LETTERS TO THE EDITORS

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A World Language

SIR RICHARD GREGORY, in his recent address to the Association of Special Libraries and Information Bureaux (ASLIB), reported in NATURE of November 28, refers to the importance of developing a world language for international use after the War. He mentions the British Association Committee's investigations in 1919 which directed attention to the three alternatives :

(1) The use of a dead language, for example, Latin.

(2) The use of a national language, for example, English.

(3) The development of an artificial language such as Esperanto or Ido.

I venture to suggest that a fourth alternative should now be considered, namely, the use of a systematic sign language, as was proposed, nearly twenty years ago, by Prof. Daniel Jones, of University College, London.

I would exclude the instinctive pantomimic gesture language, as developed by all deaf mutes, for this language is *not* built up of separate signs equivalent to spoken words, and it is therefore almost as unfamiliar to all users of spoken language as spoken language is to the uneducated deaf. The natural pantomimic gesture language of deaf mutes represents in fact a different and altogether more primitive way of thinking from that used in normal speech.

The sign language for international use would be one (like the Red Indian sign language) in which every sign is the equivalent of a spoken word—so as to represent a unit of thought—but in which every sign is also pantomimically related to the meaning which it bears.

I have suggested elsewhere[1] that the spoken languages of primitive man were, in the main, derived from pre-existing sign languages of this type, the simple cause being that (as Darwin pointed out[2]) man's mouth and tongue tend to copy the movements of his hands.

From this it followed that *all* sign language was inevitably accompanied by gestures of articulation, while the equally natural urge of man to express emotional states by laryngeal sounds supplied the acoustic energy needed to convert gestures of articulation into audible speech sounds[3].

The advantages which may be claimed for a systematic sign language are :

(1) That every sign will appear natural to all nationalities alike.

(2) That—as experience has shown—the individual signs will be easily and quickly learnt and remembered.

(3) That the symbolism—being essentially pantomimic—will be more direct than that of any spoken or invented language.

(4) That the language will lend itself especially to use by children and the rising generation—as a form of play—and will give them at the same time a datum line from which to judge and compare the spoken languages.

(5) That the sign language will be at once simpler, more concise, and more unambiguous than any spoken language—owing to the much greater versatility and precision of the human hands as compared with the human organs of articulation (lips, tongue, etc.).

(6) That the sign language will be very easy to teach—on a world scale—by means of educational films and television, and that it will be free from all difficulties of pronunciation.

(7) That there is already available a vocabulary, of just under two thousand words, which any interested student of average intelligence might expect to acquire within a month. A longer period of practice would, of course, be necessary for gaining speed in signing and reading.

On the other hand, sign language has certain disadvantages, namely :

(1) It is at present unfamiliar—except to the born deaf.

(2) There is not, at present, any available script by which the hand gestures can be recorded and read—unless a cinema film of the person signing can be considered as a script of his signs.

Unfamiliarity of sign language is almost certainly not a serious objection—as witness the fact that all nationalities communicate by signs when the intending communicators cannot understand each other's spoken language.

The absence of a script, on the other hand, is a serious disadvantage, and the invention of an efficient script would be an essential factor in the development of sign language as an auxiliary international language.

Shortly before the present War broke out, that great master of script, Eric Gill, had begun to interest himself in the problem of devising a script for sign language. His premature death was a heavy blow not only to sculpture and the arts generally but also to sign language.

If any readers of NATURE—or their friends—should be disposed to investigate the problem of recording the three-dimensional movements of sign language by means of a simple and artistic two-dimensional script, I would gladly give them any help in my power.

Miss Margaret Morris has devised a script for recording all the bodily movements in dancing[4]—the problem is much simpler in the case of sign language, where (in effect) only hand movements are concerned.

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[1] NATURE, Feb. 23, 1929, p. 281 ; "Human Speech", Sir R. Paget, Kegan Paul, 1930, p. 133 ; NATURE, May 14, 1938, p. 882.
[2] "The Expression of the Emotions", Chap. 7.
[3] "Human Speech", p. 37–39.
[4] "The Notation of Movement", Kegan Paul, 1928.

Control of Potato Blight (*Phytophthora infestans*) by Spraying with Suspensions of Metallic Copper

IN 1807 Bénédict Prévost found that germination of the spores of the wheat bunt fungus (*Tilletia caries*) in water was inhibited by the presence of submerged pieces of clean metallic copper[1]. It has long been known that water contained in copper vessels becomes toxic to some species of algæ and bacteria. Since about 1885 many compounds of copper have been used in spraying plants for the control of fungus diseases, but in an extensive search of the literature[2], I have not found a single reference to the trial of finely divided metallic copper itself, for this purpose