

*The Second Metaphysical Club and its
Impact on American Sciences*

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The ‘Second’ Metaphysical Club and Its Impact on the Development of American Sciences

Memorandum, 19 April 2014

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Abstract

This memorandum documents some of the most noteworthy facts concerning the Metaphysical Club meetings, which were predominantly presided over by Charles Peirce, and which took place at Johns Hopkins University from October 1879 until March 1885. The Club held the total of 43 meetings, and 110 presentations, of which 33 were principal papers. These facts, some of which are highlighted in the document that follows, testify that the club had an enormous impact on the development of American sciences and methodology.

Introduction

Max Fisch estimated that no other graduate philosophy club has had a comparable impact on the progress of research in the US as Peirce’s Metaphysical Club. What was it, who participated in it and what became of these people? A history of the Metaphysical Club is yet to be written; the current document highlights what strikes as some of the most noteworthy facts that belong to any such historiography.

Of Peirce’s students (counting those enrolled to any of his courses at JHU) the speakers were Ellery W. Davis, John Dewey, Fabian Franklin, Benjamin Ives Gilman, Joseph Jastrow, Christine Ladd (Franklin), Allan Marquand, Oscar H. Mitchell, Charles W. Nicholls. Of his colleagues, we find A.T. Bruce (biology), Basil L. Gildersleeve (classics), G. Stanley Hall (psychology), H. Newell Martin (biology), George S. Morris (philosophy), Ira Remsen (chemistry), W.T. Sedgwick (physiology), Benjamin Eli Smith (science editor) and Edmund Beecher Wilson (genetics). Notable students who did not present were Henry Taber, Thorstein Veblen, and of faculty, Simon Newcomb (mathematics), Henry A. Rowland (physics), J.J. Sylvester (mathematics), William Dwight Whitney (Sanskrit/linguistics), Lester F. Ward (sociology), the reason being that there were several other regular seminar activities at JHU more suitable for research in pure mathematics, for example. External speakers included Lester F. Ward (sociology).

The 19th century saw the emergence of the idea of new universities: “to give three prominent examples, the amassment of certain industrial fortunes enabled benefactors Johns Hopkins to establish Johns Hopkins University, primarily for graduate education; Jonas Clark to establish Clark University; and John D. Rockefeller to establish the University of Chicago as a Baptist institution of higher learning”.

The value of new ideas that were emerging in American educational and research circles show up also in Charles Peirce’s brother James Mills Peirce’s comments to the JHU President Daniel Coit Gilman. Echoing his 1880 Paris speech, he noted that Hopkins has “a great advance in the university system of this country, and as the only American institution where the promotion of science is the supreme object, and the trick of pedagogy is reckoned as of no value” (February 14, 1881). And Charles Peirce spoke the famous words: “This is the age of methods; and the university which is to be the exponent of the living condition of the human mind, must be the university of methods” (1882).

Fisch remarks that, had Peirce continued lecturing at JHU, “there would have been at least one university in which philosophy was in living touch with science; in which it was a field of research, not of indoctrination or of “the strifle of systems”; in which it was neither a conscious apologist nor a ventriloquist’s dummy for the masters of business and property”. Inspection of various events concerning the Metaphysical Club meetings at JHU in 1879-1885 confirms not only Fisch’s observation but, among others, also that following Peirce’s departure, JHU also lost a number of other original minds.

Main sources of this document are The Metaphysical Club Minute Book (unpublished); JHU Circulars; JHU Yearbooks. <http://www.library.jhu.edu/collections/specialcollections/archives/inventories/rg15-040.html>

The Metaphysical Club Meetings at the JHU

28 Oct 1879 – 3 March 1885 (43 meetings, 110 presentations, c.33 principal papers)

[compare with the Helsinki Metaphysical Club, which has had 97 presentations since 1998, until 2014, excluding special workshops & conferences.]

The color code: **RED**: New presenter **GREEN**: Recurring presenter.

From the Metaphysical Club bylaws:

“Art. II Object. The object of this association shall be the preparation and discussion of papers relating to logic, psychology, ethics and the first principles of things.” (*Minute Book (henceforth MB)*, second meeting)

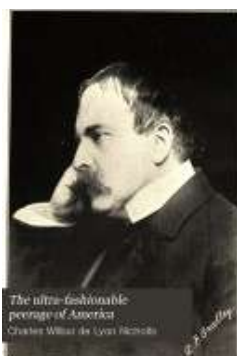
1879

First meeting 28 October. Sixteen persons present.

1. The Metaphysical Fallacy. Charles W. Nichols. Peirce's student.

“On the metaphysical fallacy, especially as illustrated by the Greek Philosophers” (MB)

“This paper pointed out several notable instances in which the ancients had mistaken grammatical for real analogies.” (JHU Circulars 2, p.18)



Charles Wilbur de Lyon Nichols, 1854-?, Reverend (books: *Annals of a Remarkable Salon; The Ultra-Fashionable Peerage of America; an Official List of Those People Who Can Properly Be Called Ultra-Fashionable in the United States*, 1904, cf. Veblen's leisure class..)

2. The Doctrine of Limits. Benjamin Ives Gilman. Peirce's student.

“Mr. B. I. GILMAN stated and defended the Doctrine of Limits” (JHUC 2).



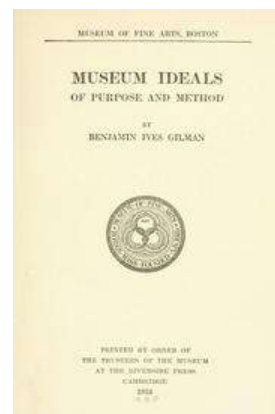
B.I.G. (1852–1933), Mathematician, ethnomusicologist, librarian, secretary of the Boston Museum of Fine Arts from 1893 to 1925. 101 wax cylinder recordings from 1893 (Library of Congress). His “On the Properties of One-Dimensional Manifold” (Mind) inspired Husserl.



Gilman's *Skiascope*, 1918

The Gilman Model: “Gilman championed what has become the dominant paradigm for art museums since then; the white gallery housing only a few objects, provided with benches so the lone visitor could appreciate a single artwork at time in a properly contemplative state.”

<https://exhibitdev.wordpress.com/tag/benjamin-ives-gilman/>



3. The Calculus of Leibniz and that of Newton. Henry L. Gannt. Peirce's student.

“On the distinction between the Leibnitzian and the Newtonian Calculus” (MB)



“MR. GANTT considered the difference between the Calculus of Leibnitz and that of Newton” (JHUC)

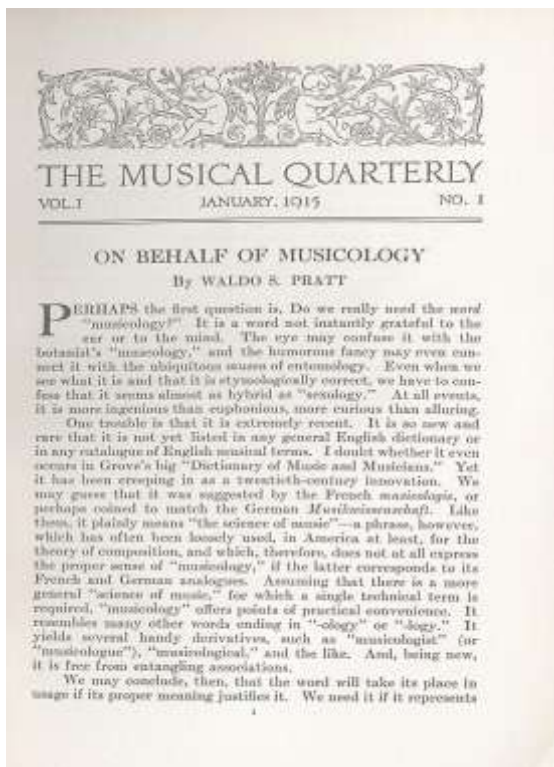
Henry Laurence Gantt, A.B., M.E. (1861-1919), American mechanical engineer and management consultant famous for developing the **Gantt chart** in the 1910s. The Henry Laurence Gantt Medal is awarded for distinguished achievement in management and in community service. This chart is used also in Information Technology to represent data that has been collected.

http://en.wikipedia.org/wiki/Henry_Gantt

http://en.wikipedia.org/wiki/Gantt_chart

4. Zeno's Four Arguments against Motion. Waldo Selden Pratt. Peirce's student.

“MR. PRATT presented a communication on Zeno's Four Arguments against Motion” (JHUC 2).



W.S.P., Professor of Music and Hymnology in Hartford theological seminary, Lecturer on music history at the institute of musical art. Introduces and defends the term ‘musicology’ in 1915: “German scholars were the pioneers in the formal academic study of music, an enterprise they called “Musikwissenschaft.” Its English-language counterpart, “musicology,” was slower to catch on. The word was still considered a dubious neologism in 1915, when Waldo Selden Pratt inaugurated the brand-new Musical Quarterly with “On Behalf of Musicology.” Pratt divides musicology into seven categories: Musical Physics (or acoustics), Musical Psychics (that is, psychology), Musical Poetics, Musical Aesthetics, Musical Graphics (“or **Semeiotics**, if a somewhat more general term is desired”), Musical Technics, and Musical Practics”.

http://www.library.yale.edu/musiclib/exhibits/histories/pratt_musicology.html

5. Non-Euclidean Space. Christine Ladd. (read by Peirce). Peirce's student.

“A paper from Miss Christine Ladd on the Non-Euclidean conception of Space was then read by Mr. Peirce. This was followed by a Refutation of the Doctrine of Limits by Mr Allan Marquand.” (MB)

“Assuming that we know nothing of the actual construction of space, it was shown that Euclid entertained but one mode of representing it; and that by using the classification of curves of the second degree, three modes representing space might be entertained, thus giving rise to the Euclidean or Parabolic geometry, and

to two Non-Euclidean, the Elliptic and Hyperbolic geometries.” (JHUC 2)



C.L.F. (1847-1930), Vassar, PhD JHU 1883/1926, understood Peirce's ideas concerning the theory and philosophy of logic perhaps better than anyone else of his contemporaries. Their correspondence lasted until 1904. Defended Peirce's algebraic approach against the Peano-Russell formalisation of logic until her death.



On Peirce's teaching: "He had all the air...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....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.'" (CLF, 1916).

CSP to CLF (Thanksgiving 1902): "It gives me joy that you are to lecture logic at the Johns Hopkins. But, oh, you will not have such a wonderful and charming a class as I had, especially the first year."

6. Critique of Whewell on Limits. Allan Marquand. Peirce's student.

"MR. MARQUAND (appointed to speak against the Doctrine of Limits) attacked both the statement and the proof of the doctrine as given by Dr. Whewell" (JHUC 2)



A.M., Princeton Class of 1874, Professor of Art History and after 1905 Chairman of the Department of Art and Archaeology, was appointed the first director, a position he held until his retirement in 1922. Ph.D. in Philosophy in 1880 JHU supervised by Peirce on the logic of Philodemus. Returned to Princeton in 1881 to teach Latin and logic.



Right: Marquand machine displayed all the valid implications of a simple logical proposition by using an arrangement of rods and levers, catgut strings and spiral springs. Prompted by Peirce's 1887 letter, he later diagrammed an electrical circuit for his machine, the first known design for an electric logic machine.

"The reading of these papers prompted questions and suggestions and discussion. The Club adjourned at half-past 10 o'clock." (MB)

Second meeting 11 November. 12 persons present.

PRINCIPAL PAPER (max. 45mins):

7. (1.) Questions Concerning Certain Faculties Claimed for Man. C.S. Peirce. FACULTY

"Questions concerning some faculties claimed for man" (MB)

"These questions related to the hypothesis of intuitive faculties, against which it was maintained that we have a variety of facts, all of which are most readily explained on the supposition that we have no intuitive faculty of distinguishing intuitive from mediate cognition; that there is no necessity of supposing an intuitive self-consciousness, since self-consciousness may easily be the result of inference; that we have no intuitive power of distinguishing between the subjective elements of different kinds of cognitions; that there is no reason for supposing a power of introspection, and consequently the only way of investigating a psychological question is by inference from external facts; that every thought must be interpreted in another, or that all thought is in signs; that cognition arises by a *process* of beginning, as any other change comes to pass. (The views here given have also been presented by the author of this paper in the Jour. of Spec. Philos. Vol. II.)" (JHUC 2)

Minor communications (max. 20min):

8. Translation of Leibniz's *Meditations of Cognitione, Veritate et Ideis*. B. I. Gilman.

9. The Determinate Form of the Logical Copula. Allan Marquand.

“On the determinate form of the copula” (MB)

“Several advantages were pointed out which arise from the assumption of copulas with definite meanings.” (JHUC 2)

Third meeting 9 December.

PRINCIPAL PAPER:

10. (2.) Reflex Action and Its Analogies in the Fixing of Belief. Edward Mussey Hartwell. Peirce's student.

“Reflex action was considered to be the transformation of a sensory impression into a motor impulse. The factors of sensitive surface, afferent nerve, elastial garylian, afferent nerve [sic.] and active tissue were discussed separately and in their relations to each other. ... Several experiments were made upon frogs, some of which were partially, others wholly deprived of their brains, in order to show the complicated coordinated and purposeful though volitionless nature of their reflex actions. ... The stoxx in the xxxxn whereby the mind replaces its doubts and reaches its beliefs were argued to be analogous to those in the reflex action of a brainless frog in removing frogs muscular action an initiating substance from the sensitive part” (MB)



E.M.H. (1850-1922): PhD in Biology, JHU (H.N. Martin, supervisor, Hartwell also G. S. Hall's student), appointed Instructor in Physical Culture at The Johns Hopkins University in 1882.

“Edward Mussey Hartwell should be considered one of the forefathers of physical education in the United States for his contribution toward defining the profession. . . . To such a task Hartwell brought an unusual insight and open-minded sensitivity, bolstered by a considerable formal education.” (Ellen Gerber)

<http://hhs.sagepub.com/cgi/reprint/22/1/37.pdf>

<http://www.yorku.ca/christo/courses/histgrad/Cadwallader.1992.pdf>

<http://www.la84foundation.org/SportsLibrary/JSH/JSH1987/JSH1401/jsh1401h.pdf>

Minor communications:

11. The Ethics of Belief. David Stewart. [??]

“This paper discussed the grounds of our belief in the supernatural and pointed out the dishonesty of treating as positive fact dogmas which are still matter of doubt or dispute” (MB)

[Mathematician William K. Clifford, Sylvester's collaborator etc., had presented the famous paper bearing this title in 1877 – the one which W. James equally famously attacked.]

1880

Fourth meeting 13 January. 11 persons present.

PRINCIPAL PAPER:

12. (3.) Translation of Philodemus on Inductive inferences. Allan Marquand.

“Mr. C. S. PEIRCE remarked upon the value of this treatise to the history of Inductive Logic and Epicurean Philosophy.” (JHUC 3, p. 34)

13. Moral Insanity as a Cause of Crime. C.W. Nichols.

14. Grant Allen's *Physiological Aesthetics*. W.S. Pratt.

Fifth Meeting 12 February. 14 persons present.

PRINCIPAL PAPER:

15. (4.) Helmholtz's Theory of the Development of Musical Scales. W.S. Pratt.

Minor communications:

16. The Evolution of Nerves and Nervous Systems. E.M. Hartwell.

Sixth Meeting 9 March. 16 persons present.

PRINCIPAL PAPER:

17. (5.) On Kant's *Critic of the Pure Reason* in the Light of Modern Logic. C.S. Peirce.

"Mr Peirce compared Kant's solution of the problem 'How are synthetic judgments a priori possible?' with the solution given by modern logic of the problem 'How are synthetic judgments in general possible?' He showed that the reply which Kant makes to the former question has its analogue with reference to the latter. This analogous answer to the second question is true indeed but is far from being a complete solution of the problem. On the other hand, the solution which modern logic gives of its question may be successfully applied to Kant's problem; but this does not enable us to discover the origin of the conceptions of space and time. ..." (MB, cf. JHUC)

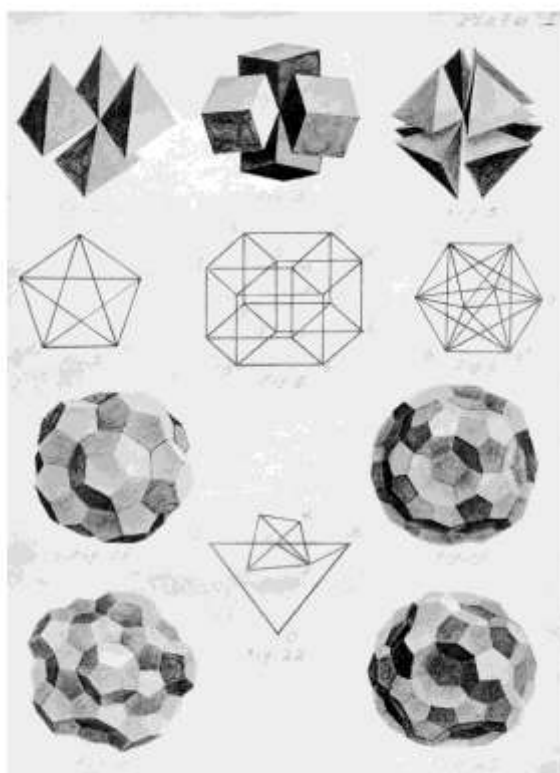
Minor communications:

18. Ernst Schröder's *Operationskreis des Logikkalküls* (1877). Washington Irving Stringham. Peirce's student.

"The main characteristics of Schröder's system, its dualistic arrangement, was pointed out as having been exhibited by Mr Peirce 10 years before. Allusion was also made to the fact that the definition of logical addition which Schröder adopts from Robert Grassmann, had been made by Prof. Jevons in 1864, and by Mr Peirce (independently) in 1869." (MB)

Discussion by C.S. Peirce.

(Peirce, who had read Schröder's 1877 paper in 1879, corresponded with Schröder here and again beginning in 1890, cf. Nathan Houser 1990).



W.I.S., (1847-1909), Professor of Mathematics and Sometime Dean in the University of California, graduated from Harvard College in 1877. PhD JHU 1880. Began professorship in mathematics at Berkeley in 1882. His PhD dissertation *Regular Figures in N-dimensional Space* under James Joseph Sylvester.

Wikipedia writes that "Stringham is perhaps most notable as the first person to denote the natural logarithm as $\ln(x)$ where x is its argument: "In place of 'log we shall henceforth use the shorter symbol \ln , made up of the initial letters of *logarithm* and of *natural* or *Napierian*.'" http://en.wikipedia.org/wiki/Irving_Stringham

But this is rather silly as Stringham was the first to present 4-dimensional figures, illustrations of the hypercube, etc. remarkable findings already in his PhD dissertation. In these, he was influenced by J.B. Listing's topology and W.E. Story's works. Stringham's approach seems to have inspired Peirce. Later W.I.S. worked with Klein in Germany.

19. "A paper by B. C. Burt on the first part of Spinoza's *Ethics* was deferred for lack of time. (Left the University, so paper was read at next meeting.) Mr Peirce then tendered his resignation as President of the Club" (MB) [Peirce leaves for Europe; Burt's paper seems not to have been read at all.]

Seventh Meeting 15 April. G.S. Morris elected President. 10 persons present.

PRINCIPAL PAPER:

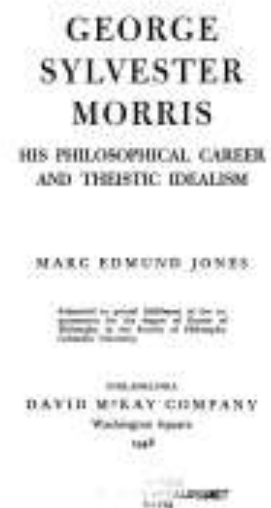
20. (6.) Leslie Stephen on Causation. Prof. George S. Morris. Faculty. The first not Peirce's student.



G.S.M., (1840-1889), Hegelian metaphysicist, educator. Royce's supervisor, Dewey's mentor. Studied under Trendelenburg 1866.

Resigned JHU 1884 after losing the philosophy chair to G. Stanley Hall, then Professor, Clark University. Took Dewey with him.

“modest and retiring...an esthetic soul, who loved philosophy because of the personal satisfaction he derived from this study.” (*Am.J.Psych.* 28, 1917)



Minor communications:

21. “Mr W. Nichols read a letter on Hegelianism in St Louis from Mrs E.M. Mitchell of the Hegel Club of that city.”

22. Mr W.T. Sedgwick presented a communications on a Problem in Mental Physiology.

Eight Meeting 11 May. 7 persons present.

PRINCIPAL PAPER:

23. (7.) The Logic of the Epicureans. Allan Marquand. (Published in the SiL.)

Minor communications:

24. Operations in Statistical Number. B.I. Gilman.

“the formulae given by Mr Charles S. Peirce in his lectures on Logic for the multiplication of two statistical numbers were extended to the multiplication of any number of such numbers, and further formulae for subtraction and division were reached” (MB)

25. “Mr W. S. Pratt presented a translation of a lecture of Dr Rudolf Maennel of Jena, upon ‘Was ist nach Kant schön?’”

“Geo. S. Morris began a review of Prof Wundt's Logik (Vol I), but the hour for adjournment having arrived, the paper was postponed.” (MB)

Ninth Special Meeting 20 May. 11 persons present.

26. (8.) “Purpose in Thought”. Josiah Royce. (Sent 1 May, read by secretary). Officially not Peirce's student. “There are three possible ways of studying human thought...” (MB, 5 page summary, JHUC). Cf. *The Life and Thought of Josiah Royce* (John Clendenning, p. 87-) for analysis of the paper.

27. W.S. Pratt read a paper prepared by a friend on “Wagner's Theory of Music as an Art”.

28. Wundt's *Logik*. George Sylvester Morris.

“... Psychological laws are therefore not logical laws. Psychology is a natural science, logic (along with ethics and aesthetics) a mental science. The analogy for a final interpretation of all existence is to be sought in mind rather than in nature.” (MB)

Tenth Meeting. 12 October. B.I. Gilman Chair. 6 persons present.

PRINCIPAL PAPER:

29. (9.) Hume’s Doctrine of Causation. B. C. Burt.

Minor communications:

30. Galton’s psychological observations. Mr Marquand. (“Psychological Inquiries”, JHUC)

31. “B.I. Gilman then presented a critical estimate of an article by Prof. Wm James, entitled “Great men, great thoughts and the environment.” (MB)

[Peirce returns from Europe early, re-elected.]

Eleventh Meeting 8 November. Chair Peirce. 14 persons present.

PRINCIPAL PAPER:

32.. On Operations in Statistical Number, with applications to the theory of probabilities. B.I. Gilman. (partly deferred to the next meeting)

33. A Method of Arriving at, and a New Notation for, De Morgan’s Twenty Propositions. Oscar Howard Mitchell. Peirce’s student.

O.H.M., (1851-1889), PhD JHU 1882, *Some Theorems in Numbers*, SV J.J. Sylvester. Professor of Mathematics 1882-, Marietta College, Chair of Mathematics and Logic.

Peirce attributed to the genius of O.H.M. two major discoveries: the invention of the basic proof transformations (introduction on odd and elimination on even) and the interpretation of quantifiers in multiple dimensions (incl. time, cf. the modern idea of many-sorted quantification, or indexicals as mappings from contexts to values the universes of discourse).

Delta Upsilon Quarterly (1889, p.261, Obituary attach.): “You ask me my opinion about Mr. Mitchell as a mathematician. He has been a most diligent and intelligent student in my class...in some work which he has recently been engaged upon, he has taken me completely by surprise. ... I should have been very glad, not to say proud, to have been myself the author of them. I look upon Mr. Mitchell as belonging to the same class of intellect as Franklin, Craig and Miss Ladd...” (J.J.S., March 3, 1881) (Nation April 11, 1889): “His paper [“A New Algebra of Logic”, SiL] was a work of great originality, and we venture to predict that it will hereafter be found to be the most valuable contribution that has yet been made to that subject” (by CLF?). CSP to CLF (Dec 8, 1903): “a little bit exaggerated [your remarks] were, but not too much for an obituary; and I am deeply glad you said them. For certainly that paper of his has greatly helped me.”

Ventura Reyes Prosper, “Charles Santiago Peirce y Oscar Howard Mitchell,” *El Progreso Matemático* 2 (1892): 173.

34. A Machine for Producing Syllogistic Variations. Allan Marquand. Printed in SiL.

“The machine presents to view three flaps containing the two premises and conclusion of a syllogism, as in the diagram. Thus from Barbara, contraposing by negation, we have the following variations.” (JHUC 7, p.84)



Twelfth Meeting 14 December. Chair Franklin. 9 persons present.

PRINCIPAL PAPER:

35. (10.) On Operations in Statistical Number, with applications to the theory of probabilities. B.I. Gilman. (cont.)

36. A Study of the Portion of Hume's "*Human Understanding*". B.C. Burt.

Understanding and Reason. *Verstand and Vernunft*. B.C. Burt.

B.C.B. translated books on logic and metaphysics. *A History of Modern Philosophy*, 1892.

"The secretary then read a letter from Mr Peirce..." Peirce noting having "received papers from Wundt, Schröder, J.J. Murphy, Venn, Jevons, MacColl, and others on various logical and psychological subjects." (MB)

1881

Thirteenth Meeting. 18 January. Chair Peirce. 16 persons present.

PRINCIPAL PAPER:

37. (11.) On Wundt's *Algebra of Logic*. Christine Ladd.

"Mr Peirce suggested an extension of the algebra by the addition of a new copula." (MB)

38. A Point of Logic Notation. Fabian Franklin. Peirce's student.



F.F. (1853-1939). PhD Mathematics JHU 1880. Wrote a biography on D.C. Gilman. Mention's Peirce once, on page 239: "...the singular genius of Charles S. Peirce was made a source of remarkable intellectual stimulation in the university through the establishment of a lectureship which he filled along lines quite peculiarly his own. In the only other instance which shall be cited, Mr. Gilman's sympathetic insight effected a service in which his interest was perhaps equally divided between the question of promoting the University's work and that of helping to relieve the burdens of struggling genius and noble manhood." But Gilman makes no mention of Peirce in his 1906 *The Launching of a University*. Abraham Flexner wrote another biography (*Daniel Coit Gilman, Creator of the American Type of University*), in 1946 and mentions, once, how "Peirce edited an important volume, entitled *Contributions to Logic* [sic.]" (p. 90).

Fourteenth Meeting. 8 February. 16 persons present.

PRINCIPAL PAPER:

39. (12.) The Physiology of Visions. E.M. Hartwell.

34. (27.) Inhibition of Mental Action. William Thompson Sedgwick.

W.T.S. (1855–1921). PhD JHU 1881, at MIT since 1883 (tenured 1891). head of biology department. Sedgwick and Newell-Martin made breakthroughs in circulation research. Publications on bacteriology, hygiene research, public health, sewage systems. Sedgwick co-authored “A Short History of Science”, remarkable, co-authored with B.E. Wilson. Prolific writer and seeker of truth. Attacked “feminist propaganda”.

Sedgwick became Lowell Institute’s curator and arranged Peirce to deliver eight lectures there in Nov-Dec 1903 (“Some Topics of Logic Bearing on Questions Now Vexed”).



Prof. Wm. T. Sedgwick

35. Hypnotism. D.L. Brinton. [??]

Fifteenth Meeting. 8 March. 16 persons present.

PRINCIPAL PAPER:

36. (13.) J.G. Fichte’s *Science of Knowledge*. M.I. Swift. [??] Peirce’s student.

Synopsis in MB & JHUC 11.

37. Hickok’s *View of Philosophy*. F.E. Stebbins. [??]

Synopsis in MB & JHUC 11.

Sixteenth Meeting. 1 April. 16 persons present.

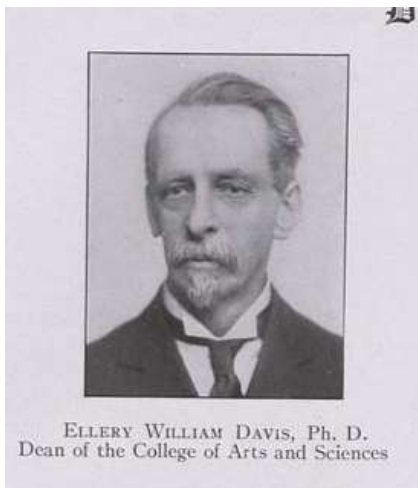
PRINCIPAL PAPER:

38. (14.) *On Relations between Sensations*, by C. S. Peirce.

39. *Hegel’s Philosophical Propaedeutic*, by B. C. Burt.

40. *On the Relation of Induction to Hypothesis*. Ellery William Davis. Peirce’s student.

“The probability of an {induction/hypothesis} is increased or diminished, in general, by increasing or diminishing the number of {subjects/predicates} compared. Since the order of reasoning in induction is case, result, rule, and in hypothesis precisely the reverse, rule, result, case; it follows that what appears as {induction/hypothesis} when time is reckoned positively, becomes {hypothesis/induction} if we conceive time to be reckoned negatively.” (JHUC 11).



E.W.D. (1857-1918), PhD JHU 1884, SV Sylvester, also 1884 under Cayley, Professor of Mathematics, University of Nebraska

“the deeper one enters into the spirit of Peirce’s teachings the more logically and philosophically satisfying, the more complete and harmonious and inclusive they seem to be.” (Davis, p.56, “Charles Peirce at Johns Hopkins”, *Mid-West Quarterly* 2, 1914, 48-56)

Letter to Peirce, no date (1898): “I see by the current number of the nation that you contemplate an extensive work on the principles of philosophy. I desire to encourage you in the undertaking for your ideas have to me been among the most valuable I have received. There are some others of your pupils at the Johns Hopkins who have a like feeling.” CSP to EWD April 9, 1898: “I dare say you expect to do far better than I have done. I hope you may.”

Highly appreciated textbooks: *An Introduction to the Logic of Algebra* (1890); *Calculus* (1913).

41. *Straight Lines and Parallels*, By J. B. Peterson [??]

Seventeenth Meeting. 10 May. 18 persons present.

PRINCIPAL PAPER:

42. (15.) *Logical Machines*. Allan Marquand.

“Cunynghame’s Syllogistic Cylinder, Stanhope’s Demonstrator and the machines of Jevons and of Venn were described. Logical cards were offered as a substitute for the Logical Slate or Stamp. Diagrams were exhibited for a four-term machine resembling that of Jevons in having thirty-two rods raised or lowered by sixteen keys. It differs in requiring only three operations instead of five, in having a sliding face with slits so arranged as to exhibit a complete analysis of the combinations, in dispensing with springs and levers, and in other particulars of minor importance.

A marked improvement was made upon the machine of Mr. Venn. In place of circles, ellipses, etc., rectangles are used to represent the “compartments” of the universe. A square wire frame work with a wire dividing it into two parts, if allowed to fall on a square surface of the same size, will divide it into two compartments, distinguished as *A* and *a*. A similar frame work falling at right angles to the first will divide each of these, giving the four compartments *AB*, *Ab*, *aB*, *ab*. A 3rd and 4th character each require frame works with two dividing wires; a 5th and 6th character require four such wires; in general, counting characters by couples, each of the *n*th couple will require a frame work with $2n-1$ dividing wires. On this principle machines for any number of logical terms may be constructed much more easily than has yet been supposed.” (JHUC 11, p.150)

43. *The External World*. J.B. Peterson.

44. *On the Validity of Induction*. B.I. Gilman.

“Three themes of the subject were referred to and criticized viz.: - (1) Laplace’s principle of inverse probabilities – (2) Mill’s doctrine of the uniformity of nature – (3) Mr Peirce’s material view of Probabilities and the adaptation of the mind to the universe.” (MB)

June – October 1881

No data.

Eighteenth Meeting. 15 November. Chair Peirce. B.I. Gilman secretary (numbering of talks end here) El. Peirce as President. 10 persons present.

PRINCIPAL PAPER:

45. (16.) *Theories of Induction*. B. I. Gilman.

“... The concluding part of the paper embraced a description of the theory of Probable Inference proposed by Mr. C.S: Peirce. The paper was followed by some remarks upon the subjects from Mr. Peirce.”

Minor communication:

46. *English Deism and the Philosophy of Religion*. G.S. Morris.

“... At the conclusion of this paper Mr. Peirce mentioned having just received and looked over for the first time a copy of Prof. Schlötel’s work on Logic in regard to which the author had last summer accused him of plagiarism.” (MB, cf. SiL p.203)

November-December 1881

No data.

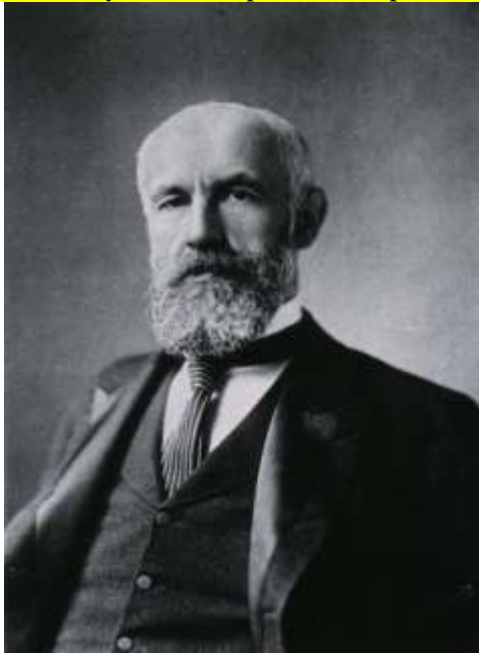
1882 (1881 sic., MB)

Nineteenth Meeting. 17 January. Chair Peirce. X persons present.

PRINCIPAL PAPER:

47. (17.) Edward von Hartman. Dr G. Stanley Hall. FACULTY

“Johns Hopkins’s first professorship in philosophy: A critical pivot point in the history of American psychology” by Christopher D. Green: “The first professorship in philosophy at Johns Hopkins University was contested in the early 1880s by two of the most prominent and influential scholars in America: Charles Sanders Peirce and George Sylvester Morris. A third figure also vied for the position, although he was much less well known at the time: Granville Stanley Hall. Through a series of unexpected circumstances, Hall ultimately won the professorship and then used it to leverage an extraordinary career that included his



opening the first American research laboratory in psychology, establishing the *American Journal of Psychology*, becoming president of Clark University [modelling it after the JHU], founding the American Psychological Association, and profoundly affecting the character of developmental psychology in America.”

“Why the appointment, for which all of them [Peirce, Morris, Hall] had been considered, fell to me I was never able to understand unless it was because my standpoint was thought to be a little more accordant with the ideals which then prevailed there.” (*Life and Confessions*, 1923). [Today, too, the philosophy positions are lost to psychology & education studies...]

Illustrations “one of the most important of American contributions to philosophy” (GSH 1879). Remained in good terms with Peirce throughout: GSH to CSP (Jan 28 1893): “I am drawing up ... a history of psychology in this country ... Psychology to be interpreted in the

largest possible sense, to include Logic, Aesthetics, history of Philosophy, Metaphysics, etc.” ... please give me titles and publications and digests of your works and suggestions. (GSH to CSP Feb 27 1900): “indeed there are few people in the country or world whose good opinion on such matters I value so highly.” In preparing Hall’s papers his secretary comes across material on Peirce’s logic of science and contacts Peirce for references to his published books on those (Jul 23, 1900). (GSH to CSP Sep 1, 1900) “like all your friends I felt very anxious to have your scheme of publication put through and subscribed for everything you should publish.”



Minor communication:

48. The Logic of J.S. Mill. C.S. Peirce.

Twentieth Meeting. 14 February. Chair Gilman (Peirce absent). 7 persons present.

PRINCIPAL PAPER:

49. (18.) On a Logical Algebra. O.H. Mitchell. (conclusion deferred)

Published in SiL as “On a New Algebra of Logic”

50. Review of Certain Points in Murphy’s “*Habit and Intelligence*”. Edmund Beecher Wilson. FACULTY

“This paper was an examination of the evidence, brought forward by Mr. Murphy, in support of the proposition that there are many cases in the organic world where structure has been laid down as a preparation for function, before the function could be brought into action. If such structures can be shown to



exist, natural selection or the survival of the fittest will not explain them, and they can only be accounted for under the assumption of a directive force or agency; this power is believed by the author to be an organizing intelligence. Murphy's argument is defective in two essential points: in the first place, the imperfection of our knowledge in regard to the functions of certain structures in the lower animals is taken as equivalent to a demonstration that such structures perform no functions; and in the second place, the conditions resulting from the cessation or transformation of function are not considered. It is absurd to maintain that a structure performs no function because we cannot perceive it, for it has often happened that structures which upon superficial examination appeared useless, have been found to be in reality

of vital importance to the organism. On the other hand, there are countless cases of structures which were once functionally active but have now lost their usefulness. Looking into the particular biological evidence introduced by the author of "Habit and Intelligence" we find that some of it is clearly opposed to known facts. The statement, for example, that the abdomen of the Zoea and the *chord* of the Ascidian larva are structures devoid of function simply shows that the author cannot have studied the uses of these structures in the living Zoea or Appendicularia. In other cases, as in considering the metamorphoses of Crustacea, Mr. Murphy has overlooked the fact that the present structure of an organism has been determined in accordance not only with the present, but also with all past conditions of life, and that uniformity of conditions at present does not imply uniformity in past time. The cases of "structure in anticipation of function" brought forward by the author as proof of a formative agency in evolution are in every instance open to a quite different interpretation, and the validity of the entire argument based on this evidence must therefore be seriously questioned." (JHUC)

E.B.W. (1856–1939), a pioneering American zoologist and geneticist, graduated Yale 1878. PhD JHU 1881. President of the American Association for the Advancement of Science in 1913.

51. A Review of Bowne's "Metaphysics". Benjamin Eli Smith. FACULTY

"The value of this work lies mainly in the fact that it directs attention to the philosophers Herbart and Lotze who are practically unknown in this country, but whose systems represent the most important phase of German speculation... Psychology cannot indeed determine the logical validity of a metaphysical conception but in many cases it supplies the data necessary for this determination." (MB)



B.E.S. (1857-1913) Assistant Editor of *Century Dictionary*, Editor of CD Supplement. Invites Peirce's contributions, Peirce writes up to 16,000 definitions.

Twenty-first Meeting. 14 March. Chair Peirce. 9 persons present.

51. On a Logical Algebra (cont.). Mitchell.

"This paper considered a system of propositions in which a universe of time was treated in conjunction with the universe of class terms and gave the algebra of such propositions." (MB) [Ideas of diagrammatic logic begin to emerge, see Peirce to OHM Dec 21, 1882.]

Minor communication:

52. Wundt's Theory of Volition. Benjamin Eli Smith.

Twenty-second Meeting. 25 April. Chair Peirce. 8 persons present.

PRINCIPAL PAPER:

53. (18.) On Propositions and the Syllogism. B.I. Gilman.

54. Remarks on the Foregoing Paper. C.S. Peirce.

Twenty-third Meeting. May. Chair Peirce. 5 persons present.

PRINCIPAL PAPER:

55. (19.) *Consciousness and Reality*. M. I. Swift.

56. *On Propositions called spurious*. B. I. Gilman.

Meanings of distributive 'any' in plural and singular contexts.

September 1882 Peirce gives a general lecture at JHU on the study of logic (W4, p.380): "a man needs to be more than a mere specialist; he needs such a general training of his mind, and such knowledge as shall show him how to make his powers most effective in a new direction. That knowledge is logic."

Twenty-fourth Meeting. 17 October at JHU.

No communications.

"A preliminary meeting of the Club was held. ... Owing to the absence of the President little was done. Prof. Geo. S. Morris took the Chair and explained to those present the objects of the society and the methods of its work. Upon motion of Mr. Cattell, Mr. Jastrow was asked to contact with the President and make arrangements for the next meeting of the Club." (MB)

Twenty-fifth Meeting. 14 November. Chair Pierce [sic.], Cattell sec. 7 members present.

"The president made some opening remarks, explaining the object of the club, and mentioning as amicable[?] subjects for treatment the data of ethics and spurious propositions."

57. *Samuel Tyler of the Baltimore Bar*. C.R. McDaniel.

"ST wrote on philosophical subjects" (MB)

El. President G.S. Morris, Cattell sec. Jastrow third member of the exec.committee. "After some discussion the meeting adjourned." (MB)

Twenty-sixth Meeting. 12 December. Chair Morris. "23 gentlemen present".

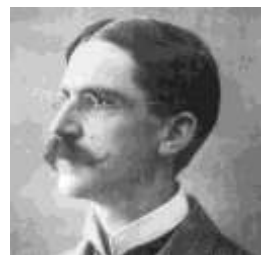
PRINCIPAL PAPER:

58. (20.) *University and Philosophy*. G. S. Morris.

59. *Knowledge and the Relativity of Feeling*. John Dewey. Peirce's student.

KRF Published in *The Early Works of John Dewey*, 1882-1898, Volume 1. Morris's influence evident in that paper.

(GSM, March 1883, JHUP: "Memorandum respecting the work of the Philosophical Seminary, Sep-Dec 1882. Work was directed to the science of knowledge...Mr. Dewey's paper on Empedocles embodied an ingenious attempt to find, in the fragments of doctrine attributed to the philosopher, justification for a spiritualistic interpretation of his maxim, 'Like is known by like'. ..." [so while Peirce was largely absent, GSM run his own philosophical seminary during this semester]



60. *Review of Recent Philosophical Journals*. J.McKeen Cattell.

"Remarks were made by Mr. Rogers and Mr. Gilman." (MB)

J.M.C. (1860-1944), psychologist, first professor of psychology in the United States at the University of Pennsylvania, long-time editor and publisher of scientific journals and publications, most notably the journal *Science*. Under Wundt, Cattell became the first American to publish a dissertation in the field of psychology (*Psychologische Untersuchungen (Psychometric Investigation)*, University of Leipzig, 1886). Cattell tried to explore the interiors of his own mind through the consumption of the then-legal hashish. President of the American Psychological Association in 1895. Well known for his involvement in creating and editing



scientific journals, Cattell was so involved in owning and publishing journals that his research productivity declined. He founded the journal *Psychological Review* in 1894 along with James Mark Baldwin. He also acquired the journal *Science* and, within five years, made it the official publication of the American Association for the Advancement of Science, 1895-1900.

Commented on Peirce & Jastrow. Peirce corresponds with Cattell in 1903 on the Syllabus of his 1903 Lowell Lectures of which Cattell wants to print the classification of the Sciences section in the new *Journal of Philosophy, Psychology and Scientific Methods* (Cattell to CSP Dec 28, 1903).

1883

Twenty-seventh Meeting. 12 January. Chair Morris. "At the invitation of Pres. Gilman the club met at his house. 17 members present" (MB).

PRINCIPAL PAPER:

61. (21.) *The Logical Problem*. Joseph Jastrow. Peirce's student.

J.J. (1863-1944), PhD 1883 JHU, 1888- Professor U. Wisconsin-Madison. APA President.

"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. ... he had the pedagogic gift to an unusual degree, had it by dower of nature, as some men handle a pencil and others the bow of a violin." (J.J., "CSP as a Teacher", 1916)

"On small differences in sensation" (with CSP 1885), **the first real randomized experiment**. "America's first pop psychologist"



62. Prof. Morris gave some account of the life and writings of Henry James. Remarks on both of the above subjects were made by Mr. Pierce. Mr. Dewey spoke on the writings of J. H. Green." (MB). "The Philosophical Work of Henry James, Sr. G.S. Morris." (JHUC)

63. Writings of J.H. Green. John Dewey. (JHUC)

Twenty-eighth Meeting. 13 February. Dr. Hall el. President. 21 members present.

PRINCIPAL PAPER:

64. (22.) *A Study of Reaction Time and Attention in the Hypnotic State*. G.S. Hall.

65. Mr. Joseph Cook and the Philosophy of Lotze. J.M. Cattell.

66. *A Review of Dr. Hopkins's "Outline Study of Man"*. Albert Harris Tolman.



A.H.T., (1856-), BA Williams College 1877, Ph.D. Strasburg University. Professor of English, Ripon College (1884-1893), University of Chicago Assistant professor (1893-1907), Dean (1895-1900), full professor (1914-1925). Archives at University of Chicago Library.

Questions on Shakespeare, 1918, a syntactic and semantic and logical analysis of Shakespeare's language.

“Mr. Cattell spoke on ‘Mr. Cook of Boston’. Remarks on this subject were made by Mr. Pierce and Dr. Hall.”(MB)

Twenty-ninth Meeting. 13 March. Chair Hall. 22 members present.

PRINCIPAL PAPER:

67. (23.) The Development of Sight in the Lower Organisms. Newell Henry Martin. FACULTY



“Martin’s emphasis on methods and on results echoes convictions expressed by Hopkins philosopher Charles Saunders Peirce (1838-1914) as well. Peirce stressed that “This is the age of methods; and the university which is to be the exponent of the living condition of the human mind, must be the university of methods” (Hawkins, 1960, p. 223). Science and philosophy should work closely together, Peirce declared, and he set about facilitating that communication. He invited students and faculty to gather around his open fire for discussions in those early years when the Hopkins environment represented, as philosopher Josiah Royce put it, a “dawn wherein ‘twas bliss to be alive” (French, 1946, p. 45). The community was small and perhaps Martin and his students actually joined Peirce for those discussions. Martin and Peirce were reportedly good friends (Feibleman, 1946, p. 21). Whether Martin was directly influenced by Peirce, or whether they both responded to similar influences in the Hopkins setting generally, their ideas about what science should do reflect closely parallel commitments. Unfortunately, Peirce suffered some emotional instability, according to his critics, and for a

variety of reasons was not reappointed at Hopkins after 1883-1884. This despite reassurances from Gilman and Peirce’s expectation that he would be kept on (Hawkins, 1960, p. 195). There is no hint that any other philosophers achieved such sympathy with the biologists as Peirce had, with his pragmatic emphasis on methods and results.”

H. N. Martin and W. K. Brooks: Exemplars for American Biology? Jane Maienschein *American Zoologist*, Vol. 27, No. 3 (1987), 773-783

H. Newell Martin—A Remarkable Career Destroyed by Neurasthenia and Alcoholism FYE *J Hist Med Allied Sci* 1985; 40, 133-166

http://www.archive.org/stream/circulars02univgoog/circulars02univgoog_djvu.txt

68. Perception and Reflex Action in the Frog. W. T. Sedgwick.

“Remarks were made by Mr Pierce.” (MB)

Thirtieth Meeting. 10 April. Chair Hall. 8 members present.

PRINCIPAL PAPER:

69. (24.) Hegel and the Theory Categories. John Dewey.

70. A Note on Mechanical Logic. Joseph Jastrow.

“Mr Pierce who was to have read the principal paper could not be present. Mr. Dewey read a paper on ‘Hegel and the Theory of Categories’. Mr. Jastrow presented a Note on Mechanical Logic. Remarks were made by Dr. Hall and Mr. Gilman.” (MB)

[Peirce divorces Zina on 24 April. Marries Juliette 30 April. Both sail to Europe 2 May.]

Thirty-first Meeting. 8 May. Chair Hall. 22 members present.

PRINCIPAL PAPER:

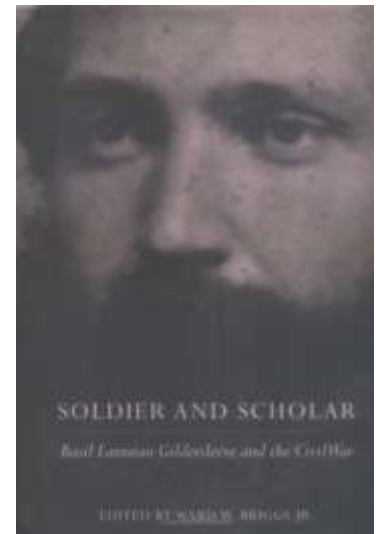
71. (25.) Rhythm in the Classic Languages. Basil Lanneau Gildersleeve.
FACULTY

B.L.G. (1831-1924), PhD 1853, Professor of Greek, Virginia, JHU.

BLG on JHU: "The greater freedom of action, the larger appliances, the wider and richer life, the opportunities for travel and for personal intercourse have stimulated production and have made my last 14 years my most fruitful years in the eyes of the scholarly world."

"'useful'...were better banished from the university vocabulary." (Baltimore *Evening Bulletin*, Feb 23, 1877)

Peirce's travel companion to Europe spring 1880. "[Peirce] has been kind to me in his way, and if he were always as he can be sometimes, he would be a charming companion." (W 4, xxxix)



72. Wundt's 'Logic of Chemistry'. Ira Remsen. FACULTY

I.R., (1846-1927), a chemist who, along with Constantin Fahlberg, discovered saccharin. The second president of JHU 1901-1913 and continued as professor of chemistry.

In his inauguration speech 22 Feb 1902, he pays tribute to Peirce, as "Generous encouragement was given to the the publication of important treatises, like...the studies in logic of Mr. Peirce and his followers". (JHUC XXI, p.38)

D.C. Gilman would never make such a mention of Peirce during his presidency which lasted until 1902. In Gilman's book on JHU, there is no mention of Peirce!



EP ext.note: 1902 "on November 1, Peirce wrote to the Secretary of the National Academy of Science, Ira Remsen, about his intention to attend the November meeting in Philadelphia "to present a long paper 'On the Logic of Research into Ancient History.'" This seems to be the first of at least the three occasions in which Peirce is contacting his former students and colleagues now in high positions (Remsen, Sedgwick, Cattell) to assist him to have a chance to give lectures. CSP corresponds with IR until at least 1906.

From GSM JHU papers: "*Metaphysical Club*. This organization held its first meeting Oct 28, 1879. Since then monthly meetings have been held. During the four years [until] June 1883 31 such meetings were held, as which were read 72 papers and communications, of which 39 may be classed as major, and the remaining 33 as minor; these papers being presented by 32 different persons. Papers here presented have been published in Princeton Review. Mind. Contributions to Logic [Studies in Logic]. Journal of Speculative Philosophy. [Bibliography follows, listing 56 articles and books by JHU students & faculty]"

[Peirces return mid-September. Enrolment down. Ordeal begins.]

Thirty-second Meeting. 9 October. Chair Morris. 17 members present.

PRINCIPAL PAPER:

73. (26.) The Philosophical Conception of Life. G.S. Morris.

“Study of the Conception of Life. Remarks were made by Mr. Peirce, Mr. Bruce and Mr. Dewey. Mr. Peirce preferred postponing his paper on ‘a xxxx to the theory of probability’ to a future meeting.”

74. Galton’s *Inquiry into Human Faculty*. Joseph Jastrow.

“Remarks were made by Mr. Peirce and Dr. Franklin.”

Thirty-third Meeting. 12 November. Chair Morris. 25 members present.

PRINCIPAL PAPER:

75. (27.) *The Psychology of Consciousness*. John Dewey.

“Remarks were made by Mr. Pierce. At Mr. Pierce’s request, Dr. Franklin presented with his paper” (MB)

76. Mr Grant Allen on *Idiosyncrasy*. Fabian Franklin.

“Remarks were made by Prof. Morris and Mr. Jastrow. Mr. Pierce then read his

77. Reply to Professor Morris on *Life*. C. S. Peirce (JHUC)

Thirty-fourth Meeting. 11 December. Chair Morris. 13 members present.

PRINCIPAL PAPER:

78. (28.) *Materialism, Spiritualism and the Scientific Spirit*. Joseph Jastrow.

Minor communications:

79. *The Design Argument*. Adam T. Bruce. (Fellow in biology)

Peirce remarks on the paper. ATB dies early, The Bruce Fellowship established.

80. Delbouef on *Living and Dead Matter*. John Dewey.

1884

Thirty-fifth Meeting. 17 January. Chair Morris. 9 members present.

9 January: “There being no persons present, the meeting adjourned...”

PRINCIPAL PAPER:

81. (29.) *Chance and Design*. C. S. Peirce. [W4: /Design and Change/ sic.]

“Mr. Peirce, Dr. Franklin, Prof. Remsen, Mr Dewey and Mr Jastrow as well as the President took part in the discussion. Prof. Morris reviewed

82. W. T. Harris’s *Philosophy in Outline*. G. S. Morris.

Thirty-sixth Meeting. 12 February. Chair Hall. 17 members present.

PRINCIPAL PAPER:

83. (30.) *The nisus formativus in sane and insane minds*. G. S. Hall.

84. *Review of Recent Paper on the Origin of Death*. Henry Herbert Donaldson.

HHD’s paper was “much discussed” (MB)

H.H.D. (1857-1938), JHU fellowship in biology, 1881, H.N. Martin SV, PhD 1885, G.S. Hall SV. Professor of Neurology, University of Chicago, 1892.

Thirty-seventh Meeting. 11 March. Chair Hall. 16 members present.



PRINCIPAL PAPER:

85. (31.) *The New Psychology*. John Dewey.

86. *The Body as a Spiritual Residence*. E.M. Hartwell.

“The president xxxxx begin the club xxxx xxxxxxxx purposing to write the serious clubs having philosophical interests in xxxxxxxx xxxx the xxxxxxxx xxxx proposition was xxxxxxxx and on motion of Mr Jastrow it was agreed that **the President should appoint a committee consisting of one member at least**, of ccc club xxxxxx to consider the matter. On motion the meeting adjourned.” (MB, lots of lacunae, illegible words)

Thirty-eighth Meeting. 22 April. Chair Hall. 11 members present.

PRINCIPAL PAPER:

87. (32.) *Mind as a Social Factor*. Lester Frank Ward



“author of *Dynamic Sociology*, by invitation of the club” (MB)

L.F.W. (1841–1913), an American botanist, paleontologist, and sociologist. He served as the first president of the American Sociological Association.

“Ward gave the essay as a speech to the Anthropological Society in March 1884... In April he delivered a revised version at the MC of JHU, an institution founded by CSP and other professors at the graduate institution. Just a few years after Ward tried to attend Hopkins to receive graduate education, he was now speaking before an audience of social thinkers that would reshape the ways Americans thought about American politics and social life into twentieth century.” (Rafferty 2003, p.150)

88. *On the Syllogism*. J. R. Harris.

Fellow of mathematics at Cambridge and professor of New Testament Greek at JHU, 1882–85.

The only other logic text seems to be James Rendel Harris, “The Cretans are always Liars”, *Expositor*, 1906.

“both these papers were subject of discussion.” (MB)

“since reading the above paper [long abstract published in JHUC] I find that the relations of the separate moods and figures to which allusion has been made above were given by Mr. Peirce in a paper read before the American Academy of Arts and Sciences in 1867.” (JHUC)



Thirty-ninth Meeting. 13 May. Chair Peirce (Hall absent). 11 members present.

PRINCIPAL PAPER:

89. (33.) *Logic of Religion*. C.S. Peirce.

“It had special reference to the proofs of the existence of a God.” (MB)

90. *The Writings of the Insane*. H. Steiner. (Lewis H. Steiner?)

???

Hall appointed to fill philosophy position as professor of psychology and education. Peirce & Morris leave JHU, Hall presides.

Fourtieth Meeting. 18 November. Chair Hall. X members present. “The attendance was large” (MB) [to secure vote for Hall’s proposal?]

“Prof. Hall in behalf of the committee which he had appointed last spring suggested that the objects of those intended in philosophical matters would best be furthered by **discharging the Metaphysical Club** and beginning a new organization as soon as and in such a way as circumstances would permit. On motion of Mr Jastrow this suggestion was put to vote and carried. Prof. Hall then made a few remarks. He called attention to the fact that for the first time the members of the Philosophical Department met in their own rooms. This might be taken as a favourable symptom of the very general interest in Psychology now prevalent. This interest is made evident by the new methods and xxxx constantly appearing from the hands of those specially devoted to the work and from the many remarks made by colleges and higher schools for instruction competent of giving good representations of these new movements. ...”

[Clash btw Peirce & Hall seems to have been that over anti-psychologism/psychologism.]

91. On Fred. Kapp’s *Grundriss einer Philosophie der Technik* and on du Prel’s *Philosophie der Mystik*. G. S. Morris.

92. On *The Magnet*, a Fourteenth Century Manuscript of Petrus Peregrinus. C.S. Peirce. **LAST PAPER**
“The work itself is interesting and has some scientific value” (MB)

93. On a Series of Books on Ultra-Longevity. Joseph Jastrow.

94. Notice of a recent insanity trial in the current Philadelphia *Americae*. Mr. Adler [??]

95. On Meynert’s *Psychiatrie*, Radestock’s *Genie u. Wahnsinn*, and Sully’s *Psychology*. G.S. Hall.

“The remainder of the evening was occupied in **discussing the methods of psychical research**. Prof. Hall, Mr, Peirce, Dr. Franklin, Prof. A Carroll Lewis of Philadelphia, Mr Arges(?) and others took part in the discussion. So(?) action was taken. On a suggestion by Dr. Hall, the meeting adjourned until a fitting opportunity for further meeting would present itself. The attendance was large and the meeting adjourned at 10:20 P.M.” (MB)

16 December. Chair Hall. 20 members present.

(as this is no longer officially the Metaphysical Club, the numbering is not retained)

A Case of Visualized Number Forms. G.E. de Steiner. [??]

A Case of Contagious Frenzy. J.C.C. Newton. [??]

Observations on the Psychology of Reading. A.H. Gross. [??]

Final Causes. A.T. Bruce.

An Educational Study. C.H. Levermore. [??]

Intellectual development of four boys attending school in a New England county town. Mr. Sevenwork [??]
“a highly interesting account” (MB)

Report on Visual Location and the Sensations of Heat. H.H. Donaldson.

“Prof. Hall postponed his sketch of Psych. research theory to the xxx of the xxx and mentioned that anyone knowing of a good researcher(?) would do good service by getting him to come to the laboratory(?). He also noted that those interested in forming a philosophical meeting should xxx xx on Thursday evening at 18.” (MB)

1885

27 January. Chair Hall. 24 members present.

The Introspective Method. A. H. Gross.

The Newly-discovered Organs of the Heat Sense. H.H. Donaldson.

Demonstration of Logical Machines. Joseph Jastrow.

“These were actually the Stanhope Demonstrator. Mr Marquand’s machine for syllogistic variations, and two machines of his own. Mr Jevons was xxx machines when descrxxx.” (MB)

The Method of Philosophy. G. S. Morris.

“The paper dealt with the methods of philosophy in relation to those of xxxxxxxxx general. The philosophical method was held to be most perfect in Hegel and the essay was part of an introduction to a construction of two of Hegel’s works. Prof. Hall commented on the paper.” (MB)

3 March. Chair Hall. 14 members present.

The Boy in Education. C. H. Levermore.

Logical [Clerical?] Study of Mental Diseases. W. Noyes. Jr.
Physics fellow at JHU.

Final Causes. M.I. Swift.

“Remarks were made by Mr. Story.” (MB)

Two Psychophysical Studies. G. S. Hall.

In 1885 MC comes to be “merged with rpsychological seminary, of which no records were kept.” (MB, preface)

End of MB.

Not a speaker but Peirce’s student and a significant career following Peirce’s instruction:

Taber, Henry (), PhD JHU 1888, *On Clifford’s n-fold algebras* (SV W.E. Story, also to Clark). Professor of Mathematics, Clark University. “Since Peirce was not reappointed [1883-]...Taber switched fields and began to take more mathematics courses.” (p. 44, *A Century of Mathematics in America* 3, Peter L. Duren, Richard Askey, Uta C. Merzbach, Harold M. Edwards). Taber became a function theorist who **continued lecturing at Clark since 1890, including topics on Peirce’s logic and the theory of induction**. Barnes (1925) wrote that “The ablest member of the department [mathematics, Clark University] was Henry Taber” (Barnes 1925, p. 275). **Students of William Story and Taber included** such much better known pioneers as Solomon **Lefschetz** and Olaf Kristofer **Lie**. “The careers of both Story and Taber...had a significant impact on the development of mathematical research in America” (Duren et al., 47).

Taber applies for a chair in Columbia College and asks Peirce’s for a recommendation letter (HT to CSP 23 Feb 1892). Peirce sends it at once, but there turned out to be no vacancy at the time. (Taber returns the letter, it is not preserved.) A bit later, he contacts Peirce for a recommendation for a professorship in mathematics at Chicago. Peirce tells that if there is such a position, he would like to apply for it himself. On 5 March 1885,

while already at Clark, Taber had applied for a vacancy in the mathematical department and wanted to meet Peirce personally in NY.

Taber was having a joint session and J. M. Peirce was in the programme in the AMS meeting 1899. But Charles Peirce's paper was absent and his paper "Determinants of quaternions" was read by title.

In 3 September 1931 Taber recounts to Paul Weiss: "I had the privilege of studying two years at Johns Hopkins under Peirce, the last two years of his connection with the University. During that period I ... contemplated making logic the major subject for my doctor's degree – which plan I abandoned, owing to Peirce's connection with the University then terminating, and his being succeeded by Professor Emmot ... who was quite ignorant of formal logic except the very rudiments. ... I have been told that James, or perhaps it was Royce, I have forgotten which, had said, that **Peirce impressed him as potentially the most powerful intellect he had ever known. I would certainly subscribe to this estimation of Peirce's powers.**"

Peirce showed that of linear associative algebras there are only three in which division is unambiguous. These are ordinary single algebra, ordinary double algebra, and quaternions, from which the imaginary scalar is excluded. He showed that his father's algebras are operational and matricular. Lectures on multiple algebra were delivered by J. J. Sylvester at Johns Hopkins and published in various journals. They largely treat the algebra of matrices. The theory of matrices was developed as early as 1858 by Cayley in an important memoir which, in the opinion of Sylvester, ushered in the reign of Algebra the Second- Clifford, Sylvester, H. Taber, C.H. Chapman, carried the investigations much further. (Cajori, *A History of Elementary Mathematics*).

APPENDIX A

Peirce's Students (from the JHUC data)

Academic Year **First Half-Year Students**

Second Half-year Students

Logic (General Course)

John Core, Willian Cumming, Henry L. Gantt, George F. Gephart, B.I. Gilman, John M. Glenn, E.M. Hartwell, George F. Hussey, Edmund A. Jarvis, Christine Ladd-Franklin, Alland Marquand, Hugh Newell, Charles W. Nichols, Waldo S. Pratt.

Probabilities.

4 students.

1879-1880

Medieval Logic.

Marquand, O.H. Mitchell, Newell, Nichols, W.I. Strigham.

Mill's Logic

8 Students.

Elementary Logic

Gustav Bissing, Willian H. Howell, Adorian J. Robison, Henry A. Short, Lewis W. Wilhelm.

Elementary Logic.

Robinson, Short, Wilhem.

1880-1881

Advanced Logic

Bissing, Fabian Franklin, Gilman, Ladd, Marquand, Mitchell, Robert W. Prentiss

Advanced Logic

Bissing, Ellery W. Davis, Gillman, Marquand, Mitchell, Robert W. Prentis.

Elementary Logic

Charles T. McClintock, H. F. Reid, Thorstein Veblen.

Elementary Logic.

Bissing, McClintock, Mitchell, E.D. Preston, Morrison, I.Swift.

Advanced Logic

Davis, Gilman, Mitchell

Advanced Logic

Gillman, Ladd, Mitchell, Preston, Switt

1881-1882

Readings in Logic.**Logic of Relatives.**

Only for students of mathematics.

1882-1883

Logic

Maurice Fels, , W.L. Glenn, C.H. Howard, Joseph Jastrow, C.G. Merry Man, G.D. Penniman, W. J. Witzgen bacher.

Logic

Howard, Jastrow, Merryman, Penniman, Perkins, Taber, H. W. Williams.

Advanced Logic

John Dewey, Jastrow, C.W. E. Miller, Taber

Advanced Logic

Jastrow, Taber.

Philosophical Terminology

Dewey, Jastrow

1883-1884

The Psychology of Great Men.**Probabilities**

Davis, Julius, J. Faerber, Arthur S. Hathay, Jastrow, Henry B. Nixon, William E. Story, Taber.

Morris, G.S.: "Fellows in philosophy; Van Vort, Royce, Marquand, Pratt, Burt, Swift, Gilman, Cattell, Dewey."

APPENDIX B: Summary of the Metaphysical Club talks**1879**

28.8.

The Metaphysical Fallacy. C.W. Nichols.

The Doctrine of Limits. B. I. Gilman.

The Calculus of Leibniz and That of Newton. Henry L. Gannt.

Zeno's Arguments against Motion. Waldo Selden Pratt.

Non-Euclidean Space. Christine Ladd. (read by Peirce).

Critique of Whewell on Limits. Allan Marquand.

11.11.

Questions Concerning Certain Faculties Claimed for Man. C.S. Peirce.

Translation of Leibniz's *Meditations of cognitione, veritate et ideis*. B.I. Gilman.

The Determinate Form of the Logical copula. Allan Marquand.

9.12.

Reflex Action and Its Analogies in the Fixing of Belief. Edward Mussey Hartwell.

The Ethics of Belief. David Stewart.

1880

13.1.

Translation of Philodemus. Allan Marquand.

Discussion. C.S. Peirce.

Moral Insanity as a Cause of Crime. C.W. Nichols.

Grant Allen's *Physiological Aesthetics*. W.S Pratt.

12.2.

Helmholtz's Theory of the Development of Musical Scales. W.S. Pratt.

The Evolution of Nerves and Nervous Systems. E.M. Hartwell.

9.3.

Kant's "*Critic of the Pure Reason*" in the light of Modern Logic. C.S. Peirce.

Ernst Schöder's *operationskreis des Logikkalkuls*. W.I. Stringham.

Discussion. C.S. Peirce.

4.,5.,10.,11.

The Logic of the Epicureans. Allan Marquand.

On Purpose in Thought. Josiah Royce.

A Machine for Producing Syllogistic Variations. Allan Marquand.

A Method of Arriving at, and a New Notation for, De Morgan's Twenty Propositions. O. H. Mitchell.

Richards Wagner's Theory of Music as an Art. W.S. Pratt.
Wundt's *Logik*. G.S. Morris.
A Problem in Mental Physiology. W.T. Sedgwick.
Francis Galton's Psychological Inquiries. Allan Marquand.
Operations in Statistical Number. B.I. Gilman.
Hume's *Human Understanding*. B.C. Burt.
Leslie Stephen on Causation. G.S. Morris.
Hegelianism in St. Louis. C.W. Nichols.
12.
Understanding and Reason. *Verstand and Vernunft*. B.C. Burt.
Wundt's *Algebra of Logic*. Christine Ladd.
A Point of Logic Notation. Fabian Franklin.
2.
The Physiology of Visions. E.M. Hartwell.
Inhibition of Mental Action. W.T. Sedgwick.
Hypnotism. D.L. Brinton.
3.
J.G. Fichte's *Science of Knowledge*. M.I. Swift.
Hickok's View of Philosophy. F.E. Stebbins.
4.
On Relations between Sensations, by C. S. PEIRCE
Hegel's *Philosophical Propaedeutic*, by B. C. BURT
On the Relation of Induction to Hypothesis, by Ellery William DAVIS
Straight Lines and Parallels, by J. B. PETERSON
5.
Logical Machines. Allan Marquand.
The External World. J.B. Peterson.
The Validity of Induction B.I. Gilman.
10.
No data.
11.
Theories of Induction. B.I. Gilman.
Discussion. C.S. Peirce.
English Deism and the Philosophy of Religion. G.S. Morris.
12.
No data.

1882

1.
E. von Hartman. G.S. Hall.
J.S. Mill Logic. C.S. Peirce.
2. and 3.
On Algebra of Logic. O.H. Mitchell.
Murphy's Habit and Intelligence. E.B. Wilson.
Wundt's Theory of Volition. Benjamin Eli Smith.
Browne's Metaphysics. Benjamin Eli Smith.
4.
On Propositions and the Syllogism. B.I. Gilman.
Remarks on the Foregoing Paper. C.S. Peirce.
5.
Consciousness and Reality. M.I. Swift.
On Propositions Called Spurious, B.I. Gilman.
10.10.
No reports.

1882

14.11. (chair Peirce)
Samuel Tyler of the Baltimore Bar. C.R. McDaniel.
12.12. (chair Morris)
University and Philosophy. G.S. Morris.

Knowledge and the Relativity of Feeling. J. Dewey.
Recent Philosophical Journals. J. McKen Cattell.

1883

16.1. (chair Hall)
The Logical Problem. Joseph Jastrow.
The Philosophical Work of Henry James, Sr. G.S. Morris.
13.2. (chair Hall)
Reaction-Time and Attention in the Hypnotic State. G.S. Hall.
Mr. Joseph Cook and the Philosophy of Lotze. J.M. Cattell.
Dr. Hopkins's "Outline Study of Man". Albert Harris Tolman.
13.3. (chair Hall)
The Developmental of Sight in the Lower Organisms. Newell Henry Martin.
Perception and Reflex Action in the Frog. W.T. Sedgwick.
10.4. (chair Hall)
Hegel and the Theory Categories. J. Dewey.
A Note on Mechanical Logic. Joseph Jastrow.
8.5. (chair Hall)
Rhythm in the Classic Languages. B.L. Gildersleeve.
Wundt's Logic of Chemistry. Ira Remsen.
9.10. (chair Morris)
The Philosophical Conception of Life. G.S. Morris.
Galton's *Inquiry into Human Faculty*. Joseph Jastrow.
13.11. (chair Morris)
The Psychology of Consciousness. John Dewey.
Reply to Professor Morris on *Life*. C.S. Peirce
Mr Grant Allen on Idiosyncrasy. Fabian Franklin.
11.12. (chair Morris)
Materialism, Spiritualism and the Scientific Spirit. Joseph Jastrow.
The Design Argument. A.T. Bruce.
Delbouef on Living and Dead Matter. John Dewey.

1884

17.1. (chair Morris)
Design and Chance. C.S. Peirce.
W.T. Harris's *Philosophy in Outline* G.S. Morris.
12.2. (chair Hall)
The Nisus Formitivus in Sane and Insane minds. G.S. Hall.
Review of Recent Paper on the Origin of Death. H.H. Donaldson.
11.3. (chair Hall)

The New Psychology. John Dewey

The Body as a Spiritual Residence. E.M. Hartwell.
22.4.
Mind as a Social Factor. Lester F. Ward.
On the Syllogism. J.R. Harris.
13.5. (chair Peirce)
The Logic of Religion. C.S. Peirce.
The Writing of the Insane. H. Steiner.

Peirce leaves JHU, Hall presides.

1884

18.11. (chair Hall).
On Fred Kapp's *Grundriss einer Philosophie der Technik* and on du Prel's *Philosophie der Mystik*. G.S. Morris.
On *The Magnet*, a Fourteenth Century Manuscript of Petrus Peregrinos. C.S. Peirce.
On a Series of Books on Ultra-Longevity. Joseph Jastrow.
On Meynert's *Psychiatrie*, Radestock's *Genie u. Wahnsinn*, and Sully's *Psychology*. G.S. Hall.

Discussion of Psychical Research.

16.12. (chair Hall)

A Case of Visualized Number Forms. G.E. de Steiner.

A Case of Contagious Frenzy. J.C.C. Newton.

Observations on the Psychology of Reading. A.H. Gross.

Final Causes. A.T. Bruce.

An Educational Study. C.H. Levermore.

Report on Visual Location and the Sensations of Heat. H.H. Donaldson.

1885

27.1.

The Introspective Method. A. H. Groos.

The Newly-discovered Organs of the Heat Sense. H.H. Donaldson.

Demonstration of Logical Machines. Joseph Jastrow.

The Method of Philosophy. G.S. Morris.

3.3.

The Boy in Education. C.H. Levermore.

Local Facilities for the Study of Mental Diseases. W. Noyes. Jr.

Final Causes. M.I. Swift.

Recent Psychophysic Studies. G.S. Hall