International Auxiliary Language.

INVENTIONS over inventions bringing peoples closer together like the telegraph, telephone, radio, aeroplane, television are being continuously perfected and yet very little attention is given to an invention which when adopted will give mankind the proper means for free communication. A common language is the one great invention that is needed to crown all others and give them their full value.

The advantages of such an International Auxiliary Language seems to be evident. International Meetings are made very difficult by the diversity of languages, there is great loss of time, confusion brought about by the necessity of using several languages, of translating from one to others. The selection of delegates is in many cases limited to those who know the official languages of the meeting.

Once such an International Auxiliary Language has been established these difficulties would disappear. Its study could be introduced even in the elementary schools. Much of the time now devoted to several languages might be given to the international language or to other subjects by most of the pupils who do not go in for philological studies. Translations might be reduced to one in the international language, and papers on subjects which have a limited number of specialists might be written outright in the International language with saving in time and expense and many other advantages.

The adoption of a natural language would meet with opposition on the part of all countries, especially the largest of another mother-tongue. Besides the learning of a natural language always requires long years of intensive study. At different times various languages have had successively a predominant position : Greek, Latin, Arabic, Italian, Spanish, French and now English. All these gave way except for English which seems at present to be dominant. But what will be its position in a few decades from now in the face of the growth of Russian, Chinese, Spanish, or some of the Indian languages, Portuguese ?

Therefore, most people interested in the question suggested artificial languages. In reality, the name of artificial language is a kind of tautology, because there is art also in the coarsest language. The more so in the literary language in which conscious selection, if not arbitrary, is more or less profound, more or less recognizable, but always noteworthy. But the designation of artificial languages covers the projects of languages constructed according to a determined plan. Such a language is not meant to supersede the existing national languages ; its ambition is to serve as a mere auxiliary language ; its purpose is not to suppress diversity, but to promote co-operation.

Although many great minds have given serious thought to this question of an International Auxiliary Language, from Descartes, Leibniz, Delgarno and Wilkins to Schleyer, Zamenhof, Couturat, Leau, Peano, Jespersen, many people considered this proposition as an impossible absurd task, amongst them many linguists ; but of late it seems that this opposition is breaking down (see debates at their meeting in Geneva in 1931).

At first philosophical languages were proposed, a kind of algebra of concepts which would lead to logical thinking. The first of these projects is due to Descartes. He submitted the plan of an universal language easy to learn, to pronounce and to write, which would help one's judgment representing distinctly all things so that it would be practically impossible to be mistaken. Descartes limited himself to the exposition of the project, but G. Delgarno and J. Wilkins submitted in the seventeenth century two detailed projects. Leibniz also left amongst his papers many notes relating to a philosophical language.

From these philosophical languages we go over to *a priori* schemes. In these the choice of the elements is made according to a classification, more or less strict, of the concepts. The last of these schemes is " Ro " by E. P. Foster.

From *a priori* we go on to mixed schemes. Grammar is always established *a priori*, but the vocabulary is selected from natural languages without exact criteria and with many changes due to the grammatical structure selected. Amongst these the best known is Volapük proposed by J. M. Schleyer, which was the first artificial language to obtain a wide diffusion.

After these came the *a posteriori* schemes. In these very little is arbitrary. The grammar is obtained by regularizing one of the natural languages or selecting from various

of them. The vocabulary is selected also from natural languages. Examples of these naturalistic languages are Esperanto, its modification Ido, Occidental, Interlingua or Latino sine flexione, Novial.

If the movement for an International language is followed, it will be seen that it is not the case of a multitude of projects without connection or relationship; but these projects are connected, they have a common base, a common idea. This idea as pointed out above has traversed three stages: the philosophical, the *a priori*, the mixed, and last the *a posteriori*. These last show a remarkable conformity. Their authors get away from the *a priori* basis. They adopt the principles of internationality, so that they differ less than two dialects of a natural language.

When Volapük was proposed by J. M. Schleyer in 1879–80, its followers organised at their Munich Congress of 1887 an academy called Kadem bevünetik volapüka. Its first president was M. Kerckhoffs (Paris). He was succeeded by W. Rosenberg (Leningrad) (1893–98). During the latter's term of office he began the compilation of the vocabulary of what became a new language called Idiom Neutral, decidedly naturalistic and not mixed like Volapük, but *a posteriori*. The academy changed its name to Akademi Internasional de Lingu Universal and M. A. F. Holmes (Rochester, N.Y.) became the next president (1898–1908). He was succeeded by G. Peano (Turin, Italy) who carried the *a posteriori* scheme to the limit. The Academy again changed its name to Academia pro Interlingua, and although open to partisans of any International Auxiliary Language, stands for the language created by G. Peano who had followed the suggestion of Leibniz to use for practical purposes a simplified Latin. G. Peano started to use Latino sine flexione in 1903 and since then he has worked at the international vocabulary made up of words in international usage and those of Latin still living in the neo-Latin languages and in English and others. The grammar simplified in the extreme is considered by many to have many points in common with Chinese.

Recent Discoveries of Fossil Algæ in the Cretaceous Rocks of S. India.

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ABOUT seven years ago, the writer of this article reported through the columns of *Nature*[1] the first discovery of fossil algæ in the cretaceous rocks of India, from the Niniyur group of the Trichinopoly District (S. India).* Following up this discovery, other rocks of the Trichinopoly cretaceous area were also looked into for algal remains, and it was seen that almost every one of these, especially the limestones, also showed more or less abundant algæ. Thus within the last few years we have been able to make a large collection of fossil algæ from these and certain other beds of South India. The entire material is being studied in detail by my colleagues Messrs. C. Prasannakumar, S. R. Narayana Rao and K. Sripada Rao; in the meanwhile, it is proposed in this article to give a general account of these algæ with special reference to a few forms of outstanding stratigraphical or palæobotanical importance.

Convincing algal structures were first noticed in sections of certain nodules occurring in the limestones of the Niniyur group, and very soon it was seen that the limestones themselves also contained plenty of algæ, some of the best algal remains being noticed in the flints and cherts which are the result of the silicification of these limestones.[2] These fossil algæ from the Niniyur group were studied in collaboration with Prof. Julius Pia of Vienna, the great authority on fossil algæ, and the results published as a memoir in the Pal. Indica series of the Geological Survey of India.[3] Among these algæ from the Niniyur division are represented the following groups: (*a*) the Rhodo-

* The cretaceous rocks of the Trichinopoly Dt., S. India, range in age from the cenomanian to the danian of the standard stratigraphical scale, and are divided into four groups. Starting from the oldest these are (*a*) the Utatur, (*b*) the Trichinopoly, (*c*) the Ariyalur, and (*d*) the Niniyur.