hundred and thirty miles from Austin, they lost the dog. We had travelled, in a general way, around two sides of a triangle, and were now making the third when the dog got lost. A few days ago, one month from the time he got lost, the dog came back home, fat and foot-sore.

Now it was utterly impossible for him to have taken the back track and to have returned home by the way we went out. How did he find the way from Hillsboro to Austin, if he had no sense of direction? for he had never been over a step of the way between the two places. W. F. CUMMINS,

Texas Geological Survey, Austin, Texas, Dec. 2.

## The Need for Popular Scientific Instruction on Oriental Subjects.

THE prevailing fad for the uncanny and the remote, having passed beyond the stages of spiritism and "Korashan science" into those of Neo-Buddhism and "theosophy," is rapidly taking shape as an eager curiosity for information regarding the religious and philosophical ideas, the literature and the customs of the far-east, coupled with a tendency to look there for a fuller light and a more perfect practical direction to life than the religion and science of Christendom can afford. They who look upon the cultivators of this taste as grossly astray from the path of reason and common sense must assign the source of the delusion to an ignorance of the real character of that Oriental civilization to whose meretricious fascinations they have succumbed.

Those, on the other hand, who are more or less in sympathy with the orientalizing movement will, if perfectly sincere, retort that the contempt for Oriental ideas, or indifference to them, which exists in various degrees among the greater public, results from the prevalence of gross misconceptions regarding them, and a lack of familiarity with the literatures which express them and the social conditions in which they are practically realized.

The two parties are agreed, therefore, that more light needs to be thrown upon the subject; that there is, in fact, a crying need among the people at large for accurate information on Oriental subjects.

The same antithetical concord, if I may be permitted the expression, exists between the defenders and opponents of the historical accuracy of the Hebrew Scriptures. Both urge the necessity of a wider diffusion of the results of recent Egyptological and Assyriological researches.

The world is becoming so small since the apparition of steam and electricity, in their protean applications, that the thought and life of one portion of it can no longer be a matter of indifference to another, even the most remote; and a man can no longer be considered cultured whose thought and sympathy are limited by the boundaries of a nation, the shores of a continent, or the formulæ of a cult. No religion, and no social conditions, can be considered otherwise than as anachronisms, which are unable or unwilling to bear an impartial comparison with all others of every country and every age.

And if a truly scientific conception of the history and needs and destiny of humanity be the great desideratum, it is clear at the first glance that it can never be attained until we cease to identify humanity with the little ethnic, or geographic or religious group to which we may chance to belong; and we can never cease to do this until we have become far more familiar than we at present are with those oldest and most powerful of civilizations which have their seat upon the Asiatic continent.

For the student of anthropology there are other and special inducements for the fullest possible exploitation of the Oriental lands and peoples. They alone have a known history of a sufficient extent to be of any marked value in unravelling the numerous problems connected with the history of progress and the phenomena of retrogression. It is the East which has afforded, or must afford, the key to the chief enigmas of ethnology, of philology, of archæology, and, above all, of *hierology*, or comparative religion. In India we can follow the trend of philosophical speculation, and the changes of religious thought and sentiment, either internally elaborated or exteriorly impressed, for a period of not less than 3,200 years; the less intense and all-absorbing religion of the Turanians can be traced backward through more than six thousand years to the lowlands of Mesopotamia or the plateaus of the Altaï; and in relatively modern times we are permitted to witness in the history of Buddhism the successive metamorphoses of a great cult in the course of its transmigrations from country to country, from continent to island, from lowland to upland, from the monkhood to the people, from the Aryan to the Turanian stock, from an agnostic or atheistic to a pantheistic, a dualistic, a monotheistic or a polytheistic form.

The wonderful richness of this field for the student of the history of religions would suggest that if a medium of popular instruction in Oriental lore could be established, it might well afford expression at the same time to that fascinating and all-important science.

A recognition of the needs, some of which I have here roughly outlined, has induced me to undertake the publication of a bimonthly magazine, whose object will be an impartial presentation, from every point of view, of all branches of Oriental science and every aspect of the comparative history of religions. I shall be glad to have the coöperation of all who are at all interested in these subjects. MERWIN-MARIE SNELL.

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## Algebraic Notation.

IN a communication to *Nature*, issue of Nov. 3, W. Cassie points out the advantages of a proposed new notation for indicating algebraical operations. In addition to the oblique line for division (now in use in some English scientific works), another oblique line, from left to right downwards, is employed to denote an exponential operator. Thus the quantity which follows this sign is the exponent of that which precedes. In complex expressions the lines also perform a bracketing function. Besides these two marks the radical sign is used to denote evolution, and it is this which the writer deems inexpedient.

In algebra the employment of both radical signs and fractional exponents adds unnecessary confusion to a subject rather difficult in itself. There is no good reason — except that both are in use — why both should be retained. The fractional exponent notation, of course, must be kept, since it serves for all cases; and there is certainly very little justification for setting apart a special symbol for indices whose numerators are unity. I tested all the radical expressions given in the letter referred to and found no difficulty in writing them in the fractional exponent notation. Indeed, the figure 1 in the numerator might be omitted, being understood. The symbol resulting suggests the radical sign itself, only that the quantity precedes and the exponent follows the sign. A notation which avoids all special spacing and various sizes of type, writing all expressions in ordinary letterpress has certainly a worthy aim, and it would be a pity to burden it with an unnecessary symbol out of symmetry if not out of harmony with another. JOSEPH V. COLLINS.

Miami University, Oxford, O., Nov. 30.

## Electric Phenomena on Mountains.

TWO notes of great interest regarding this subject have appeared in this journal for Sept. 23 and Dec. 2. The phenomena of electric discharges from elevated points on the earth's surface were first noted, so far as I know, by a savant on the great pyramid in Egypt. As he stood on the pyramid with a bottle held at arm's length above his head, he heard the peculiar spitting and sputtering produced by the electricity passing from the bottle. The description by Mr. Stone is especially valuable, and shows the extreme importance of making careful observations. Close attention is being paid by the Weather Bureau to all manifestations of this kind on Pike's Peak. It is my impression that the origin of the phenomenon is not an electric cloud passing overhead but a discharge from, or to, the earth under an electric strain or change of potential. A mountain summit forms a point for discharge of electricity like a point on the conductor of an electric machine. On Mt. Washington this discharge frequently