

The Use by Men of Science of an Artificial Language.

IN NATURE of March 30 (p. 155) the remark is made that "if it were possible to arrive at a general agreement [as to the use of an artificial language], even in one or two isolated sciences only, a real step in the diffusion of science would be made."

I desire to protest strongly against this view. Is it in the least likely that those Italians, Spaniards, Russians, Poles, &c., who will not now write their scientific papers in English, French, or German would write them in an artificial language? If they did so, while making themselves understood by a few *esperantists* or *idoists*, they would render themselves unintelligible to their own countrymen and all the rest of the world.

Science is sufficiently unattractive to the layman without being handicapped by an artificial language. Surely it is not too much to expect Poles and others to learn one of the three great modern languages—English, French, or German.

What is required is some organisation by which all important papers not published in English, French, or German shall be translated into one of those languages if it is found impracticable to induce the writers originally to publish them in one of the three great languages.

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A Wave Theory of Gravitation.

IN the paper by Mr. C. F. Brush on a kinetic theory of gravitation, published in a recent number of NATURE, a theory is suggested in which gravitational attraction is attributed to radiation pressure on the outsides of two gravitating bodies, so that "attraction" is rather a push than a pull. In fact, in outline the theory may be compared to Le Sage's corpuscular theory, in which the impinging atoms are replaced by a special type of æther wave exerting a pressure. That view is not altogether new.

I published an article in *The New Ireland Review* for August, 1907, in which that view was suggested as a speculation. Mr. Brush's theory differs in some of its details from the view I proposed, as, for example, the origin of the radiations. This view was suggested by Prof. Poynting's experiments on the "pressure of light." In my paper no mention is made of a very similar suggestion made some years earlier by Sir J. J. Thomson in a lecture delivered in Yale University in 1903, and afterwards published under the title of "Electricity and Matter." At the time of writing the article referred to I had not become acquainted with Prof. Thomson's suggestion. On p. 160 of the work just mentioned we read:—"We have seen in the first chapter that waves of electric and magnetic force possess momentum in their direction of propagation; we might therefore replace Le Sage's corpuscles by very penetrating Röntgen rays." The difficulties in the way of such a view are also indicated.

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An occurrence of the Barium-felspar Celsian in North Wales.

SOME finely crystallised mineral specimens from North Wales, kindly sent to me by Mr. G. J. Williams, H.M. Inspector of Mines, have proved on a preliminary examination to be the rare mineral celsian, hitherto recorded only from Sweden (by H. J. Sjögren in 1895). The beautifully developed monoclinic crystals are colourless and transparent, and extremely rich in faces. They are accompanied by other crystals of orthorhombic habit, which possibly represent a dimorphous form of barium-felspar. I am at present engaged on a chemical analysis of these crystals, and Mr. L. J. Spencer has undertaken to determine their crystalline form and optical properties.

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March 27.

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AN INTERNATIONAL VULCANOLOGICAL INSTITUTE.

AT the International Geological Congress held last year in Stockholm, Signor Immanuel Friedlaender proposed the foundation of an Institute for Vulcanological inquiries. The matter was submitted to a commission which reported on it to a general meeting of the congress in a highly favourable manner. The object of the institute is to carry out continuously and systematically researches connected with volcanic phenomena. It is proposed to build a laboratory furnished with instruments for the measurement of the temperature of rocks and of gas at different points of Vesuvius; to analyse the gas from *fumaroles*, and to note seismic disturbances.

The existence of the present observatory at Vesuvius is known throughout all the world, but unfortunately at it continuous systematic researches have not been carried out, neither have they been carried out at any other volcano in the world. Thoroughly to accomplish what is proposed it is necessary to have an international union, not only for the purpose of collecting the necessary monies, but also to furnish the opportunity to men of science of all nations to make investigations at the new institute. The number of vulcanologists in Italy and in other parts of the world is few, a matter that can be easily understood, because there does not exist any permanent positions for specialists in this subject. The scientific importance of the undertaking does not require discussion. It has, however, a practical aspect. The enormous damage and loss of life by the eruptions of Krakatoa, Monte Pelée, and of Vesuvius in 1906, are fresh in our memory. Our present knowledge of volcanic phenomena is based upon intermittent observations, and therefore it is not sufficient to enable us to predict eruptions. Notwithstanding this, we now know that vulcanicity shows a series of regular phenomena. From this it appears that it is not only possible, but it is highly probable that after conscientious and exact registration of all the phenomena, science will shortly advance so far as to foresee more or less the time of occurrence of a new outburst. There exists another practical reason why we should study vulcanology. By the study of the activity of *fumaroles* and the metamorphosis of rocks, we may explain the origin of many minerals. Recent volcanoes are known to contain metalliferous minerals in course of formation, and a profound study of the phenomena of metamorphosis would therefore greatly increase our knowledge of the genesis of metalliferous deposits.

The organisation of the institute at its commencement will be as follows:—Signor Immanuel Friedlaender, who has already contributed 100,000 lire and an annual contribution of 10,000 lire, undertakes to collect subscriptions. These will only become payable if up to the first of January, 1912, the total sum promised for the construction and the plant reaches a minimum of 1,500,000 lire, and at the same time an income is guaranteed of not less than 50,000 lire. The legal position of the institute will at the outset be that of a society in which members with a right to vote have contributed at least 10,000 lire or pay 1,000 lire per annum. Members contributing less, so long as it is not under 25 lire per annum, will receive the printed papers and publications of the institute. The idea of an international institute of this description is by no means new. It has been proposed by Prof. Johnston Lavis, Prof. Mercalli, Prof. G. Platania, and five years ago Mr. Cool, a Dutch engineer, published a pamphlet on this matter. The project is already supported by sixty-two prominent names; twenty-five of these are Italians, nineteen are Germans, and three are English.