

I found that if I could classify *eye* in a language under examination, it gave me *sun* and many other words, and it led me to much valuable work, but I was often thrown out for reasons I did not then know. Empirically I found *eye* was a constant, and I knew it was a round, because in many languages east and west *sun* is the day eye or day's eye; *moon* is the night eye, and *eye* the head eye. In the North American languages and in the Malay, for instance, there was the evidence of a common law of psychological philology, which led me to greater results. My knowledge became modified to the extent that *sun* was not day eye, but day round. Until Mr. Wallace's article appeared, I still regarded *eye* as the pivot on which the "round" words and characters turned, although I knew that *mouth* was the prototype of *moon*, *mother*, *woman*, *egg*, &c., and of objects and ideas having a periodicity or a month. Having a false pivot, I was never able to bring the facts into a right connection, although coming very near. The Chinese modifications of the ancient character show that *mouth* and *ring* constitute the primary character, and thereby indicate the primary word.

The researches of Col. Garrick Mallery, U.S.A., and my own, in the paper unpublished, show the connection of sign language and characters, and I have determined a relation between sign language, character, and words, as in the sign or character || for son, offspring, &c. The characters in many cases appear as ancient as the signs, and may have preceded speech language. How words were connected with ideas and their representatives by signs was the problem. The new explanations of Mr. Wallace in your paper, or the old observations of others, in giving explanations from natural cries and sounds, &c., are not always exact, and do not account for the fact that the sounds are in relation with the sign language. Thus the words for *eye* and 2 are the same, and the words for *ear* and 3, and so forth.

In the brief remarks now made I endeavour to steer clear of many things which would require a long explanation, and to bring my observations to bear on Mr. Wallace's article. On speech language being constituted, the application of a labial to *mouth* gave a large series, and so of the dentals, &c. As the numerals are in relation to each object of the universe in primitive symbology, so they were supplied. Indeed nouns, adjectives, pronouns, verbs, numerals, particles, were supplied from a common fount. There are languages constituted of a few differentiated words, which can be traced throughout.

In connection with Mr. Wallace's remarks is to be taken what he says afterwards of the action of the lips. In the sign languages and the characters the lower organs supply a large number of ideas regarded as phallic. Such are ||, †, O, &c. These ideas are not capable of direct connection with sounds; they came however into connection by the acknowledged correspondence of the parts in symbology and mythology. Thus the labial sounds became the representatives of actions or ideas illustrated by the corresponding lower organs, as in *go* and *come*.

Taking Mr. Wallace's terms and applying them, we therefore get the connection established between the sign languages and the speech languages, and we can see the psychological grounds on which they continued in working together, and why the speech languages have not everywhere *always* exterminated their ancestors. For this, and for the whole state of affairs, Mr. Wallace furnishes me with an explanation.

His naked statement is the best, that for *mouth* a labial was used. In the sign languages, and we find this in the prehistoric languages and their equivalents, several signs are used for one idea, and several ideas for one sign. When a labial was applied for the *mouth*, it was indifferent what labial. If one used a *b*, another would use *m*. This is one cause of the variety we find in the prehistoric primary languages, for there never was what philologists are fond of, one primitive language.

Many will object to Mr. Wallace, that *mouth* is not always represented by a labial, and in the common course hold that the negative evidence overcomes the affirmative. In many instances *mouth* is a dental, because the idea includes the *teeth*, which are dental. Again *tongue* is not always a dental, but a sibilant, so far as it is connected with *snake*. It is the whole knowledge of the facts which will better enable us to complete our progress and to overcome difficulties. For myself I have derived particular advantage from Mr. Wallace, in being enabled to understand my own work.

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Comets and Balloons

THE notion that the tails of comets are produced by an emission of the nucleus prevails at present among astronomers. I have just stated in a small pamphlet, 8vo, 32 pages, the reason why I presume to entertain another opinion on this subject. The details of my last aerial trip of July 2 show that by using an electric light night ascents at a reasonable distance from the sea may be considered as relatively without danger. The appearance of Schæberle's comet seems to me to afford a proper occasion for testing the emission theory, and I will try to explain my idea as shortly as possible.

It is pretty certain that any comet will lose something of its brilliancy in consequence of passage to the perihelion, consequently, *ceteris paribus*, it must be found with a diminished luminous power in the second part of its track. The consequence is that to test this theory the same comet should be observed in a similar position, as close as possible, in the first and in the second parts of its track.

By ascending with a balloon in the northern hemisphere to inspect Schæberle's comet on a moonless night, and estimating its luminous power in a clear sky at several determined heights, a great step will be made in reaching this desirable end.

It would be for the astronomers of the southern half of the world to ascend under similar conditions, and to make corresponding observations. If no visible diminution is proved to have taken place, much will have been accomplished in the determination of the true nature of this mysterious object.

The same observations could, it is true, be prosecuted without the help of aërostation, but not with the same amount of certainty, as much doubt remains as to the true luminosity of a celestial body when it is not inspected in a really perfectly clear sky, which can always be procured with a balloon—it is true not without incurring some personal risk, certainly not out of proportion, at all events, to the results to be expected.

W. DE FONVIELLE.

Animal Instinct

I AM exposed to some annoyance from a clever old donkey, who, being turned out on to the green in front of my house, constantly lets himself into my garden to graze on my lawn. This he effects by pushing his nose between the rails of an iron gate, and then pressing down the latch of the gate. Expulsion, with ever so striking an appeal to his feelings, avails only a short time for his exclusion, unless the gate is locked.

Little Park, Enfield, August 19

W. B. KESTEVEN

ITALIAN DEEP-SEA EXPLORATION IN THE MEDITERRANEAN

AFTER my communication of the 4th inst. from Asinara I feel sure that many readers of NATURE will be interested to know something more of our doings; so I take the opportunity of our short stay here to send a very brief account of our doings since leaving Asinara.

The presence of a deep-sea fauna in the Mediterranean which I announced in my last is fully confirmed, and even though most of the species dredged are as yet undetermined, I can venture to say that the character of this fauna is "Atlantic," and, I may add, "Oceanic." My first bit of news was the capture of a *Willemøssia* identical, or very nearly allied, to *W. leptodactyla*; since then some ten or twelve specimens of that most interesting and characteristic Crustacean have been secured off the west, south, and east coasts of Sardinia, in depths varying from 950 to 2145 metres. All our deep hauls have brought up some living animals, usually Annelids and deep-red shrimps of at least three species; the greatest depth we have trawled in is 3115 metres; the greatest we have found sounding is 3630 metres in the eastern basin between Sardinia and Naples.

On the 10th inst., off the west coast of Sardinia we dredged two specimens of a Macrurid fish, which I take to be a *Malacocephalus*, from depths of 2805 and 2908 metres. South of the Gulf of Cagliari we got a new—to me—and exceedingly remarkable Macrurid, with what