This is emphatically a step in the right direction. Under the provisions of the act, much valuable information in regard to either of the diseases mentioned may be obtained; and, if either of them visits the country, it is to be hoped that something of scientific value will be added to our knowledge of the means of fighting it. We should have been glad to see an additional special clause providing for the appointment of experts to investigate at least the first cases which occur, for it is by the rigid inspection of these often doubtful cases, by accurate diagnosis and successful isolation, that an epidemic is to be arrested. Without a special recommendation of this kind, there seems to be too much danger of the omission of rigorous measures at the most important time.

THE RECTIFICATION of public practice in accordance with scientific theory is always gratifying. Attention was recently called to certain results of the mode of educating deaf-mutes by means of silent signs and in seclusive institutions, — threatening no less a calamity than the creation of a deaf-mute variety of mankind, — and to the desirability of training deaf children in the use of common speech, in association with hearing children, and without removal from family influences. The memoir on this subject by Prof. A. Graham Bell, embodied in the Report of the National academy of sciences presented to congress last year, has led to much discussion of the subject. The first fruits are seen in a bill now before the legislature of the state of Wisconsin, which provides for the establishment of small day-schools for the deaf in any incorporated city or village in the state. These schools will be under the control of the state superintendent of public instruction.

This is a movement in the right direction. Existing institutions for the education of the deaf are under the management of the boards of state charities. But this pioneer legislation of Wisconsin recognizes the obligation of the state to provide education for all her children, not as a charity, but as a right. The establishment of these day-schools was recommended by Gov. Rusk in his message to the legislature last January, in which he says, "There were in Wisconsin, according to the census in 1880, 1,079 deaf-mutes, of whom 600 were of school-age, between six and twenty, and less than one-third of these were receiving instruction." An equally large proportion of deaf children are growing up in ignorance in all our states; and the question is forced on public consideration, whether to enlarge and increase the number of state institutions, or to supplement those already existing by the provision of day-classes for the deaf, in connection with our common schools. The Wisconsin experiment will be watched with interest: its results can only be for good; and the example of that state in taking a new departure of this kind is worthy of being generally followed, that the tests may be conclusive for the whole country.

Prof. A. G. Bell was invited by the committees on education, of the senate and assembly of the legislature of Wisconsin, to present his views for their information; and, after completing his *viva voce* explanations, he addressed an open letter to the committees, in which his arguments are recapitulated clearly and compactly. This document we commend to all who are interested in the subject. We have room for only one quotation: "Out of a total of 33,878 deaf-mutes in the United States in 1880, 15,059 were of school-age; and the total number of deaf-mutes returned as then in the institutions and schools of the United States was only 5,393." This fact alone shows the necessity, not only of doing something, but of doing it without delay.

LETTERS TO THE EDITOR.

*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Decadence of science about Boston.

I OBSERVE that this subject is still discussed in a recent number, but that no one ventures to raise a doubt as to the original assertion. Yet to a layman in science it does not seem that any proof of such

decadence has been offered except the diminished attendance at certain meetings. But is this a proof of decadence, or merely of increasing specialization? No one complains of the decadence of science in and about London, I take it; and yet nothing surprises an American in London more than the small numbers he meets at scientific societies, whose names are famous throughout the world. If I remember rightly, I heard one of the most eminent philologists in England, Mr. Alexander J. Ellis, read his inaugural address as president of the Philological society, in 1872, before about twenty persons, and I attended a meeting of the Anthropological society, with Sir John Lubbock in the chair, and not more than twenty-five present. When we consider that the most eminent popular lecturers on science, such as Tyndall and Tylor, lecture, or lectured in 1872, to popular audiences of only two hundred or three hundred, it is evident that at the British capital the test of numbers can hardly apply. Across the channel it is still worse. At the Collége de France, in 1878, I heard eminent men lecture to audiences of a dozen, although Charles Blanc told me triumphantly that he always had auditors standing up when he lectured on the history of art in a hall holding perhaps fifty. My experience of German lectures is limited, but I was struck with the same thing there. Were I a man of science, it seems to me that I should advance the thesis that it is in the cruder period of scientific knowledge that it attracts large numbers, and that the tendency of specialization is to give 'fit audience, though few.'

Then there is another view which is in the nature of an *argumentum ad hominem*. Does not the very existence of *Science* refute the lamentations of *Science?* If scientific activity is greater elsewhere than in Boston and Cambridge, how came your valuable periodical to be established here?

T. W. HIGGINSON.

Cambridge, Feb. 22.

[Specialization of work is an increasing necessity of science, but wherever it begets absorption of interest, and this specialization of interest infects the whole body scientific, there science in any true sense will begin to show signs of decadence. It was not the small, but the decreasing attendance at Boston scientific meetings; not the attendance only, but the character of the communications made, — to which we drew attention.

As to the *argumentum ad hominem*, Cambridge was taken as the place of publication of this journal, merely from the accident that it was the residence of the editor chosen to conduct it. — EDITOR.]

Nadaillac's 'Prehistoric America.'

In the review of the American edition of Nadaillac's 'Prehistoric America' (*Science*, No. 108), there are two allusions calculated to produce a false impression, which it seems advisable to notice, as many of your readers may learn all they are ever likely to know of the book from your notice of it.

It is stated that 'quotations and references are incorrectly given.' In any book containing several thousand references, errors are almost certain to occur. Having, in the capacity of editor, to examine many of these references (for none of which I was responsible, as is explained in the preface), I have a much better knowledge of their average accuracy than the casual reader can possibly obtain, and can assure those interested that the person to whom the verification was intrusted performed that task in a way to which no reasonable exception can be taken; and the result is a considerable advance upon the original work, which, like most French books, was defective in this respect. Certain blunders appear in the index, of which no proofs were submitted to me; but they are, so far as I know, of a character to cause no difficulty to an investigator.

The second is a more delicate matter. There are many good persons to whom any comparison of religions which includes their own is painful. For these, anthropologists do not write. It is, I acknowledge, a painful surprise that my endeavor to indicate the kernel of spirituality in a husk of barbarous rites by a reference to a strictly parallel case within our own cognizance, should give offence to any scientific mind. Had I known, however, that this would occur, I should not, even then, have omitted an observation which is undeniably true, and which is necessary to a right understanding of a fundamental feature in the religions of Central America. My language was as follows: "It must be borne in mind, however, that the practice of cannibalism, in many cases was not a mere devotion to a diet of human flesh, but a rite or observance of a superstitious or religious character, not so far removed from the anthropomorphism which, in the middle ages, claimed for the chief Christian rite the 'real presence of body and blood' of the victim sacrificed for the welfare of the race." The inference of the reviewer, that one individual civilized Christian of our day (not to speak of half Christendom) partakes of the eucharist with a belief of mediaeval literalness, is, in my opinion, a libel upon humanity, and carries its own refutation. Such an individual, did he exist, would be no better than an Aztec, and entitled to no more consideration.

WM. H. DALL.

[In answer to the above, it may be said, 1°, that the statement in the editor's preface that 'many quotations have been verified,' is an admission that all were not, and that, if proof of this fact be needed, it can be found in mistakes like those on pp. 49, 51, 71, and 90, in which the accounts of the figures there given are incorrectly quoted; 2°, that transubstantiation is an essential article of faith in a church which numbers rather more than half the Christian world; and to assert that the sacrament of the eucharist as received by them is 'not so far removed' from the cannibalistic rites of the Aztecs, is an offence which is only equalled by the intimation that those who profess this belief in the actual presence, do not really mean it. In conclusion, the reviewer wishes once again to say, that, in spite of certain defects, "this is the best book on prehistoric America that has yet been published," and he takes pleasure in adding that much of this excellence is unquestionably due to the improvements made by the editor. — REVIEWER.]

The photograph of a Dakota tornado.

A photograph of the Dakota tornado, a woodcut of which appeared in No. 107, *Science*, was submitted to me last November, when the question of admitting it in the New-Orleans exposition free of charge for space, was under discussion. The sharpness of outline, and the fact that it was claimed that the photograph was taken at a distance of twenty-six miles, made me doubt its genuineness so much, that I submitted it to two of the best out-door photographers connected with the government surveys. Both pronounced it a manufactured photograph, most probably taken from a crayon-drawing.

J. W. GORE.

Chapel Hill, N.C., Feb. 26.