

of Manchester, has been appointed professor of chemistry in the University of Madras, and Dr. A. Holt has succeeded him at Manchester.

DISCUSSION AND CORRESPONDENCE

INTERNATIONAL LANGUAGE

THE history of artificial languages for international communications presents some of the same features as many other human inventions. At first people began to work out such languages from so different points of view that the first attempts are extremely unlike one another and have only that one point in common that they are just as impracticable as the first flying machines were. But gradually all phantastic elements were eliminated, and now we have reached a period where practically every one works on the same basis and where only small differences are found between the various systems proposed or practised by all serious believers in an international language. As Ostwald puts it, "the international language is no longer the matter of more or less noisy enthusiasts, but a serious and technical problem, which we are going to solve just as well as we are solving the flying problem."

The first "universal languages," such as those of Dalgarno (1661) and Wilkins (1668), were "philosophical" or *a priori* systems, in which each thing was denominated according to its place in a universal logical system. In one *bu* is mammal, *be* fish, *ba* insect, the various orders and suborders being denoted by added letters and syllables; but as there is no earthly reason why we might not just as well use *ub* and *eb* and *ab* or *mi*, *mo*, *mu*, no two such systems have one syllable in common. The next step is represented by such languages as Schleyer's Volapük, which is only semi-philosophic, most of the words being English roots, many of them, however, strangely disfigured to fit in with the requirements of the completely philosophical and arbitrary grammar: *vol* = world, *pük* = speech, *Melop* = America, because no word was allowed to contain an *r* or to begin or end with a vowel, as that would interfere with Schleyer's prefixes and suffixes.

An enormous step in advance was made in Dr. Zamenhof's Esperanto (1887), because in the majority of words he retained the forms that were already international. But unfortunately he still has too many Volapükisms in his language. Not only does he disfigure many of the words taken from actual languages, as when *alert* becomes *lerta* (with an arbitrarily changed signification, too) or when French *aboyer* becomes *boji*; but he also quite arbitrarily coins some words with no foundation whatever in any language. As these are among the most frequently used in the language (pronouns, etc.) they give an air of strangeness and unfamiliarity to nearly every Esperanto sentence and probably more than anything else have deterred a great many people from taking the trouble to learn the language.

Since 1887, many people have worked out closely related artificial languages which all tend to keep the good features of Esperanto and to eliminate the bad ones. When the scientific committee elected by the Delegation for the Adoption of an International Auxiliary Language set to work in 1907, it found in the works of Liptay, Beerman, Molenaar, Peano and others, but above all in those of the "Academy" that had created the *Idiom Neutral*, a wealth of valuable suggestions all tending practically in the same direction, namely, in the direction of those elements of Esperanto which had never been criticized. On the other hand, it found an almost unanimous criticism of much in Esperanto not only on the part of believers in the possibility of an international language, but also on the part of such skeptics as the famous Leipzig philologists, Brugmann and Leskien; the points criticized in Esperanto were in all cases practically the same, namely, those in which Zamenhof had arbitrarily created something instead of finding out what was already the most international expression.

The language resulting from a careful investigation of all previous attempts is Ido: it must appeal to all unbiased minds because it is nothing but a systematic turning to account of everything that is already international,

that root being chosen in each case which will be most readily understood by the greatest number of civilized people. A few examples will show the contrast between Esperanto (given first) and Ido; I add the English translation:

bedauri—regretar, “regret”;
 chiu—omnu, “everybody”;
 eco—qualeso, “quality”;
 elparoli—pronuncar, “pronounce”;
 malsupreniri—decensar, “descend”;
 farto—stando, “state of health”;
 ghojo—joyo, “joy”;
 kial—pro quo, “why”;
 kiom—quanto, “how much”;
 neniam—nultempe, “never”;
 nepre—absolute, “absolutely”;
 parkere—memore, “by heart”;
 tago—jorno, “day”;
 vosto—kaudo, “tail.”

Now, what has been the attitude of the Esperantists towards this new language? I am happy to say that a great many of them have frankly acknowledged its merits and are now active propagandists for it. If one looks through articles published before 1907 and sees the names there praised as those of the best Esperantists, one recognizes many of those who are now ardent Idists (Schneeberger, de Beaufront, Kofman, Lemaire, Ahlberg, Grillon). Among four Americans who were elected members of the Esperantist *Lingva Komitato*, three are now Idists. But on the other hand a great many Esperantists have stuck to the old language and tried to kill Ido, first by a conspiracy of silence and then by a misrepresentation of facts and of persons connected with the whole affair. And a great many people seem to take everything told in the Esperanto papers as truth instead of acquiring a first-hand knowledge of the new language. Two letters in *SCIENCE* of December 10 seem to call for an answer, as they are rather more fair than many articles in Esperanto periodicals. And I am thus obliged, against my usual practise, to say something about personal matters that have very little bearing on the real question at issue: it is not the persons supporting or deserting a language, but the essential features of the lan-

guage that are of real importance in the long run.

Ever since the first appearance of the new language it has been the tactics of the Esperantists, not to examine the language itself, but to discredit it by relating how now this, now that member of the Delegation Committee had “resigned from it in disgust.” Thus I read at one time in the *Amerika Esperantisto*, that Professors Jespersen and Ostwald had left the committee; this piece of news made a profound impression on me, though I must add that I know from the very best sources that it was not true. Now I read in *SCIENCE* that Professor Dr. Adolph Schmidt also is one of those members who left the committee. Unfortunately, I do not know just how deep my regret should be, as I have not the slightest idea who that gentleman is; the only thing I know with certainty is that he was not elected a member of said committee and was not present at a single one of its meetings, all of which I attended from beginning to end.

Only one member ever left our committee, and that was Professor Foerster, of Berlin, who saw fit to resign—exactly one year after the committee had finished its work and printed its official report. I fail to see the significance of his act of resignation at that moment, but it constitutes the only fact of what Mr. Spillman calls the disruption of the International Language Committee.

Mr. Spillman goes on to say that “these gentlemen are not at all agreed as to the structure of their language.” It is a usual thing for Esperanto papers to say that we change our language about once a month. Now, I defy any one to find any difference between the first specimen ever printed in Ido and the language used in the very last issues of *Progreso* or *Belga Sonorilo*, etc. But the former periodical has invited criticism of Ido in a thoroughly open-minded and scientific spirit and has printed articles by authors experimenting with other “dialects”; but that of course does not change the language any more than Danish is changed by the admission in a Danish periodical of articles written in the closely related Norwegian and Swedish lan-

guages. I quote from the latest number (December, 1909) of *Progreso* a few lines which the readers of SCIENCE will be able to make out for themselves if I explain that *Fundamentists* are the orthodox Esperantists who look upon Zamenhof's *Fundamento* as a holy book of which not one jot or one tittle must ever be altered:

La Fundamentisti, por salvar la lingual uneso [unity], supresas omna [all] libereso; ni [we] ne devas imitar li; ni devas, ne nur [only] tolerar, sed admisar la kritiko, nam [for] se ni ne admisus ol [it] inter ni, sub formo di amikal e bonvola diskutado, ol eventus exter ni, e konseque kontre ni; nulu povas [no one can] supresar, sufokar la kritiko; la max grava eroro e kulpo di l'Esperantista chefi esis, ke li malsaje [unwisely] volis exterminar ol ek lia armeo. Segun la paroli di So. Sterrett, la kritiko ne esas la morto, sed la vivo di cienkala entraprezo quale la nia [ours].

Thus on all points we substitute scientific methods and procedures for haphazard and arbitrary word-coinages and a blind swearing in the words of the "majstro" Zamenhof.

Just as some people have two religions, one for Sundays and another for week days, Esperanto has two spellings. One is the real thing with five circumflexed consonants; if you hand in a telegram in that orthography, it can not be correctly transmitted, and most printing offices can not print texts thus written; typewriters have to be specially equipped for these letters, and in ordinary writing they are cumbersome because the pen has to be lifted very frequently from the paper. No other system of artificial language has anything like these letters, which are thus shown to be unnecessary. Zamenhof himself in 1894 recognized these circumflexed letters as a "very important hindrance to the spreading" of Esperanto, but still he opposes any attempt to discard them and only allows his followers to use an *h* after the letter as a permissible spelling whenever the real Esperanto letters can not be had. This leads to such spellings as *hchemio*, which few chemists will gladly accept as the name of their science, and even in extreme cases to four successive *h*'s (*monahhhoro*!). Therefore some Esperantists have tried other

desperate remedies, writing *s'ang'o* or *sângô* instead of *sango* with circumflex over *s* and *g*, or *shangho* (Ido, *chanjo*). Whichever way you spell Esperanto, it looks unsightly, and in many cases unnecessarily alters the aspect of international words.

Mr. Kellerman finds that Ido is less musical and more monotonous than Esperanto; I have not yet found any one who was of the same opinion after listening to one half page of the same text translated into both languages, as the numerous *aj-oj-ujs* and the frequent sibilants of Esperanto are avoided in Ido. Mr. Kellerman also speaks of the "harsh Anglo-Saxon pronunciation of the letter *j*" in Ido. He will allow a phonetician to say that it is neither harsh nor Anglo-Saxon; besides, is Ido *joyo* harsher than Esperanto *gojo* with a circumflex over *g* or *ghojo*? The sound is identical in both cases, but Esperanto spells the initial sound in two ways unexampled in any language, living or dead, while Ido here as elsewhere selects the most international form.

The only refutation of Mr. Kellerman's assertion that Esperanto is more logical and more truly international than Ido and that Ido lacks definite rules is by a comparison of the two systems: I hope many of the readers of SCIENCE will undertake that comparison for themselves by a study of our grammars and readers or of parallel texts in both languages. Such an examination will soon make them see where the truth of the matter lies.

The main consideration with Mr. Kellerman seems, however, to be the number of adherents, and I must admit that Esperantists still are more numerous than Idists. But, as the boy said when applying for some work and being met with the objection that he was too young: "I shall improve in that respect every day." Ido certainly gained more followers in the first twelve months of its existence than Esperanto did in the first twelve years of its life. Mr. Kellerman quotes from the title page of the *Internacia Scienca Revuo* seventeen names of noted men of science who support that periodical. There is no doubt that *Scienca Revuo* would be a more valuable paper if these men also appeared inside the cover,

but as a matter of fact the great majority of them never published anything in Esperanto. Their support is purely platonic, and as it was given before the birth of Ido, it shows their approval of the general idea of an international language more than of that particular form of such a language. It is a significant fact that not a single philologist has accepted Esperanto in its Zamenhofian shape; the only one mentioned in Esperanto papers is Baudouin de Courtenay in St. Petersburg, but he has publicly declared that "Of course, Esperanto needs improvements," and though he does not accept Ido in every detail, he says that it is better than Esperanto in many respects. But the leading French Esperanto paper (*Lingvo Internacia*) refused to print a protest from Baudouin de Courtenay after they had printed what purported to be an article by him entirely in favor of Esperanto, which he had never written.

I am optimist enough to believe that the present tactics of many Esperantists will soon cease, and that they will then see that a good cause can only be furthered by a loyal discussion of the pros and cons without regard to persons. No great invention, no great scientific discovery, ever sprang into the world full-fledged; they all have required the patient cooperation of many minds. Yet we are to believe that Dr. Zamenhof's invention of 1887 stands in no need of improvement in its vital elements; and it is considered a sacrilege to whisper that its alphabet is cumbersome, many of its roots badly selected, much of its grammar too capricious and its methods of word-formation insufficient and amateurish, and that by setting to work on scientific principles it is possible to devise a much better language of a much more truly international character, "not perfect," perhaps, "but always perfectible."

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SCIENTISTS AND ESPERANTO

IN SCIENCE for December 3 appears an interesting note on Esperanto from the pen of Professor Tingle, in which he criticizes the

statement made in a former article of my own, that the adoption of an international language is the solution of many difficulties for scientific men. Waiving the fact that he applies the quotation he makes in a manner other than the context will strictly warrant, his remarks still leave unshaken my conviction that the use of the international language would be a means of lightening the linguistic burdens of all scientific workers, and among them, of the chemists; even under the somewhat drastic conditions of the hypothetical case he cites.

I venture to believe, that if, as he supposes, subsequent to January 1, 1910, all chemical communications were compelled to be made in Esperanto, the result would not be, as he fears, simply the additional burden of another language to be learned, but that, on the contrary, chemists would discover that they did not need to be also expert linguists in order to keep in touch with the movements of their science throughout the world, and that, while possibly a *reading* knowledge of certain modern national tongues, for perusal of matter already chronicled, was still desirable, a *speaking and writing* knowledge, a very different matter, had become, almost, if not entirely, unnecessary in their scientific work. Such an intimate knowledge would be needed of one language only and that, the simplest of all, Esperanto. The authors of the communications would also find a much larger audience, to the advantage both of themselves and of the world in general.

It is true that sometimes, in quoting from existing writings, it is desirable to use the language in which the author wrote, in order to clearly express his thought, and to this extent would it be necessary to permit the use of other tongues than the international one, but this would be a very small item compared with the immense gain that all the new facts and theories of the science would be expressed in the world language, and, as the years rolled by, the necessity of using any national language in such international communications and contributions would grow less and less—to finally disappear.