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OUR knowledge of any subject never goes beyond collecting observations and forming some half-conscious expectations, until we find ourselves confronted with some experience contrary to those expectations. This at once rouses us to consciousness; we turn over our recollections of observed facts; we endeavour so to rearrange them, to view them in such new perspective that the unexpected experience shall no longer appear surprising. This is what we call explaining it, which always consists in supposing that the surprising facts that we have observed are only one part of a larger system of facts, of which the other part has not come within the field of our experience, which larger system, taken in its entirety, would present a certain character of reasonableness, that inclines us to accept the surmise as true, or likely. For example, let a person entering a large room for the first time, see upon a wall projecting from behind a large map that has been pinned up there, three-quarters of an admirably executed copy in fresco of one of Rafael's most familiar cartoons. In this instance the explanation flashes so naturally upon the mind and is so fully accepted, that the spectator quite forgets how surprising those facts are which alone are presented to his view; namely, that so exquisite a reproduction of one of Rafael's grandest compositions should omit one-quarter of it. He guesses that that quarter is there, though hidden by the map; and six months later he will, maybe, be ready to swear that he saw the whole. This will be a case under a logico-psychical law of great importance, to which we may find occasion to revert soon, that a fully accepted, simple, and interesting inference tends to obliterate all recognition of the un-

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interesting and complex premises from which it was derived. The brighter the observer's intelligence (unless some circumstance has raised a doubt), the more confident he will soon be that he saw the entire composition. Yet, in fact, the idea of the whole's being on that wall will be merely evolved from his *Ichheit*: it will be a surmise, conjecture, or guess.

We may be aided by previous knowledge in forming our hypotheses. In that case they will not be pure guesses but will be compounds of deductions from general rules we already know, applied to the facts under observation, for one ingredient, and pure guess for the other ingredient. Thus, suppose the surprising facts which puzzle us are the actions of a certain man on a certain occasion; and our conjecture relates to the state of belief that caused such conduct. If we have no previous knowledge of the man, any one state of belief that would account for his conduct might be as good a guess as any other; but if we know that he is particularly inclined, or particularly disinclined, to extravagant beliefs or to any other special kind of belief, we still have to guess; only we shall select our guess from a smaller number of possible hypotheses.

In the evolution of science, guessing plays the same part that variations in reproduction take in the evolution of biological forms, according to the Darwinian theory. For just as, according to that theory, the whole tremendous gulf, or ocean rather, between the moner and the man has been spanned by a succession of infinitesimal fortuitous variations at birth, so the whole noble organism of science has been built up out of propositions which were originally simple guesses. For my part I refuse to believe that either the one or the other were *fortuitous*; and indeed I gravely doubt whether there be any tenable meaning in calling them so. As to the biological variations, I will spare the reader my reasons for not believing

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them fortuitous. For it would only lead us away from our subject. But as to the first guesses out of which science has been developed, I will say a word or two. It is well within bounds to reckon that there are a billion (i.e., a million million) hypotheses that a fantastic being might guess would account for any given phenomenon. For this phenomenon would certainly be more or less connected in the mind of such a being with a million other phenomena (for he would not be restricted to contemporaneous events) and it might be supposed that the special determination of each was connected with the special determinations of each of the others in order to produce the observed phenomenon. I will not carry out this idea further: it suffices to show that according to the doctrine of chances it would be practically impossible for any being, by pure chance, to guess the cause of any phenomenon.

There are, indeed, puzzles, and one might well say mysteries, connected with the mental operation of guessing; — yes; — more than one. There can, I think, be no reasonable doubt that man's mind, having been developed under the influence of the laws of nature, for that reason naturally thinks somewhat after nature's pattern. This vague explanation is but a surmise; but there is no room to believe that it was merely by luck that Galileo and other masters of science reached the true theories after so few wrong guesses as they did. This power of divining the truths of physics — for such it is, although it is somewhat imperfect — is certainly an aid to the instinct for obtaining food, an instinct whose wonders throughout the animal kingdom are exceeded only by that of producing and rearing offspring.

This latter function requires all the higher animals to have some insight into what is passing in the minds of their fellows. Man shows a remarkable faculty for guessing at that. Its full

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powers are only brought out under critical circumstances. I shall illustrate them by an anecdote whose only claim upon the attention of the reader lies in its exact truth. I promise and aver, in the most solemn manner, that in the following narration of these facts no item or circumstance is in any way exaggerated or colored.

Many years ago, being in the service of the U. S. Coast Survey, and engaged in duty which rendered it desirable that I should almost daily have the exact time of day at my command, without being incommoded with everywhere having the care of a marine chronometer, I received instructions to procure and constantly carry the most reliable watch I could find. I got from Tiffany's the two best detached lever watches they had, and after a month's or six weeks' severe testing, selected the one that proved the better, and wore it constantly; this being of course essential to the proper going of a fine watch. It cost the government \$350. Some years afterward I had to go from Boston to New York and took the Fall River boat. The air in my stateroom was bad; for I was on the lee side; and when I got up in the morning I had a strange fuzzy sensation in my head — a mental fog, as they say — and felt I must get out into the open air as soon as possible. I dressed in a hurry, went down and took a cab to the Brevoort House, where I had to attend a conference that morning. As soon as I got there I went to the wash-room, and then perceived that I must have left in the stateroom of the boat the government's watch, with my own chain and the little gold binnacle (containing a compass) that was attached to it, and likewise my light overcoat. I rushed out, found the same cab, and drove back to the boat, greatly worked up. For the \$350 was the smallest consideration. The watch could not easily be matched at any price; and I should feel it as a life-long pro-

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fessional disgrace if I failed to restore it in as perfect condition as I had received it. Arrived at the boat I ran up to my stateroom and found everything gone. I then made all the colored waiters, no matter on what deck they belonged, come and stand up in a row. There were something like a score of them. I went from one end of the row to the other, and talked a little to each one, in as *dégagé* a manner as I could, about whatever he could talk about with interest, but would least expect me to bring forward, hoping that I might seem such a fool that I should be able to detect some symptom of his being the thief. When I had gone through the row I turned and walked from them, though not away, and said to myself, "Not the least scintilla of light have I got to go upon." But thereupon my other self (for our own communings are always in dialogues), said to me, "But you simply *must* put your finger on the man. No matter if you have no reason, you must say whom you will think to be the thief." I made a little loop in my walk, which had not taken a minute, and as I turned toward them, all shadow of doubt had vanished. There was no self-criticism. All that was out of place. I went to the fellow whom I had fixed upon as the thief, and told him to step into the stateroom with me. I chanced to have a fifty dollar bill in my waistcoat pocket. I took it out and spread it before him. "Now," I said, "that bill is yours, if you will earn it. I do not want to find out who stole my watch, if I can help it; because if I did I should be obliged to send him to Sing Sing, which would cost me more than fifty dollars; and besides I should be heartily sorry for the poor fool who thought himself so much sharper than honest men. You go and bring me my watch, chain and overcoat, and I shall only be too glad to pay you this fifty dollars and get away; and you may be sure that I am the kind of man who thinks it much wiser to

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keep his promise than to break it and ruin his character for a paltry fifty dollars. Now trust me. Don't you know that some men are like that and that I am one of them? Look at me, and see. Now will you earn the fifty dollars?" "Why," said he, "I would like to earn the fifty dollars mighty well; but you see I really do not know anything about your things. So I can't." "Now," said I, lowering, deepening, and intensifying my tone, "I wish I could shut my eyes to the thief; for every thief is a fool, and I am sorry for him. Besides, the cost of being on hand to prosecute you will be a good deal more than the fifty dollars. Don't you know that no pawnbroker in New York will give you more than fifty dollars for my things, and that as soon as you leave his shop the hand of the officer will be on your shoulder? Have you got a wife? Think of her. The man who goes to Sing Sing goes to ruin for life and to Hell often. Just stop and think a minute what that means, even on this side of the grave. You have confessed to me already that you are the thief; don't you know you have? You most plainly have; for you said that you could not earn that fifty dollars because at this moment you did not know what had become of the things. But fifty dollars would pay a sharp fellow like you, quite unsuspected of being employed by me, to find out all about the theft. The difficulty plainly is that you can't convict any other man because you are yourself the thief. I know that and I am sorry for you. But you can escape Sing Sing and earn this bill by bringing me the things. You rely on your slyness; but you will find there is something in the head of an honest man stronger than all the slyness in the world. I tell you no more than the truth; — I would not tell more for the watch fifty times over; — but just as sure as you're born, if you do not do as I say, you will find yourself railroaded to Sing Sing as soon as the boat gets back from Fall

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River." (I cannot answer for all the details of this conversation; but such it was in substance.) He said, "I am sorry I know nothing at all about the theft; if there was any;" and I went away. I ran down to the dock and was driven as fast as the cabby could, to Pinkerton's. There, ushered into the presence of Mr. Bangs, the head of the New York branch of this formidable organization, I said, "Mr. Bangs, a negro on the Fall River boat, whose name is so-and-so (I gave it) has stolen my watch, chain, and light overcoat. The watch is a Charles Frodsham and here is its number. He will come off the boat at one o'clock, and will immediately go to pawn the watch, for which he will get fifty dollars. I wish you to have him shadowed, and as soon as he has the pawn ticket, let him be arrested." Said Mr. Bangs, "What makes you think he has stolen your watch?" "Why," said I, "I have no reason whatever for thinking so; but I am entirely confident that it is so. Now if he should not go to a pawnshop to get rid of the watch, as I am sure he will, that would end the matter, and you need take no step. But I know he will. I have given you the number of the watch, and here is my card. You will be quite safe to arrest him." Mr. Bangs hesitated not more than five seconds, and said, "I should like to make a suggestion if you will permit me to do so. I am sure you have no acquaintance with thieves and are entirely ignorant of the species. Now we do know them. It is our business to be acquainted with them. We know the ways of every kind and every gang; and we know the men themselves — the most of them. Let me suggest this: I will send down our very best man. He shall bear in mind and give full weight to your impression. Only let him not be hampered with positive orders. Let him act upon his own inferences, when he shall have sifted all the indications." I confessed, "That, I must say, appears to be reasonable. What

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right, after all, have I to claim infallibility? Be it as you say." The detective went to the boat and discovered that "my man," as I will call him, meaning the man I was so cock-sure was the thief, had been for many years the captain's own valet and could not have been upon the deck where my stateroom had been; while there was a known crook among the number of those waiters that might probably have been there. The consequence was that the crook was shadowed, while "my man" was not; and no pawning of a watch was reported. The next morning I was on hand to accost Mr. Bangs. "So it seems the watch is lost," said I; "What is next to be done?" "Well," said he, "it only remains to send postcards to all the pawnbrokers of Fall River, New York, and Boston, offering a reward for the recovery of the watch." "A reward!" I exclaimed, "I dare say you mean something approaching a hundred dollars!" "Oh," he replied, "that would be quite insufficient. You must offer a hundred and fifty at the very least." "A hundred and fifty, then, be it," said I. The postals, I suppose, were sent out. At any rate the next day or day after I received a request from a lawyer on Broadway, facing the Park, that I would call at his office. I did so and found he had already prepared for my signature a paper as long as the main-to'-bowline, indemnifying his client. I signed it, and paid over my \$150, quite a sum for a young man in those days; but little in comparison with professional honour. "Now," I inquired, "who, if you please, is this client of yours?" I dare say I might have ascertained it from the paper I had just signed; but in fact I did not. He gave me the name, and informed me that he was a pawnbroker at such a number on Fiftieth Street (or thereabouts; I have forgotten the exact locality and the name). I repaired once more to Pinkerton's office, and taking my detective along with me, proceeded to

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the pawnbroker's. This gentleman described the person who pawned the watch so graphically that no doubt was possible that it had been "my man." The boat had by this time gone back to Fall River, but was to return in the morning. I insisted upon the detective's accompanying me to "my man's" lodging — that is, to his flat, in a very respectable part of Sixth Avenue. When we arrived before the house I requested the detective just to mount the stairs and to bring down my chain (with the binnacle) and my light overcoat. "Oh," he said, "I could not think of it. I have no warrant, and they would certainly call in the police!" I was just a little put out. "Very well," said I, "will you at any rate have the kindness just to wait on the sidewalk for ten minutes — or stay, make it twelve minutes — and I will be down with the things." Thereupon I mounted the three flights and knocked at the door of the flat. A yellow woman came; but another of about the same complexion was just behind her, without a hat. I walked in and said, "Your husband is now on his road to Sing Sing for stealing my watch. I have learned that my chain and overcoat which he also stole are here and I am going to take them. Thereupon the two women raised a tremendous hullabaloo and threatened to send instantly for the police. I do not remember exactly what I said, I only know that I was entirely cool and told them they were quite mistaken in thinking that they would send for the police, since it would only make matters worse for the man. For since I knew just where my watch and overcoat were, I should have them before the police arrived. I forget whether or not I hinted that the woman would make herself an accessory, if the police came and found I had already brought the chain and overcoat to light. Anyway, I saw no place in that room where the chain was likely to be, and walked through into another room. Little

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furniture was there beyond a double bed and a wooden trunk on the further side of the bed. I said, "Now my chain is at the bottom of that trunk under the clothes; and I am going to take it. It has a gold binnacle with a compass attached; and you can see that I take that, which I know is there, and nothing else. I knelt down and fortunately found the trunk unlocked. Having thrown out all the clothes — very good clothes — I came upon quite a stratum of trinkets of evident provenance, among which was my chain. I at once attached it to my watch, and in doing so noticed that the second woman (who had worn no hat) had disappeared, notwithstanding the intense interest she had taken in my first proceedings. "Now," said I, "it only remains to find my light overcoat." I may have worded this otherwise; it makes no difference. The woman spread her arms right and left and said, "You are welcome to look over the whole place." I said, "I am very much obliged to you, Madam; for this very extraordinary alteration of the tone you took when I began on the trunk assures me that the coat is not here. I thank you kindly; but I think I shall very likely find it, just the same." So I left the flat and then remarked that there was another flat on the same landing.

Although I do not positively remember, I think it likely that I was convinced that the disappearance of the other woman was connected with the marked willingness that I should search for my overcoat through the flat from which I had emerged. I certainly got the idea that the other woman did not live far off. So to begin with I knocked at the door of that opposite flat. Two yellow or yellowish girls came. I looked over their shoulders and saw a quite respectable looking parlor with a nice piano. But upon the piano was a neat bundle of just the right size and shape to contain my overcoat. I said, "I have called because there is a bundle here belonging to me;

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oh, yes, I see it, and I will just take it." So I gently pushed beyond them, took the bundle, opened it, and found my overcoat, which I put on. I descended to the street, and reached my detective about fifteen seconds before my twelve minutes had elapsed.

All the above, be it understood is sober truth, sedulously freed from all exaggeration and colour. If any reader should incline to deem the narrative apocryphal, it will certainly not be the psychologist, equally versed in the theory of his science and skilled in the application of it; for to him the incidents will present no extraordinary features. I suppose almost everybody has had similar experiences. But however frequently such facts may be encountered, there is certainly something a little mysterious in them; they demand explanation. That explanation must itself be conjectural and must remain so until exact investigation has tested its sufficiency; and unless some new school of psychology should make its appearance, I do not believe that scientific testing of the theory is likely to be performed in our time.

I am going to point out a *vera causa* — a known agency which tends to produce effects like the facts to be explained. But whether it would, under the circumstances described, be sufficient to produce the somewhat surprising facts, or whether it was aided by some other agency that has not suggested itself to my mind, I will not presume to opine.

My surmise is that at the bottom of the little mystery is buried a principle often enough asserted but never, I believe, supported by scientific observation, until Professor Joseph Jastrow and I carried through at the Johns Hopkins University a certain series of experiments. These experiments were mainly designed for quite another purpose, namely, in order to test Fechner's hypothesis of the "Differenz-

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schwelle," which in no wise concerns us now. I proceed to describe in outline the essentials of the experiments. Of the two persons engaged in them, the one acted as experimenter and recorder, while the other, who could neither see nor hear the former, was the "subject" or victim of the experimentation. The latter said, "Ready." Thereupon an automatic arrangement, namely, by exposing a card from a well shuffled pack, indicated to the experimenter what pressure he was to bring to bear upon the finger of the subject who carefully observed the degree of his feeling of pressure. When he was satisfied, perhaps after from five to twenty seconds, he said "Change." Thereupon by an exceedingly delicate contrivance (to avoid any sudden change or shock), the experimenter, according to an automatic operation of chance, either increased or diminished the pressure by less than one *per cent* of itself. The subject observed the new feeling of pressure and again said "Change," whereupon the first pressure was brought back. These experiments were interspersed (by the automatic chance arrangement which was intended of course to exclude as far as possible mental action on the part of the experimenter), by others in which the changes of pressure were somewhat more considerable. The subject having observed the three states of feeling of pressure (of which the first and last were equal), first pronounced one or another of the four numerals, Naught, One, Two, Three. "Three" would mean that he was sure, or almost sure, of being able to say whether the middle pressure was greater or less than the other two. "Two" would mean that he was by no means sure, yet inclined to think he could tell. "One" would mean that he did not think he really perceived any difference; yet suspected that he perhaps might. "Naught" would mean that he was sure he could not perceive the slightest variation of pressure. Having thus indicated the

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degree of his confidence, he was *obliged* to *say* whether the middle pressure was greater or less than the others. In case his confidence was zero, this declaration would be (to his own consciousness) a purely random one, though he would avoid any particular regularity in his declarations, or any great preponderance of either "greater" or "lesser." Of course he never received the slightest intimation of whether he was right or wrong.

When our course of experiments had been carried on two hours daily (with such precautions against fatigue as the imperfect psychology of twenty-five years ago prescribed), and for about a month it was found that of the answers supposed to be given at random, which were a good half of the whole number and must, I think (I have not before me the record, which is given in Vol. III of the Memoirs of the U. S. National Academy of Sciences), have approached a thousand in number, about three out of every five were correct. That is to say, among all those cases in which the subject, after carefully searching his consciousness, felt quite sure he had experienced no variation of the sense of pressure, though a change and reverse change had really been made; and had accordingly said, quite at random, as he thought, that the middle pressure was greater or less than the first and last, what he so said agreed with the real fact half as often again as it disagreed. A reader inexpert in dealing with probabilities may think that so small a preponderance of true answers might have come about by chance. But in truth it is among the most certain things that we know that this was not so. So much is demonstrated truth, quite unquestionable. But if you go on to ask me upon what principle I would explain the fact that a person who, after the closest scrutiny of his consciousness, had pronounced that there was no trace of perceptible difference between two sen-

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sations of pressure, should in the very next breath have correctly said which of them was the greater, in three cases out of every five, my confidence largely evaporates. I can, indeed, mention a cause which undoubtedly exists and which must have acted toward producing that indubitable fact; but I cannot say whether that cause would or would not have been sufficient by itself for that result.

Everybody knows how self-consciousness makes one awkward and may even quite paralyze the mind. Nobody can have failed to remark that mental performances that are gone through with lightly are apt to be more adroit than those in which every little detail is studied while the action is proceeding, nor how a great effort — say to write a particularly witty letter — or even to recall a word or name that has slipped one's memory may spoil one's success. Perhaps it is because in trying very hard we are thinking about our effort instead of about the problem in hand. At any rate my own experience is that self-consciousness, and especially conscious effort, are apt to carry me to the verge of idiocy and that those things that I have done spontaneously were the best done. Now in the experiments I have described the so-called "subject," the victim of the experimentation would not seldom sit in the darkened and silent room, straining with all his might for two or three minutes, to detect the slightest difference between two pressures. Finding himself unable to do so he would utter his "zero" that this inability might be recorded. Thereupon all straining ceased; for all it then remained for him to do was mention at random which one of the pressures he would mark as the heavier — and here his perfect unconsciousness greatly increased his power of discrimination — a discrimination below the surface of consciousness, and not recognized as a real judgment, yet in very truth a genuine discrimination, as the

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statistical results showed. The circumstances of my talking with the waiters on the boat were almost identical. While I was going through the row, chatting a little with each, I held myself in as passive and receptive a state as I could. When I had gone through the row I made a great effort to detect in my consciousness some symptoms of the thief, and this effort, I suppose, prevented my success. But then finding I could detect nothing I said to myself, "Well, anyway, I *must* fasten on someone, though it be but a random choice," and instantly I *knew* which of the men it was. As for my proceedings in the flat they did not rise above a low level of the commonplace. Disgusted (very unjustly, I dare say) at the detective's reluctance, I went up, convinced that it would be the easiest thing in the world to put my hands on my property; and therefore there was no strain of effort. Seeing no likely hiding-place in the first room I walked through to the other; and I had had enough experience of thieving domestics to know that the bottom of a trunk, under the clothes, was almost certain to be the hiding-place of the chain. When that was found the sudden change in the demeanor of the wife from threats of the police to a cordial invitation to search the whole place over, demonstrated that the overcoat had been removed; and the disappearance of the hatless woman, who had not waited for the dénouement, showed that it was in some other flat in the building. I began, therefore, by knocking at the door of the other flat on the same landing where the bundle on the piano was a frank telltale.

I could tell many other true tales of successful guessings; but I have mentioned here two principles which I have been led to conjecture furnish at least a partial explanation of the mystery that overhangs this singular guessing instinct. I infer in the first place that man divines something of the secret

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principles of the universe because his mind has developed as a part of the universe and under the influence of these same secret principles; and secondly, that we often derive from observation strong intimations of truth, without being able to specify what were the circumstances we had observed which conveyed those intimations.

It is a chapter of the art of inquiry.

Our faculty of guessing corresponds to a bird's musical and aeronautic powers; that is, it is to us, as those are to them, the loftiest of our merely instinctive powers. I suppose that if one were sure of being able to discriminate between the intimations of this instinct and the self-flatteries of personal desire, one would always trust to the former. For I should not rate high either the wisdom or the courage of a fledgling bird, if, when the proper time had come, the little agnostic should hesitate long to take his leap from the nest on account of doubts about the theory of aerodynamics.

THE FOUNDING OF PRAGMATISM

ANY philosophical doctrine that should be completely new could hardly fail to prove completely false; but the rivulets at the head of the river of pragmatism are easily traced back to almost any desired antiquity.

Socrates bathed in these waters. Aristotle rejoices when he can find them. They run, where least one would suspect them, beneath the dry rubbish-heaps of Spinoza. Those clean definitions that strew the pages of the "Essay concerning Humane Understanding" (I refuse to reform the spelling), had been washed out in these same pure springs. It was this medium,

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and not tar-water, that gave health and strength to Berkeley's earlier works, his "Theory of Vision" and what remains of his "Principles." From it the general views of Kant derive such clearness as they have. Auguste Comte made still more — much more — use of this element; as much as he saw his way to using. Unfortunately, however, both he and Kant, in their rather opposite ways, were in the habit of mingling these sparkling waters with a certain mental sedative to which many men are addicted, — and the burly business men very likely to their benefit, but which plays sad havoc with the philosophical constitution. I refer to the habit of cherishing contempt for the close study of logic.

So much for the past. The ancestry of pragmatism is respectable enough; but the more conscious adoption of it as *lanterna pedibus* in the discussion of dark questions, and the elaboration of it into a method in aid of philosophic inquiry came, in the first instance, from the humblest *souche* imaginable. It was in the earliest seventies that a knot of us young men in Old Cambridge, calling ourselves, half-ironically, half-defiantly, "The Metaphysical Club" — for agnosticism was then riding its high horse, and was frowning superbly upon all metaphysics — used to meet, sometimes in my study, sometimes in that of William James. It may be that some of our old-time confederates would today not care to have wild-oats-sowings made public, though there was nothing but boiled cats, milk, and sugar in the mess. Mr. Justice Holmes, however, will not, I believe, take it ill that we are proud to remember his membership; nor will Joseph Warner, Esq. Nicholas St. John Green was one of the most interested fellows, a skillful lawyer and a learned one, a disciple of Jeremy Bentham. His extraordinary power of disrobing warm and breathing truth of the draperies of long worn formulas, was

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what attracted attention to him everywhere. In particular, he often urged the importance of applying Bain's definition of belief, as "that upon which a man is prepared to act." From this definition, pragmatism is scarce more than a corollary; so that I am disposed to think of him as the grandfather of pragmatism. Chauncey Wright, something of a philosophical celebrity in those days, was never absent from our meetings. I was about to call him our corypheus; but he will better be described as our boxing-master whom we — and I particularly — used to face to be severely pummelled. He had abandoned a former attachment to Hamiltonianism to take up with the doctrines of Mill, to which and to its cognate agnosticism he was trying to weld the really incongruous ideas of Darwin. John Fiske and, more rarely, Francis Ellingwood Abbot, were sometimes present, lending their countenances to the spirit of our endeavours, while holding aloof from any assent to their success. Wright, James, and I were men of science, rather scrutinizing the doctrines of the metaphysicians on their scientific side than regarding them as very momentous spiritually. The type of our thought was decidedly British. I, alone of our number, had come upon the threshing-floor of philosophy through the doorway of Kant, and even my ideas were acquiring the English accent.

Our metaphysical proceedings had all been in winged words (and swift ones, at that, for the most part), until at length, lest the club should be dissolved, without leaving any material *souvenir* behind, I drew up a little paper expressing some of the opinions that I had been urging all along under the name of pragmatism. This paper was received with such unlooked for kindness, that I was encouraged, some half dozen years later, on the invitation of the great publisher, Mr. W. H. Appleton, to insert it, somewhat expanded, in the *Popular Science Monthly* for November, 1877, and January, 1878,

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not with the warmest possible approval of the Spencerian editor, Dr. Edward Goumans. The same paper appeared the next year in a French redaction in the *Revue Philosophique* (Vol. VI, p. 553; Vol. VII, p. 39). In those medieval times, I dared not in type use an English word to express an idea unrelated to its received meaning. The authority of Mr. Principal Campbell weighed too heavily upon my conscience. I had not yet come to perceive, what is so plain today, that if philosophy is ever to stand in the ranks of the sciences, literary elegance must be sacrificed — like the soldier's old brilliant uniforms — to the stern requirements of efficiency, and the philosopher must be encouraged — yea, and required — to coin new terms to express such new scientific concepts as he may discover, just as his chemical and biological brethren are expected to do. Indeed, in those days, such brotherhood was scorned, alike on the one side and on the other — a lamentable but not surprising state of scientific feeling. As late as 1893, when I might have procured the insertion of the word pragmatism in the *Century Dictionary*, it did not seem to me that its vogue was sufficient to warrant that step.

CHARLES SANDERS PEIRCE

[The Editors of *THE HOUND & HORN* desire to express their deep gratitude to Harvard College for permission to publish these papers of Charles Sanders Peirce. The works of Peirce will shortly be published by Harvard University Press in about ten volumes.]