

Comparing this with the dip $70^{\circ} 25' 19''$ to day, I find for the annual decrease, $2' 117$.

Markree Observatory, August 21

W. DOBERCK

The Gesture Speech of Man

The valuable paper of Col. Mallery (NATURE, vol. xxvi. p. 333) is deserving of much attention, but his description of the relations of gesture-language and speech-language is calculated to cause misconceptions, on account of the view he has taken of the origin and propagation of speech. Admitting the general accuracy of his description of the gesture-language or dialects of man, then that description is really applicable to speech.

Setting aside all theories and looking at facts, all spoken languages have psychological relations, as gesture-languages have, and in their early stages are founded on the same principles of having several representations for one idea, and several ideas for one representative sign. With regard to sounds applied as representative signs, as a general law these are the same for all languages, and the diversity observable arises from the diversity of selection and distribution.

It can be seen by the commonest observer that among the remotest languages there are like words, but as it is assumed they cannot be related, these identities are put down to chance and disregarded. On the other hand, many are led astray by such identities to set up relationships and to form schemes of classification between languages, which are not justly admissible. Nothing has been more ridiculed than the identities of words set forth between Quichua, for instance, and various languages of the old world, and yet nothing can be more just than the identities, which speak for themselves to the unprejudiced.

A great argument against the relationship of languages has, on the other hand, been derived from the diversities which are equally apparent as the identities among such languages, and the supposed negative evidence derived is used as conclusive against any relationship.

The phenomena are very complicated, as are the phenomena of gesture-language, but the solution is to be found in those remarks of Mr. A. R. Wallace, of which I have given the application as the Wallace formula (NATURE, vol. xxiv. pp. 244, 380). I repeat this, because further observations and a long course of investigation leave no doubt as to the facts and their application.

Proceeding on the basis of a system of sign-languages generally existing in the world, we obtain the explanation of the engraving of sounds in defined series. Mr. Wallace's labial for mouth, nasal for nose, and dental for tooth, provides labials for every idea based on the round form of mouth, or on its opening and closing, as head, face, eye, ear, sun, moon, egg, &c. These, again, were in relation with defined mythological and numeral characteristics, affording abstractions.

Thus, a whole apparatus of speech was provided, but it was complicated first by the condition, imparted from gesture language of plurality of signs, and next by the faculty of applying various labials, &c. What Col. Mallery states to have taken place in gesture language is precisely that which took place in speech language. In the process of selection, the apparatus of each class was ultimately diminished so far as the common stock was concerned, and each language acquiring only a portion of the common stock, has at present the appearance of a separate and indiscriminate vocabulary in relation with all, but not identical with any except its own immediate congeners.

Thus the effective comparative philology of any language ultimately depends on its relationship to all, and not to one family.

As all speech languages are of common origin, so we must admit a common diffusion of them over the world. The result is seen in the relationships of the languages of America with those of Africa, for instance, but it is attested by a community of verbal forms in traditions and in mythology, and even in geographical nomenclature. It is the traditions of this diffusion of speech which underlies many of the deluge legends.

The epoch of this diffusion is sufficiently clear, for the words widely distributed show that it was in an epoch of considerable culture.

Col. Mallery accurately states that there is a relationship between the gesture languages and some of the ancient characters, and this supposes that characters may have co-existed with gesture before the diffusion of spoken languages. Admitting this, we have to regard not only the relations between gesture

and speech languages, but between the characters and speech and the manner in which characters were applied to the spoken languages, and modified by them.

Among my later investigations have been those relating to the applications of Mr. Wallace's formula to characters, syllabaries, and alphabets. It may be remembered that one means by which I was enabled to apply Mr. Wallace's remark was by means of previous observations on the \bigcirc and $+$ series in the Chinese and other ancient characters. Speaking concisely we have for labials \bigcirc , \square ; \odot , C , Θ , ϕ , &c.; for nasals (which are male) $+$, \times , τ , \div , N , N , N , &c.; for dentals, \wedge , Δ , \uparrow , &c.

If we examine a syllabary or alphabet, more particularly one of ancient form, then we shall generally find that the labials, &c., conform. They are, however, besides translations of the original word, subject to interference, because where the general idea involves a labial, the labial may have been excluded by a dental. Doorway is a labial, but door, as in English, a dental, doorway being taken from the mouth, and the door from the teeth within, and although the words are distinct in many languages, yet in some one only has survived. The character for mountain, country, &c., is tooth, Δ or $\Delta \Delta \Delta$, but other relations for mountain are navel, drum.

In its application for the examination of characters this Wallace formula is very useful. Thus the Korean conforms to it, and the Vy or Vy, supposed to be modern, conforms to a test of antiquity.

Nothing can be more true than Col. Mallery's description of the rapidity of gesture-language. Any one who observes the mutes of the Seraglio at Constantinople, who in my opinion transmit the system of the ancient pantomimes, will at once perceive how quickly thought is portrayed under conventional representations. Much of their conversation is naturally on political topics, and they have not only signs for each individual, but it is reputed for each city of the empire, as they undoubtedly have for foreign countries. Incidentally I may mention that they apply lip-reading for giving names, as in all probability they have for centuries.

Col. Mallery supposes that gesture-language in its present shape originated spontaneously and sporadically, but in legend there is the suggestion of a diffusion of gesture-language as of speech. Thus we have two epochs in tradition, that of creation, and that of the propagation of speech, which appears under the form of the deluge traditions. Some interesting illustrations of the whole matter will be found in Mr. Man's monograph of the Andamanese, now being published by the Anthropological Institute.

With the great advantages of gesture-languages, Col. Mallery has not explained how they have succumbed to speech-language, nor is his suggestion of their value as a common language among spoken dialects adequate. Where a speech-language becomes a common language it also extirpates the sign-languages, and a great language swallows up the numerous smaller brood. Europe was at one time as thick with languages as North America or Africa, and now a few of one family dominate.

32, St. George's Square, S.W.

HYDE CLARKE

Orange Culture in Florida

IN reply to the inquiry in your columns regarding orange culture in Florida, I venture to recommend an agreeably written account of that State, entitled "Florida: for Tourists, Invalids, and Settlers; containing Practical Information regarding Climate, Soil, and Productions; Cities, Towns, and People; the Culture of the Orange, and other Tropical Fruits; Farming and Gardening; Scenery and Resorts; Sport; Routes of Travel, &c.," by G. M. Barbour (New York: Appleton and Co., 1882.) I had this volume in hand during a stay of a few days in Florida last May, and found it, so far as I could judge, fully entitled to the "Testimonial" from the State officials which graces its opening pages. It has a chapter, of thirteen pages, devoted especially to "Orange-culture," besides constant references throughout its pages to this branch of the rising industry and development of that delightful sub-tropical region. In the same chapter there is a note as follows: "Much the best work on the subject is Rev. T. W. Moore's 'Treatise and Handbook on Orange Culture in Florida,' of which a new revised and enlarged edition has just been published by E. R. Pelton and Co., 25, Bond Street, New York." Mention also occurs of a "Guide to Orange Culture" by "the Manville Brothers"—but I do not find a more precise indication.

J. HERSCHEL

Collingwood, August 26