices the fossils contained in the lowest deposit yet reached in the investigation of this cave.—Mr. W. Molyneux notices the occurrence of copper and lead ores in the Bunter conglomerate of Carnock Chase; and Prof. King, of Galway, communicates a paper on the microscopic characters of a silo-carbacid rock from Ceylon, and notices their bearing on the methyloitic origin of the Laurentian limestones, methyloitic being a term introduced by the author to express the character of rocks which have undergone change by the elimination