

must generally have led to true conclusions"⁸—true conclusions, once more, being those which command the agreement of competent inquiries.

Summing up, we may say that Peirce's pragmatism is a doctrine concerning the meaning, conception, or rational purport of objects, namely, that these consist in the "effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object."⁹ "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 no, we have only to ask ourselves whether or no we should act any differently in their presence. 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 pragmatist 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 is 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 explicit. "What a thing means is simply what habits it involves."¹⁰ 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 procedure. 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

⁸ *Ibid.*, p. 718.

⁹ *Ibid.*, p. 293.

¹⁰ *Ibid.*, p. 292.

¹¹ *Popular Science Monthly*, Vol. XIII., p. 481.

the method of tenacity. Closely associated with this is the fact that Peirce has a more explicit dependence upon the social factor than has James. The appeal in Peirce is essentially to the consensus of those who have investigated, using methods which are capable of employment by all. It is the need for social agreement, and the fact that in its absence "the method of tenacity" will be exposed to disintegration from without, which finally forces upon mankind the wider and wider utilization of the scientific method.

Finally, both Peirce and James are realists. The reasonings of both depend upon the assumption of real things which really have effects or consequences. Of the two, Peirce makes clearer the fact that in philosophy at least we are dealing with the *conception* of reality, with reality as a term having rational purport, and hence with something whose meaning is itself to be determined in terms of consequences. That "reality" means the object of those beliefs which have, after prolonged and cooperative inquiry, become stable, and "truth" the quality of these beliefs is a logical consequence of this position. Thus while "we may define the real as that whose characters are independent of what anybody may think them to be . . . it would be a great mistake to suppose that this definition makes the idea of reality perfectly clear."¹² For it is only the outcome of persistent and conjoint inquiry which enables us to give intelligible meaning in the concrete to the expression "characters independent of what anybody may think them to be." (This is the pragmatic way out of the egocentric predicament.) And while my purpose is wholly expository I can not close without inquiring whether recourse to Peirce would not have a most beneficial influence in contemporary discussion. Do not a large part of our epistemological difficulties arise from an attempt to define the "real" as something given prior to reflective inquiry instead of as that which reflective inquiry is forced to reach and to which when it is reached belief can stably cling?

JOHN DEWEY.

COLUMBIA UNIVERSITY.

CHARLES S. PEIRCE AT THE JOHNS HOPKINS

THE keenest pleasure which can offer itself to the university student 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 had been the happy lot of the students of the

¹² *Popular Science Monthly*, Vol. XII., p. 298.

Johns Hopkins University from its opening days. They felt, with reason, that they were assisting at the foundation of an important new development in university life in this country. For the first time the atmosphere of the great European centers of research had been created in America. Departments headed by such men as Sylvester, Gildersleeve, Remsen, Rowland, Martin, a group of scholars all fitted to inspire their students with the ardor of research—this was something new. To this atmosphere the students of those early days, reinforced by enthusiastic young *débutants* fresh from their experience of the then simple and ideal German university life, responded with due appreciation of the lucky days upon which they had fallen. Probably there has never been in this country a center of learning where the conditions were more ideal for producing in its best form the joy of the intellectual life—nor a group of students better fitted to profit by their novel opportunities. To share the life of this ardent body of workers was, they one and all felt, an experience to be remembered.

To this group of students, eager for intellectual adventure, came, in 1880-1881, Charles S. Peirce. His reputation had preceded him, and his hearers were quickly receptive to the inspiration to be had from one more master mind. Sylvester and Peirce both possessed recognized elements of the temperament of genius—a thing which adds much to the effectiveness of personal intercourse with a great man—but that temperament was exhibited in them in very different forms. Sylvester was as oblivious as Peirce of the presence of his audience (though he did once by chance discover, to his evident amazement, that his most distinguished auditor, Professor Cayley, was fast asleep, his bald head frankly covered with his handkerchief), but he had a boyish enthusiasm which was in full harmony with his fresh English color and his nervous Jewish temperament. He was always brimming over with the importance of his subject-matter, which had usually been produced during the three days' interval between his lectures, and which was brought forth with the keen joy of the immediate discoverer. Peirce, on the contrary, was of the brooding type. He sat when he addressed his handful of students (who turned out afterwards, however, to be a not-unimportant handful) and he had all the air, as has been noted by Professor Jastrow, of the typical philosopher who is engaged, at the moment, in bringing fresh truth by divination out of some inexhaustible well. He got his effect not by anything that could be called an inspiring personality, in the usual sense of the term, but rather by creating the impression that we had before us a profound, original, dispassionate and impassioned seeker of truth. No effort was made to create a connected and not inconsistent whole out of the matter of each lecture. In fact,

so devious 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

greatest happiness I could wish for you. Whether you do or not depends chiefly on how much you care to do so.—I return Keynes.

Very faithfully,

C. S. PIERCE.

P. S. I hope that Schröder's manuscripts will be printed. I would do anything in my power to that end. Can't you find out what is needed?

The following letter, which I have quoted in part, indicates, among other things, the extreme value which Peirce attributed to his form of pragmatism. The important collection of his reprints which he presented to me at this time, I have now deposited in the library of Columbia University. This letter, too, is not so much a personal letter as it is a definitive setting out of some of his views and experiences; if he has left no complete autobiography, it should furnish important material concerning the wonderful intellectual life which he took part in, in Cambridge, during his early years.

My dear Mrs. Franklin: It is most kind of you to think of me and of doing what you propose, and it happens that, just at this time, it would be very serviceable to me. For in a forthcoming number of the *Monist*, I am to have an article about pragmatism, explaining what I conceive it to be. Although James calls himself a pragmatist, and no doubt he derived his ideas on the subject from me, yet there is a most essential difference between his pragmatism and mine. My point is that the meaning of a concept . . . lies in the manner in which it could conceivably modify purposive action, and in this alone. James, on the contrary, whose natural turn of mind is away from generals, and who is besides so soaked in ultra-sensationalist psychology that like most modern psychologists he has almost lost the power of regarding matters from the logical point of view, in defining pragmatism, speaks of it as referring ideas to experiences, meaning evidently the sensational side of experience, while I regard concepts as affairs of habit or disposition, and of how we should react. Without particularly referring to him, my *Monist* article (already sent in and accepted) is to explain what my position is; and I desire to follow it up by two others, of which the first shall show how this principle at once affords solutions of a great variety of problems, and shall show what the general color of those solutions is, while the third article shall show what facts and phenomena I appeal to as proving the truth of the pragmatist principle. But it is altogether problematical whether the second and third articles ever appear. It all depends upon whether the readers of the *Monist* are interested in the first article. Now if you were to write what you propose, it would call attention to the first article, increase the sales of that number of the *Monist*, and render the acceptance of a second much more likely. I have no fears but that the second should excite of itself sufficient interest to insure the third; but the first, being a definition of an individual opinion, is not calculated to attract new readers.

It is true that I have not received much credit either for pragmatism or any other part of my work. However, as it was not done for the sake

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 referring to them, and I thought it would be a gain to civilization to have my 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 mass for my own use.

It must have been about 1857 when I first made the acquaintance of Chauncey Wright, a mind about on the level of J. S. Mill. He was a thorough 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 men in Cambridge 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. Wright, whose acquaintance I made at the house of Mrs. Lowell, was at that time a thorough Hamiltonian; but soon after he turned and became a great admirer 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 marvelously strong intelligence. Then there were Frank Abbott, William James, and others. It was there that the name and the doctrine of pragmatism saw the light. There was in particular one paper of mine that was much admired and the ms. went around to different members who wished to go over it more closely than they could do in hearing it read. 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 steamer, and he offered me a good round price for some articles for the *Popular Science Monthly*. I patched up the piece I speak of for the first; and it appeared in November, 1877. In the autumn of 1877 I went abroad in order to urge a certain truth upon the Geodetical 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 Philosophique*, about Volume VI. 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 previous to the article in Baldwin's Dictionary. I translated the steamer 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 contrary, 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 their being printed. I do not myself think there is any difficulty in understanding them, but all modern psychologists are so soaked with sensationalism that they can not understand anything that does not mean that, and mistranslate into the ideas 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 thoroughgoing 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 such papers as I can find, as they are, along with a few newspapers containing articles on "French Academy," "Napoleon Bonaparte," "Great Men of the Nineteenth Century," etc.

With best regards to Mr. Franklin,

Very faithfully,

C. S. PEIRCE.

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 cabalistic type. The second part of the article on Symbolic Logic, for instance, was finally, against the urgent advice of Professor Couturat, 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.¹ 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 candid 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.

[MILFORD, PA., Nov., 1900.]

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 rule of elimination.

Very faithfully,

C. S. PEIRCE.

¹ The death of Professor Couturat, 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 commonplace 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 views which you lay down in your article seem to me absolutely to require for their adequately intelligible presentation far more space than you have given to them, and, *a fortiori*, far more space than the dictionary can spare.

Very faithfully yours,
F. FRANKLIN.

MILFORD, PA., 1900, 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 were more courage 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 activity 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 it can be affirmed to be now; it is probable, for instance, that his grateful pupil, William James, would not have found his generously provided for Lowell lectures too incomprehensible to be printed at the time. At the meetings of the Philosophical Congress in Göttingen, in 1908, Peirce had two warm defenders 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 living writer—upon the real bearing of the philosophical views of Mr. Peirce.

COLUMBIA UNIVERSITY.

CHRISTINE LADD-FRANKLIN.

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 were his sole and adequate pedagogical equipment. The logical quality was the dominant trait of his thinking; rectitude became a rational virtue. In the deductive field where 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 encyclopedic 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 masterly analysis 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, whose exceptional abilities secured for her exceptional privileges. The "Studies in Logic" by "Members of the Johns Hopkins University" appeared in 1883. The concluding paper which Mr. Peirce contributed to the volume on "A Theory of Probable Inference" exhibits the qualities of his teaching and the charm and lucidity of his