

sank to forty-eight in five minutes, and remained at that for some hours. The resistance offered by the body to an induced current was stated to be only half that offered to a continuous one. An ingenious speculation was hazarded as to the possibility of the human nervous system distantly resembling a duplexed telegraph-cable, in which a transmitted impulse is balanced and inhibited at the sending-station, but unbalanced and exhibited at the receiving-station.

W.

London, April 13.

NOTES AND NEWS.

THE following, in addition to those given in our last issue, completes the list of papers read at the National academy of sciences, April 20-23: Alfred M. Mayer, On the diathermancy of ebonite and obsidian, and on the production of calorescence by means of screens of ebonite and obsidian; On the coefficient of expansion of ebonite; On the determination of the cubical expansion of a solid by a method which does not require calibration of vessels, weighings, or linear measure; On measures of absolute radiation; E. D. Cope, On the geology of the region near Zacualtipan, Hidalgo, Mexico; Edward S. Morse, On ancient and modern methods of arrow release; Theo. Gill, The ordinal and super-ordinal groups of fishes; H. A. Rowland, On the absolute and relative wave-lengths of the lines of the solar spectrum; Wolcott Gibbs, Platinous compounds as additive molecules; Ira Remsen, Influence of magnetism on chemical action; A. Graham Bell, Upon the deaf and dumb of Martha's Vineyard (continuation of research relating to the ancestry of the deaf); S. P. Langley, On the invisible spectra; G. F. Becker, Cretaceous metamorphic rocks of California (by invitation); Ogden N. Rood, On color contrast; Charles D. Walcott, Classification of the Cambrian system of North America (by invitation); A. W. Wright, Crystallization of platinum by means of the electric discharge *in vacuo*; W. K. Brooks, The Stomatopoda of the Challenger collection; Budding in the Tunicata; A. W. Wright, Effect of magnetization on the electrical resistance of metals; R. E. Peary, U.S.N., On a proposed expedition into the interior of Greenland.

LETTERS TO THE EDITOR.

Science at Cornell.

My attention has been called to the communication signed 'H. N.' in *Science* for April 16, and I beg for a little space in which to point out one or two errors into which the writer has fallen.

I shall not attempt to deal with the swarming misstatements and exaggerations of the letter. These, although inviting game, are comparatively unimportant. But the fundamental idea of the writer is not without importance, and therefore should not

pass unnoticed. That idea is divisible into two parts. The first is, that Cornell university, in developing its non-technical side, is doing violence to the fundamental law and charter of the institution; and the second is, that, in so doing, 'the successor of Andrew D. White' is reversing the traditions and former policy of the university. "Where," exclaims the writer, "are the traditions and the law and charter of Cornell?" Let us see.

First, The fundamental law declares its purpose in the words, "in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." To accomplish this declared purpose, which, it will be seen, is of the broadest possible character, the law required "the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts." How this shall be done is explained in the clause, "in such manner as the legislatures of the states shall respectively prescribe."

Here we see, in the language of the law itself, a purpose that is clearly unmistakable. It includes not simply agriculture and the mechanic arts, but 'other scientific and classical studies,' 'military tactics,' and 'the several pursuits and professions of life.' Furthermore, these provisions shall be carried out in such a way as the legislatures of the states may severally prescribe. So much for the fundamental law.

Second, The charter of the university, after repeating the provisions of the fundamental law, and doubtless in view of the very large gift of Mr. Cornell, adds the following sentence: "But such other branches of science and knowledge may be embraced in the plan of instruction and investigation, pertaining to the university, as the trustees may deem *useful and proper*." In other words, the trustees are left by the charter to determine precisely what branches of science and knowledge shall be embraced in the plan of instruction, after those specifically provided for have been established and duly equipped.

Third, Now as to traditions. As soon as the trustees named in the charter came together, the first thing to be done was to determine upon a plan of organization. A committee for that purpose was appointed, of which Andrew D. White was chairman. On the 21st of October, 1866, he presented his famous report. In the very first part of it, under the head of 'Fundamental plan of instruction,' he argues the very question which lies at the bottom of 'H. N.'s' grievance. He is of opinion that the fundamental law justifies the establishment of all the departments of a true university. But, even if it did not, he finds unmistakable warrant in the provisions of the charter. In order that there may be no possible misunderstanding of President White's views, I quote a single sentence from p. 4 of the report: "Even if it should be claimed that the whole effort of the trustees ought to be devoted to agriculture and the mechanic arts alone; even if we were to construe away the plain words of the original act of congress, which speaks of 'other scientific and classical branches' as part of the object of the government grant of lands,—still the oft-repeated declaration of our founder, that he 'wishes to make such provision that every person can find opportunity here to pursue any study he desires,' would be our