52 (19 February 1891) 160

NOTES

There is a strong chance that the editorial reply at 54 (11 February 1892) 110 is by Peirce. If that is the case, then this note on Cajori is probably by Peirce, since this book is mentioned in the later editorial comment. See also: Fisch's new supplement. This note is unassigned in Haskell's *Index to* The Nation, vol. 1.

Florian Cajori (1859-1930) was graduated from the University of Wisconsin in 1883, and from 1884 to 1885 studied mathematics and physics at The Johns Hopkins University. From 1898 until 1918, he held a chair in mathematics at Colorado College, and from 1903 to 1918 also was dean of the department of engineering at that school. From 1918 until 1929, he taught at the University of California where he held the post of professor of the history of mathematics, the first of its kind in America. He authored over 200 journal articles and a dozen textbooks. He was a member of the American Association for the Advancement of Science (of which he held the presidency, 1917-1918) and the American Mathematical Society.

—The Bureau of Education's Circular of Information, No. 3, 1890, is a bulky pamphlet on 'The Teaching and History of Mathematics in the United States,' by Prof. Florian Cajori of Colorado College. Three-quarters of the 400 pages are given to the history proper, full in facts and decidedly anecdotical, but sadly wanting an index. Some of the stories are rather personal. The following relates to Prof. J. J. Sylvester, who is referred to as "Silly":

"His manner of lecturing was highly rhetorical and elocutionary. When about to enunciate an important or remarkable statement, he would draw himself up till he stood on the very tips of his toes, and in deep tones thunder out his sentences. He preached at us at such times; and not infrequently he wound up by quoting a few lines of poetry to impress on us the importance of what he had been declaring. I remember distinctly an incident that occurred when he was at work on his Universal Algebra. He had jumped to a conclusion which he was unable to prove by logical deduction. He stated this fact to us in the lecture, and then went on: 'GENTLEMEN' [here he raised himself on his toes], 'I am *certain* that my conclusion is correct. I will WAGER a hundred pounds to *one*; yes, I will WAGER my *life* on it.' The capitals indicate when he rose on his toes, and the italics when he rocked back on to his heels. In such bursts as these he always held his hands tightly clenched and close to his side, while his elbows stuck out in the plane of his body, so that his bended arm made an angle of about 140°."

Following this historical matter are twenty-three questions concerning methods of teaching and the like answered in the briefest manner by professors of 168 colleges, with other decisions by teachers in normal schools and others by principals of high schools. All this part of the book is diffuse and ill-edited. Little or no discrimination has been exercised in selecting the institutions; and from many of the most important there are no replies. There are none from Harvard, Yale, Princeton, the University of Pennsylvania, Ann Arbor, Cornell, Clark University, or the University of Wisconsin, all of which seats of learning should have been visited.

—The arrangement of the answers is such as to cover a great deal of paper while affording the reader no facilities; the whole thought, apparently, having been to save trouble to the compiler. As a fair sample of the value of these decisions, we may summarize those which sprawl over the half of three pages in response to the question, "Do scientific or classical students show the greater aptitude for mathematics?" The answers are:

Decidedly, the scientific, from	41	colleges.	
Decidedly, the classical,	"	28	"
Apparently, the scientific,	"	7	"
Apparently, the classical,	"	9	"
Sensibly equal,	"	13	"
Doubtful or nearly equal,	"	14	"

The more expanded statements could easily be put into half-a-dozen lines more. These replies prove nothing, unless proof be needed that most college professors know little of the aptitudes of their students. The last forty pages of the book are occupied with historical essays, germane to the subject, though of no great value. An appendix gives a useful bibliography of American treatises on the calculus, thirty-three in number.

52 (26 February 1891) 178

A CARICATURE

TO THE EDITOR OF THE NATION:

SIR: As one of Sylvester's pupils, I wish to express my regret that the *Nation* should have reproduced a passage so ill-calculated to give a correct impression either of his personality or of his influence, as that which was quoted in a note in your current issue. The intention of the writer may have been good enough, but no reader would gather, from what he says, that Sylvester's bursts of "rhetoric" were merely the overflow of that burning enthusiasm for his science which animated him constantly, which inspired his pupils (at least for the time) with something of the same ardor, and which enabled him, when past the age of seventy, to kindle a remarkable mathematical revival at Oxford upon his return to England. It is to be regretted that if any personal sketch was to be presented to readers who have not known Sylvester, it should have been one showing such bad taste, and preceded by the use of a silly nickname which, I believe—and for the credit of Johns Hopkins students' sense and breeding I trust that I am right—was never in use among the students at Baltimore. X.

FEBRUARY 22, 1891.

52 (12 March 1891) 217-218

THE TEACHING OF MATHEMATICS

"F. H. L." is identified by Haskell (*Index to* The Nation, vol. 1, p. 201) as being F. H. Loud. The editorial reply is attributed to Peirce by Fisch and Haskell in *Additions to Cohen's Bibliography*. If the review of Cajori's book—see 52 (19 February 1891) 160—was written by Peirce, then it is probable that the editorial remark following Cajori's letter is also by Peirce. This piece is unassigned in Haskell's *Index to* The Nation, vol. 1.

TO THE EDITOR OF THE NATION:

SIR: A quotation made in your issue of the 12th ult., in the course of a review of Prof. Florian Cajori's 'Teaching and History of Mathematics in the United States,' has, I see, called forth the objection of a correspondent that the passage gives an unfair impression of one of the most eminent of living mathematicians. Permit me to add that it seems to me equally misleading as a specimen of the contents of the book. The words quoted are not those of Prof. Cajori himself, and they occur in the course of a survey of Sylvester's work the whole spirit of which is the exact reverse of disrespect.

The history begins with the colonial period, and, while perhaps "anecdotical," certainly not tedious, in style, it gives evidence of much pains taken to secure accuracy. To all of this historical work—the main subject of the volume—the reviewer devotes but three lines, except as he treats the author's account of the last fifteen years, and this chiefly by making the above-mentioned strange selection.

F. H. L.

CLARK UNIVERSITY, March 2, 1891.

TO THE EDITOR OF THE NATION:

SIR: Will you kindly allow a little space for a few remarks on the somewhat unjust criticism which appeared in the *Nation* of the 19th inst. on my work entitled 'The Teaching and History of Mathematics in the United States'? The reviewer places undue confidence in his own opinions when he asserts that the replies given by 168 teachers of mathematics in our leading colleges "prove nothing, unless proof be needed that most college professors know little of the aptitudes of their students." The reviewer finds fault because no replies to questions concerning methods of teaching were secured from Harvard, Yale, Princeton, the University of Pennsylvania, Ann Arbor, Cornell, Clark University, and the University of Wisconsin. Is it possible that he failed to see that the mathematical teaching at all these institutions but two was described at length in another place? From most of the eight institutions just named I had received letters with detailed accounts of their work in mathematics before the 1,000 letters with the printed questions above referred to were sent out. For that reason, most likely, these institutions did not consider it necessary to send in information a second time. The obtuseness of the reviewer is brilliantly displayed when he expects reports from Clark University at a time when it had not yet opened its doors to students.

Respectfully yours,

FLORIAN CAJORI.

COLORADO COLLEGE, February 27, 1891.

[Complaints about book notices, when not made with a view to the advertisement, are mostly based on the idea that such a notice is mainly written in order to do justice to the author's merit. In fact, its purpose is to give the public such information about a book as it desires, and particularly to show in what way the book may be useful. While we would not deliberately do an author injustice, we cannot go into the question of "pains taken," except in those rare cases where the public desires to hear about that. When so distinguished an astronomer as

Sears C. Walker is called "Mr. C. Walker," when other names are misspelled, dates are erroneous, and the information generally defective, great pains may have been taken, but not pains enough. We repeated the nickname and anecdote concerning a great living algebrist, as being well calculated to convey to readers of the *Nation* a hint as to the degree of delicacy of Prof. Cajori's discrimination. "F. H. L." thinks these things "misleading as specimens" of the work; but in truth there is much which were better withheld while the subjects are living, such as: "Professor ____ was appointed . . . to supplement Professor ____'s shortcomings," "____ is a far more amiable and congenial person to meet than Professor ____," and the like, the names of the living persons being given. The excuse put forth by "F. H. L." that these things were communicated to Prof. Cajori in private letters, is an explanation that fails to explain.

Another correspondent, "X." (*Nation*, No. 1339), blames us for repeating the story. But in what age of the world, pray, are we living? It was already in print, it was quite true, and, after all, is merely a tale of a bit of eccentricity such as theoretical mathematicians and thinkers generally have been proverbial for since antiquity, and such as may be told of nearly every man living who has made important contributions to pure mathematics. There was a phase of American development (not yet, unfortunately, altogether past) when to say that a person was different from others was an accusation, to call him eccentric simply shocking. Whenever such a charge was made, those of the party's friends who were conscious of superior powers of mendacity, naturally hastened to repel the odious libel, and to assure the public of the maligned gentleman's eminent mediocrity. No wonder that in such an atmosphere mathematical studies have not flourished.

Prof. Cajori must not represent us as pooh-poohing the opinion of 168 teachers. No doubt, were judicious questions asked, their replies would be well-nigh conclusive. We merely said that replies pretty equally divided between "yes" and "no" proved nothing; adding only that, the question being as to the relative aptitudes of two classes of students for mathematics, answers very positive and yet irreconcilably conflicting do go to prove that most of the answerers know little of those aptitudes. From hardly any of the best schools of mathematics were replies to the questions received at all, nor is it true that there is anything in the book equivalent to such replies. The publication is 'Circular of Information, No. 3, 1890,' and therefore one naturally expects to find the opinions concerning methods of teaching held by the instructors at Clark University under the head of "The Mathematical Teaching of the Present Time." But there is nothing of the sort there concerning most of the chief seats of mathematical learning in this country. There are only some generalities under the title, "Influx of French Mathematics," which is surely a thing of the past. The detailed information concerning methods of teaching relates, with some exceptions, exclusively to second-rate institutions.—ED. NATION.]