must generally have led to true conclusions"—true conclusions, one
more, being those which command the agreement of competent in-
quiries.

Summing up, we may say that Peirce's pragmaticism is a doc-
trine concerning the meaning, conception, or rational purport of
objects, namely, that these consist in the "effects, which might con-
ceivably have practical bearings, we conceive the object of our con-
extion to have. Then, our conception of these effects is the whole
of our conception of the object." Our idea of anything is our idea
of its sensible effects," and if we have any doubt as to whether we
really believe the effects to be sensible or not, we have only to ask
ourselves whether or not we should act any differently in their pre-

cence. In short, our own responses to sensory stimuli are the ultimate,
or testing, ingredients in our conception of an object. In the literal
sense of the word pragmatist, therefore, Peirce is more of a prag-
matist than James.

He is also less of a nominalist. That is to say, he emphasizes much
less the, particular sensible consequence, and much more the habit,
the generic attitude of response, set up in consequence of experiences
with a thing. In the passage in the Dictionary already quoted he
speaks as if in his later life he attached less importance to action, and
more to "concrete reasonableness" than in his earlier writing. It
may well be that the relative emphasis had shifted. But there's at
most but a difference of emphasis. For in his later doctrine, concrete
rationality, means a change in existence brought about through action,
and through action which embodies conceptions whose own
specific existence consists in habitual attitudes of response. In his
earlier writing, the emphasis upon habits, as something generic, is
evident. "What a thing means is simply what habits it involves." More elaborately, "Induction infers a rule. Now the belief of a rule
is a habit. That a habit is a rule, active in us, is evident. That
every belief is of the nature of a habit, in so far as it is of a general
character, has been shown in the earlier papers of this series." 11

The difference between Peirce and James which next strikes us is
the greater emphasis placed by the former upon the method of pro-
cedure. As the quotations already made show, everything ultimately
turned, for Peirce, upon the trustworthiness of the procedures of
inquiry. Hence his high estimate of logic, as compared with James
—at least James in his later days. Hence also his definite rejection
of the appeal to the Will to Believe—under the form of what he calls

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9 Ibid., p. 718.
10 Ibid., p. 283.
11 Ibid., p. 292.

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"CHARLES S. PEIRCE AT THE JOHNS HOPKINS"

The keenest pleasure which can offer itself to the university stu-
dent who is about to grapple with the profoundest thinking
that the world has done and is doing is his when he finds himself by
chance in the actual presence of one of the creators of the world's
store of thought. This has been the happy lot of the students of the
so devoured and unpredictable was his course that he once, to the delight of his students, proposed at the end of his lecture, that we should form (for greater freedom of discussion) a Metaphysical Club, though he had begun the lecture by defining metaphysics to be the "science of unclear thinking."

Several of Professor Sylvester's students—understanding that the New Logic which Professor Peirce professed had connections with existing mathematics and that, even if it had not, it was something which, unlike the mechanical logical exercises of the schools, was expected to have a vivifying and clarifying effect upon one's actual reasoning processes—joined his class in logic, composed otherwise, of course, of students of philosophy. This mixed character of the audience, as is too often the case in lectures on modern logic, made it impossible for the lecturer to adapt his subject-matter with exactness to the needs of either part. Peirce's lectures did not go very extensively into the details of his mathematical logic (Symbol Logic, I maintain, is the only proper name for it, and I note with pleasure that Dr. Karl Schmidt has adopted this term). His lectures on philosophical logic we should doubtless have followed to much greater advantage if he had recommended to us to read his masterly series of articles on the subject which had already appeared in the Popular Science Monthly in 1878 under the title: "Some Illustrations of the Logic of Science." We should have, had from these at first hand a better idea of how to make our ideas clear concerning the methods of science as he understood them. But that, in spite of his apparent aloofness and air of irresponsibility, he really had the interests of his hearers deeply at heart will appear from a sympathetic letter which he wrote me some years later, when I came to lecture myself on logic at the Johns Hopkins University:

MILFORD, Pa.
Thanksgiving Day, 1902

My dear Mrs. Franklin: It gives me joy to learn that you are to lecture on logic at the Johns Hopkins. But, oh, you will not have such a wonderful and charming class as I had, especially the first year. In those days I knew very little about logic, and did not even thoroughly understand upon what logic is based. I was not in possession of the proof that the science of logic must be based on the science of ethics, although I more or less perceived that sound reasoning depends more on sound morals than anything else. I at any rate tried hard to see what I was about, and not to build logic upon anything that must on the contrary be built upon it. In a certain measure I appreciated the precise nature of the utility of logic, and rated it high; but I did not know what I know now. I am finding out every day something new to me in logic.

I wish most earnestly that you may succeed in animating your students with the true spirit of science and of logic, and that is the very
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of anything of that kind, I have no reason to complain. What I expected
to gain when I did it, I have gained. I began on the scale of printing a
logical research every month. My motive then was a mixed one. I wanted
the statement of my results in print for my own convenience in refer-
ing to them, and I thought it would be a gain to civilization to have an entire
logical system. But after a very few months I found that nobody took any
notice of my papers, and I lost all interest in their publication, and simply
filed away my notes, for my own use.

It must have been about 1857 when I first made the acquaintance of
Chapman Wright, a man about the level of J. S. Mill. He was a thor-
ough mathematician of the species that flourished at that time, when
dynamics was regarded (in America) as the top of mathematics. He had
a most penetrating intellect. There were a lot of superior minds in Cam-
bridge at that time. I doubt if they could have been matched in any other
society as small that existed at that time anywhere in the world. With
whom I made the acquaintance of Mrs. Lowell, was at that time a
thorough Hamiltonian; but soon after he turned and became a great ad-
miring of Mill. He and I used to have long and very lively and close
disputations lasting two or three hours daily for many years. In the sixties I
started a little club called The Metaphysical Club. It seldom if ever had
more than half a dozen present. Wright was the strongest member and
probably I was next. Nicholas St. John Green was a marvellously strong
intelligence. Then there were Frank Abbott, William James, and others.
It was there that I got the practice of printing what was much admired and
the mental results to different members who wished to go over it more closely
than they could do in hearing it. While I was in charge of the Coast
Survey office in 1873, I employed some Sundays in putting that piece into
a literary form, though without any intention of printing it. But in 1875
or 1876 I met old William Appleton, the publisher, on a steamboat, and he
offered me a good round price for some articles for the Popular Science
Monthly. I pitched up the piece I spoke of for the first, and it appeared
in November, 1875. In the autumn of 1877 I went abroad in order to
urge a certain principle upon the Geodetic Association. As I should have to speak
in French and conduct a discussion in that language, by way of practice I
began and finished on the voyage between Hoboken and Plymouth an
article about pragmatism in French. I afterward translated into French
my article of November, 1877, and these two appeared in the Revue Phi-
losopique, about Volume XI. I left in the library of the J. H. University
a bound volume of my pieces containing these two. I have not a copy of
either now. I should say that the word pragmatism does not appear in
that article, nor did I insert it in the Century Dictionary or ever use it in print
previously to the article in Baldwin's dictionary. I translated the steam-
er article into English and in that dress it appeared in the Popular Science
of January, 1878, some time previous to the publication of the original text.

There never was the smallest disloyalty on James's part. On the con-
trary, he has dragged in mention of me whenever he could.

In the spring of 1903 I was invited, by the influence of James, Royce,
and Münsterberg, to give a course of lectures in Harvard University on Pragmatism. I had intended to print them; but James said he could not understand them himself and could not recommend them being printed. I do not myself think there is any difficulty in understanding them, but all modern psychologists are so soaked with sentimentalism that they can not understand anything that does not mean that, and mistranslate into the idea of Wundt whatever one says about logic. - How can I, to whom nothing seems so thoroughly real as generals, and who regard Truth and Justice as literally the most powerful powers in the world, expect to be understood by the thoroughly Wundtian? But the curious thing is to see Absolute Idealists tainted with this disease; or men who, like John Dewey, hover between Absolute Idealism and Sensationalism, Royce's opinions as developed in his "World and Individual" are extremely near to mine. His insistence on the element of purpose in intellectual concepts is essentially the pragmatistic position.

Pragmatism is one of the results of my study of the formal laws of signs, a study guided by mathematics and by the familiar facts of everyday experience and by no other science whatever. It is a maxim of logic from which issues a metaphysics very easily. It solves almost all problems of metaphysics in short metre and it solves them in such a way as never to bar the way of any positive inquiry. It also has the gratifying effect of encouraging the simplest ideas of religion and anthropomorphic conceptions of the Absolute. I have some of my quarto papers bound up together and I am sending you this volume begging your acceptance of it. I wish I had copies of some of my octavo papers bound up; but I have not. I have some loose copies of some of them which I would have bound for you; but one never knows when a binder is going to send one's books home. One only knows that he will try to do so in time to get the bill paid before both parties die. So I send each copy as I can find, as they are, along with a few newspapers containing articles on "French Academy," "Napoleon Bonaparte," "Great Man of the Nineteenth Century," etc.

With best regards to Mr. Franklin,

Very faithfully,

C. S. Phipps.

Professor Peirce had a mind of great originality and productiveness; he lacked, no doubt, as do too many geniuses, that keen self-criticism which would have enabled him to distinguish rigidly, in what he produced, between the wheat and the chaff. Much of what he wrote, especially during the later years of his life, was incomprehensible beyond even the privilege of the maker of new philosophies; articles in the Monist which William James has said will be a rich mine for the future student will just as probably remain forever indecipherable by him. Once when I was in search of an article of his which had lately appeared in the Monist, entitled, in Shakespeare's phrase, "Man's Glassy Essence," and could not remember its name, the young librarian who assisted me said, "Oh yes, you mean the article on 'Glacial Man'"—a title which would doubtless have served as well as the other. Indeed, many of his contributions to the philosophical dictionary were of the purely enulistic type. The second part of the article on Symbolic Logic, for instance, was finally against the urgent advice of Professor Conturat, who had himself contributed the admirable first part, sent to the printer, though it is doubtful if any one will ever be able to read it. But it will never be known what reams of closely written matter were excluded! Professor Peirce had already completed a great part of a book on logic, largely medieval logic, which (save for what came out in the Dictionary) he was never in a position to publish; his future disciples will no doubt see to it that this great work is eventually given to the press. So difficult at the time, however, was the rejection, in the interest of sanity, of such a mass of closely written pages that at last I found it necessary to call in the aid of my husband, who undertook to play the traditionally unpleasant rôle of the enulistic friend. The ingrained sweetness of Peirce's character—an essential to the acceptance of irksome criticism—is here brought into evidence; in fact, this bit of correspondence may perhaps be regarded as a model of its type—no easy type.

My dear Mrs. Franklin:

I want you kindly to read the enclosed article Exact Logic and show it to your husband whose judgment I have much faith in, if he will be so good as to look at it. I told Prof. Baldwin when I took up this work that I should expect "unlimited swing" in exact logic. Still, I don't know but it is too much to ask him to print this; and I don't want to ask what is not right. The purpose of it is to put Exact Logic in its place as a branch of philosophy. It is an extremely careful statement of the small ground it covers. I do not see how I could say less without reducing it to a general statement that would be without force. I am too close to it to get a good mental sight at it. I request you to read it and tell me plainly whether it seems to you and your husband calculated to do the cause of exact logic any good. . . . also whether there are any modifications you can suggest, especially to shorten it. A short vocabulary of terms omitted in Vol. I. of the Dictionary will have to be added. You had better, I should think, follow my example in this respect in your articles, inserting, for instance. . . . I should not wonder, if you look into my Virgo symbol, but you might find it resulted in a valuable rôle of elimination.

Very faithfully,

C. S. Phipps.

1 The death of Professor Conturat, who was run over by a military auto-truck at the beginning of the war, is one of the many irreparable losses of the European war.
My dear Mr. Peirce,

... I feel bound to say that, according to my notion of such a work—
one, to be sure, very common among in comparison with that which you
entertain—an article in a cooperative dictionary such as this should not be
devoted to pioneer work, however eminent the writer of it, but to the
exposition of what is either fairly well established and current or, if not,
is capable of being so expressed within the necessary limits as to be
intelligible to the ordinary, properly-equipped reader. Now, the view
which you lay down in your article seems to me absolutely to require for
their adequately intelligible presentation for more space than you have
given to them, and, a fortiori, far more space than the dictionary can
spare.

Very faithfully yours,

P. FRANKLIN.

Milford, Pa., 1869, Nov.

My dear Franklin:

Your letter is at hand. I asked of you a disagreeable thing, and I
thank you for having done it so faithfully. Would there be more cour-
age between friends! You give me wholesome counsel, and I shall follow
it, notwithstanding the suggestions of the Evil One.

Yours faithfully,

C. S. PEIRCE.

This same advice, might, I have no doubt, have been repeated to
advantage under later letters of the alphabet.

If Charles S. Peirce had happened to have a longer period of ac-
tivity at the Johns Hopkins University—if the years had not been
cut off during which he was kept upon the solid ground of intelligible
reason by discussions with a constantly growing group of level-
minded students,—there is no doubt that his work would have been
of more certain value than that which can be affirmed to be now; it is prob-
able, for instance, that his grateful pupil, William James, would not
have found his generous provienced for Lowell lectures too incom-
prehensible to be printed at the time. At the meetings of the Philo-
sophical Congress in Gottingen, in 1908, Peirce had two warm de-
fenders of his views, as against the James form of pragmatism, in
the Italian philosophers, Calderoni and Vailati. Vailati, a man of
most acute intellect, is no longer living; Calderoni would no doubt be
able to throw much illumination—more perhaps than any other liv-
ing writer—upon the real bearing of the philosophical views of Mr.
Peirce.

CHRISTINE LADD-FRANKLIN.

COLUMBIA UNIVERSITY.

PSYCHOLOGY AND SCIENTIFIC METHODS

CHARLES S. PEIRCE AS A TEACHER

To record an impression of Charles S. Peirce as a teacher is a
grateful opportunity. A deep conviction of the significance of
the problems presented and a mastery of the intellectual processes
then his sole and adequate pedagogical equipment. The logical
quality was the dominant trait of his thinking; his teaching became
a rational virtue. In the deductive form in which premises were sharply
defined and under control, the orderly development of conclusions
was the true function of the well-trained mind, and the mark of the
scholar. The "Algebra of Logic" was an expert tool usable only by
the expert, and extending the scope of the logical grasp. Deeply
mathematical, his thinking had not the trace of a scholastic quality;
there was no love of the tool for its own sake, but an admiration of
its cutting edge as the issue of human care and skill. His interests
were comprehensive, though not scattered. In the field of inductive
problems the fertility of his resources imparted a breadth to his
treatment that brought to the student the constant leadership of a
rich mind. His knowledge never gave the impression of a burden,
but of strength. His command of the history of science was en-
folded in the best sense of the word. The hypotheses of the great
thinkers of the past were transformed into logical exercises for the
present-day student. The great advances of science were due as
much (if not more) to an increased hold over the logical instrument
as to an enlarged realm of observation. The history of science was
a record of man's growth in logical stature. In dealing with the
more fluid and versatile considerations of induction, as in the more
rigid and closed systems of deductive reasoning, the skilled focusing
of his mind excited admiration. The irrelevant was discarded, the
significant composition revealed. The chips fell away and the statue
in the block appeared. This sense of mastery accomplished with
neatness and dispatch—all seemingly easy, but actually the
quality of the highest type of keen thinking—remains as the central
impression of a lecture by Professor Peirce.

When I came to the Johns Hopkins University in the autumn of
1882, Mr. Peirce's career was well established. He had inspired a
remarkable group of young men, now leaders in intellectual affairs; a
group to which is to be added the name of Christine Ladd-Franklin,
a group in which to be added the name of Christine Ladd-Franklin,
whose exceptional abilities secured for her exceptional privileges.
The "Studies in Logic" by "Members of the Johns Hopkins Uni-
versity" appeared in 1883. The concluding paper which Mr. Peirce
contributed to the volume on "A Theory of Probable Inference" ex-
hibits the qualities of his teaching and the charm and lucidity of his