

As I remember his article, he nowhere calls you an impostor, as you repeatedly charge; and in speaking of you as "sinning against the demands of literary property rights," you omit the word "unaware," which wholly changes the sense.

That the *Journal of Ethics* should publish the article as it now stands is not to be thought of. It could not do so with self-respect. The editors are, however, very willing to publish the body of your reply as you have written it, if you will leave out those passages which are merely personal.

I send with this a copy of your article, with the objectionable passages marked. You will, I think, admit that your argument is untouched, and that enough of anger and indignation are left to save the paper from any appearance of tameness. If these passages are omitted, or so changed as to be free from objection, the *Journal* will publish it in the July number, and without any other comment than a statement that a reply is reserved for the October issue.

I trust that you will adopt my suggestions and make the changes, which I believe will strengthen the article in the minds of those whom you most wish to persuade. You will not overlook the great advantage it will be to you to have your reply appear in the same journal which originally published the review, and I trust that you will be willing, for that reason if no other, to conform to the very obvious requirements which the *Journal* must impose.

I hope you believe me, when I say that I should not advise the *Journal* to refuse the article in its present shape, as I do, unless I were fully persuaded that you are offered the fullest opportunity of reply which fair play can demand.

Very sincerely yours,  
J. B. WARNER.

P.S.—Please let me know your decision as soon as possible, as the *Journal* must be made up. Will you kindly return my copy of your article? J. B. W.

LARSEN STREET, CAMBRIDGE, Mass.,  
June 9, 1891.

J. B. Warner, Esq., Exchange Building, Boston:

MY DEAR MR. WARNER: I beg leave to acknowledge receipt of your obliging letter of this date, with thanks, and to return at once the enclosed printed paper, as you request.

With great personal regard. I remain

Very sincerely yours,  
FRANCIS E. ABBOT.

Dr. Abbot declined to make any change in his reply and it has never been published.

JOSEPH B. WARNER.

BOSTON, November 20, 1891.

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**Pictorial Astronomy for General Readers.**

By George F. Chambers, F.R.A.S. Macmillan & Co. 1891. 16mo, pp. 267.

CSP. identification: MS 1365. See also: Burks, *Bibliography*. This notice is unassigned in Haskell's *Index to The Nation*, vol. 1.

There is no lack of popular books about astronomy by those who look upon the subject from the inside, as, Herschel, Secchi, Newcomb, Langley, Young, Lockyer, Ball. Mr. Chambers is none of these. He is not a scientific observer of the stars, nor has he an ordinary astronomer's acquaintance with celestial mechanics. He is a well-known compiler of astronomical books, useful in their way, but marked by incompleteness and a want of discrimination. The present little treatise will serve the purpose of a person who wants some light reading with pictures touching most of those important topics of astronomy that call for no mental exertion, about right in most of its statements, and not seriously unjust in many of its appreciations. To show how simple everything is here made, we annotate a short passage taken almost at random. The numerals in parentheses refer to our remarks below:

"In calculating the different positions of Mars (1), and comparing his own observations (2) with those of Tycho Brahe, Kepler was astonished at finding numerous apparent irregularities (3) in Mars's orbit, and still more in its distance from the earth (4). He soon saw (5) that the orbit could not be circular, and eventually recognized that it must be (6) an ellipse, with the sun occupying one of the two foci. . . . The path of a planet once traced, the next thing (7) to determine was what regulated the irregularities observed in its course. Kepler, having remarked (8) that the velocity of a planet (9) seemed to be greatest when it was nearest to the sun, and least when it was most remote from the sun, proceeded to suggest that an imaginary line joining the centre of a planet and the centre of the sun would pass over equal areas in equal times. . . . He sought to discover if any relation subsisted between the diameters of the orbits and the times occupied by the planets in traversing them. After twenty-seven years (10) of laborious research (11), he found out that a relationship did subsist, and thus was able to assert his third law."

(1.) Kepler did not set out by calculating places of Mars from its elements, but on the contrary by endeavoring to deduce from the observations the eccentricity of the orbit.

(2.) At the time referred to, Kepler is not known to have observed Mars, and only a very few of his observations were used by him in the investigation of the motions of that planet.

(3.) What incited Kepler to his great work was not finding irregularities, but a belief that by a method of calculation different from that in use (based on apparent instead of mean oppositions) known seeming irregularities could be made to disappear.

(4.) The distance from the earth could not be a subject of observation, and consequently irregularities in this distance could not be detected. The only thing

in the work with which we can connect this belongs to a later time, after a great part of the work had been done and a corrected theory of the earth's motion had been made.

(5.) For "soon" read: after five years of diligent research.

(6.) This "must be" conveys no hint of the mode in which the opposite errors of two hypotheses directed Kepler's suspicions to the ellipse as the form of the orbit.

(7.) Mr. Chambers writes as if Kepler first ascertained the form of the orbit and then introduced the principle of areas. But it was the other way. He had assumed this principle long before he dreamed of the orbit not being circular. Indeed, without some such assumption he would not have had sufficient data to determine the shape of the path, since the distance of Mars could not be determined except by an intricate procedure seldom applicable. Indeed, except for movements in latitude too slight to prove much, all that is observed is variable movements in longitude.

(8.) This remark was of course one of the earliest generalizations concerning planetary motion.

(9.) A *superior* planet is meant.

(10.) The discovery was made 1618, May 8. Twenty-seven years before, Kepler had not taken up the pursuit of astronomy.

(11.) Although he puzzled long over the figures, before he happened to light on the true relation, there was nothing to be called systematic research, nothing comparable for an instant with the work upon Mars.

In short, the author correctly states Kepler's laws; but as to how he came by them (further than that two were from studies of the motions of Mars) he seems to have not the slightest idea. To show that the passage is not exceptional, as this comes from p. 10, we will see what we can find on the tenth page from the end. We find this:

"His [Ptolemy's] great work was the celebrated *Μεγάλη σύνταξις*, better known by its Arabian designation of *The Almagest*. This work contains, amongst other things, a review of the labors of Hipparchus; a description of the heavens, including the Milky Way; a catalogue of stars; sundry arguments against the motion of the earth, and notes on the length of the year."

Even the title is wrongly given, and the description of the contents is as if one should explain that the Bible is a work containing among other things a discussion of the age of Moses, a description of Solomon's temple, a list of commandments, sundry exhortations against sloth, and the memoirs of Paul of Tarsus.

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#### MR. WARNER'S "EVIDENCE IN FULL" COMPLETED.

Francis Ellingwood Abbot (1836-1903) was an American philosopher and active religious reformer. He was the founder of the Free Religious Association, editor of *The Index*, and Colonel Bob Ingersoll's running-mate on the Liberal League's presidential ticket of 1880. He was graduated A.B. from Harvard in 1859, along with Peirce, and spent one year at

the Harvard divinity school. In 1863 he was graduated from the Meadville Theological Seminary, and was ordained in the First Unitarian Society of Christians at Dover, New Hampshire, in 1864. When the National Unitarian Conference of 1865 adopted a constitution that referred to its members as "disciples of the Lord Jesus Christ," Abbot found that he could no longer accept the creed of that church, and so set out to organize the Free Religious Association. *The Index*, which was the literary branch of the Association, served Abbot as a forum for his philosophical and theological views. His experience with the Association led Abbot to form the National Liberal League, which became important as the strongest opponent of a drive to secure an amendment to the Constitution citing "God as the source of all authority and power in civil government." In 1881, Abbot received his A.M. and Ph.D. from Harvard in Philosophy. After this, he sought academic positions with Cornell and Harvard, but despite strong recommendations, all attempts failed. He did, however, win a position as temporary replacement for Josiah Royce at Harvard in 1889, during the latter's leave of duty. He authored three books: *Scientific Theism* (1885), *The Way Out of Agnosticism* (1890), and *The Syllogistic Philosophy* (1906), published posthumously.

As Peirce pointed out in his letter of 12 November, the argument between Abbot and Royce arose over Royce's scolding review of Abbot's *The Way Out of Agnosticism*, which appeared in the first number of the first issue of the *International Journal of Ethics*. Abbot's book was a compilation of lectures he had delivered at Harvard in 1889 while taking Royce's place during the latter's leave of absence. Ironically, Royce had recommended Abbot for this position. But upon his return, Royce was outraged when word reached him of certain statements Abbot was alleged to have made concerning Royce's teachings. This can partially explain the vehemence of Royce's review.

Several years prior, however, Royce had already shown his distaste for Abbot's work in a review for *Science* of Abbot's *Scientific Theism*. This is the same work that Peirce reviewed in *The Nation*, and was in its third printing in a German translation. Despite such signs of approval, Royce attacked even Abbot's use of capitals and italics, and characterized the book as indicative of "Dr. Abbot's not uncommon, but highly amusing state of mind." (*Science*, 7:335-338)

Aside from the philosophic merits of Abbot's books, there was a certain measure of pride at stake. Although a classmate of Peirce at Harvard in 1859, Abbot was 45 years old before he took his Ph.D. (1881). And so he was forced to compete for an academic position with men many years his junior. Royce, however, was young, bright, successful, and enjoyed the influential backing of William James, who was responsible for Royce's first position at Harvard. He was already making a name for himself while Abbot was still looking for a permanent job.

Abbot's radical religious views had caused him to be a maverick in the academic world, where success still depended heavily upon religious orthodoxy. Had *The Way Out of Agnosticism* only proved itself to be valuable, it might have become Abbot's "way out of obscurity." But even after the attention drawn to Abbot's cause by Peirce's letter in *The Nation*, Abbot slipped back into the shadows and never attained the prominence he thought was due him.

Joseph Bangs Warner (1848-1923) was an American lawyer. He was graduated A.B. from Harvard in 1869, A.M. in 1872, and LL.B. in 1873. He began his practice in Boston in 1873 with the firm Warner, Warner, and Stackpole. He served as trustee for Radcliffe College and Simmons College, and, together with O. W. Holmes, coedited James Kent's *Commentaries on American Law*.

TO THE EDITOR OF THE NATION:

SIR: In your last week's issue, Mr. J. B. Warner professes to give the "evidence in full" respecting Prof. Royce's suppression of my reply to his (the latter's) avowed "attack." The long letter he publishes as "evidence" on this point is evidence of nothing but the lawyer's attempt to put forward his own baseless assumptions in his client's behalf as if they were assured facts. The adroit assump-