

# Peirce Project Newsletter

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## Congress Slashes NEH Budget: Peirce Project Hurt Again

In the previous issue of the Newsletter (Summer 1995) it was reported that PEP had not been successful in the 1994-95 NEH grant competition (for a grant to support the chronological edition for 1995-97). Upon being notified in March that we had not received a grant, the project director went to Washington to discuss making a new application for the 1995-96 competition and was encouraged to do so. There was not much time left to prepare a new application, but with a concerted effort we beat the deadline (and even managed to get a draft to NEH in time for comments prior to the final submission in June). The new application had been examined and approved by several Project advisors and university officials and, once again, we had high hopes. On 15 September the project director received the following letter

## Peirce and the Year of the Computer

Arthur W. Burks, Executive Consultant for the Peirce Edition Project, helped design and build ENIAC, the first general purpose electronic computer. We asked him for his reflections on this "year of the computer" and for any related thoughts about Peirce.

1996 is the 50th anniversary of the dedication of the ENIAC (Electronic Numerical Integrator and Computer) the first *general-purpose* (and hence programmable) electronic computer. It was programmed by entering instructions on switches and plugging cables around the face of the machine.

I was one of the principal designers of the ENIAC, and worked on both the logical and the electronic design. Among several other undertakings, I conceived the basic structure of the master programming unit, and (paired with another engineer) I checked the complete design

(excerpted) from the director  
of the Division of Research  
Programs at NEH:

[continued...](#)

(except for input-output) for  
both logical and electronic  
correctness.

[continued...](#)

## Eller Brings Students into the Project [\(top\)](#)

Jon Eller's work as a textual editor began with a rare Ph.D. minor in Textual Studies and a critical edition dissertation directed by the editors of IU Bloomington's *A Selected Edition of W. D. Howells*. Over the years, he's never forgotten that students can play a significant role in the work of a scholarly editing project. Last fall he was able to work with a number of promising IUPUI undergraduates in his upper division editing course, and this semester he is directing five of these students in independent research at the Peirce Project. Two of these students are actually volunteers, reflecting how quickly scholars with an interest in editing texts can become hooked on the challenges that Peirce's papers provide.

Constance Marzouk has begun the long-range process of merging our Set 2 (working) copies of Peirce's correspondence into a single master chronological arrangement. Until now, the Set 2 copies of the Harvard letters have reflected the alphabetical arrangement of the Robin *Catalogue*, while the other major collections (National Archives, etc.) have been similarly arranged in their original archival order. Our Set 1 copies will continue to preserve these holding archive arrangements, but the chronological rearrangement of Set 2 will be of immense benefit to manuscript reorganization and historical research.

Marie Crist and Cynthia Davis began the

*Evening Post* for reprints of Peirce's *Nation* reviews and letters. They started with the period after 1881, when the weekly *Nation* and daily *Post* came under single ownership. So far they have discovered previously unknown *Post* reprintings of two reviews and an editorial. They are continuing with an exploration of the *Post* issues from the Volume 6 period (1886-1890), thanks to Ken Ketner's loan of a microfilm set from the Institute for the Study of Pragmatism at Texas Tech University. We will recap their findings in an upcoming issue. Josephine Banks, who has experience as a free-lance writer and editor, has been of great assistance to Jon Eller and staff Editorial Associate Cathy Clark as they create a completely new Editorial Guide for the Project. Allie Kopczynski is working with Eller on Peirce's gravity determinations for the Greely Arctic Expedition of 1881-4 (published in 1888), a complex text made even more difficult by the fact that Peirce was pioneering new ways to account for atmospheric effects on his pendulums as he was writing the report. This summer, Allie plans a second independent study course to work with Eller on Peirce's final unpublished gravity report (the magnum opus popularly known as The Lost Report). Eller is working with the Departments of English at Bloomington and Indianapolis to develop formal courses in scholarly editing to replace the independent study option now used to give academic credit to our first

semester by exploring microfilm copies of the *New York*

generation of student assistants.

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## Editor's Note [\(top\)](#)

Several recipients of the *Peirce Project Newsletter* (PPNL), concerned that they have not received an issue for some time, have inquired about its status. We apologize for the delay, but we do plan to continue publishing the PPNL. Several circumstances have combined to postpone this issue. For one thing, the cost is becoming an inhibiting factor. Each issue costs nearly \$3,000 to produce and mail to our almost 2300 readers (nearly half of them out of North America). Instituting paid subscriptions could cover costs, but we are hesitant to institute such a fee. (Nathan tells me, though, that we have not yet refused a contribution.)

[continued...](#)

## MLP BECOMES SPONSOR

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Logic Publishing has established a research sponsorship for the Peirce Project. MLP publishes *Modern Logic* (International Journal for the History of Mathematical Logic, Set Theory, and Foundations of Mathematics), *History of Logic Newsletter*, *History of Logic Calendar*, and MLP Books. By the terms of the sponsorship, MLP has donated copies of past publications (valued at over \$600) to PEP's research library and will continue to donate copies of all future publications. The Project thanks MLP and its director, Irving H. Anellis, for this support.

## Charles Ross visits PEP [\(top\)](#)

On invitation from Jon Eller and as a part of the Department of English Professional Development Series, Charles Ross (of the University of Hartford) visited PEP on February 21<sup>st</sup>. While at IUPUI he talked about his work developing tools and techniques for the hypertext editing of scholarly works. Professor Ross has edited the Penguin Edition of D. H. Lawrence's *Women in Love*, and most recently published (with Dennis Jackson) *Editing D. H. Lawrence: New Versions of a Modern Author*. Ross's presentation at IUPUI featured examples of hyperlinked multiple views of both Lawrence and works of Emily Dickinson, all showing how linking can provide the reader wide perspectives on alternate textual options.

## IN THE WORKS [\(top\)](#)

Among the major texts being prepared for Volume 6 is "A Guess at the Riddle" (1887-88), Peirce's first bold testing of his grand hypothesis that three elements (or categories) fundamentally underlie the active structuring of thought and nature. The surviving six chapters of the projected nine-chapter work never reached a fair-copy stage of development. Each chapter consists of one or more draft stages, with Chapters I and VI being the most complex. Chapter VI, "The Triad in Biological Development," has a fascinating textual history that is not readily apparent from earlier publications of this work.

[continued...](#)

## Probing the Communal Mind [\(top\)](#)

Several persons contributed answers or research leads to the questions asked in the last issue of the Newsletter: David Pfeifer, Bruce Thompson, Janice Deledalle-Rhodes, Volker Peckhaus, and Ivor Grattan-Guinness. We thank them for their much appreciated help. A few questions haven't received any answer yet: questions 1 (on Peirce's Nachlass), 2 (who is Mr. Söhmer?), 4 (identification of a play), 5 (identification of correspondence course students), and 10 (lecture on burlesque; who is Kirchheis?). Questions 6, 8 and 9 are not yet completely settled. Here is the state of affairs regarding a few questions:

We are looking for possible publications by the playwright Steele MacKaye, in which he expresses his views about dramatic expression. David Pfeifer suggested we scan the *New York Evening Post*, which we will do as soon as we get the microfilms. Any other suggestions?

*Qu. 7.* Janice Deledalle-Rhodes, a specialist on the science/religion conflict that Darwin's *Origin of Species* provoked in Britain and the USA, reminded us that the Presbyterian conflict had been going on for many years (since 1874 when Tyndall gave a speech to the British Association that split the Christian community down the middle), and that consequently finding an exact reference to the conflict referred to by Peirce might be like looking for a needle in a haystack. Deledalle-Rhodes suggested that the "discussion" alluded to might have something to do with Macloskie's articles in *The Presbyterian*

Peirce was alluding to this episode of the Presbyterian conflict that erupted in the winter of 1890. This supports our hypothesis regarding the dating of "Logic and Spiritualism." *Qu. 8.* We quoted a fragment page in which Peirce criticized an author regarding certain principles of logic. The Newsletter had hardly been mailed when PEP editors became convinced Peirce was referring to Leibniz. Although Leibniz sometimes distinguishes between the principle of contradiction and that of identity, he recognizes that they are ultimately one. And of course the principle of sufficient reason is his own. But the phrase "criterion of possibility" does not seem to appear in his works. The phrase does appear, however, in Kant's rejection of the Leibnizian ontological proof of the existence of God. Some readers offered alternative solutions, however. Ivor Grattan-Guinness suggested that Peirce might have been referring to F. H. Bradley, whose *Principles of Logic* (1883) contain a chapter devoted to the discussion of the principles of identity, contradiction, and excluded middle. Peirce's familiarity with Bradley's work supported this hypothesis, but a careful perusal of the relevant chapter and other portions of Bradley's book were not convincing. Volker Peckhaus suggested that Peirce might be referring to Hermann Ulrici (1806-1884) and his book *Compendium der Logik*. It turns out that Peirce did own a copy of the book, in which Ulrici indeed argues that there are two laws of thinking: the principle of identity and contradiction, and the principle of causality (sufficient reason). But Peckhaus could not find a place where Ulrici calls the first principle the criterion of

*Review* (1887-89) or with Warfield's lectures at Princeton (1888 and onwards) or with any number of others engaged in this controversy (for example, McCosh, Hodge, Watts, and Drummond). Bruce Thompson added an important clue when he signaled two articles that appeared in *The Nation* in the winter/spring of 1890, one by J. E. Learned on "Presbyterian trouble: revision of doctrines," and another by R. Ogden, "Compromise in theology." We asked our research assistant, Jack Musselman, to search *The Nation* looking for other relevant articles, and he found a number that were related. Nearly all had been published in the winter of 1890. Given that Peirce was so closely associated with *The Nation*, and was thoroughly familiar with its contents, we feel pretty confident that

possibility, although there are some suggestive passages. All things considered, so far, the editors think the probable reference is to Leibniz. *Qu. 9.* Peirce alluded to a period in the 1850's where, for a brief time, it had been likely that "the truth of hedonism would be generally admitted by candid thinkers." We asked for identification of this cultural moment, and David Pfeifer suggested that Peirce was perhaps talking about the Oneida Community (1848-1881), founded by John Humphrey Noyes. We are still considering this interesting lead but are keeping in mind that Peirce may have been referring to the wider utilitarian movement initiated by Bentham and Mill. Other views are welcome.

*Qu. 10.* We still need to learn who Kirchheis is.

## New Questions

### *Question 11.*

As noted in the works (p. 6), Peirce refers, in version 5 of chapter VI of "A Guess at the Riddle," to a statistical chart of a game of chances taken to 2,500 iterations, which leads him to formulate a "most important principle" about the frequency of variation increasing toward the future. That Peirce actually drew the chart is certain, given his description of it. But the original has been lost. Some preliminary attempts to recreate it have suggested that doing so is not as simple as it might appear. Would any of our readers care to make the attempt? We hope to print a reconstructed chart in the W6 Notes. You will find below the full paragraph in which Peirce describes the chart. For background material, please read the two excerpts that illustrate the in the works article in this issue. Note that the figures given in the sixteen-iteration chart in

### *Question 12.*

In chapter IV of "A Guess at the Riddle," Peirce refers to the three departments of the mind generally recognized since Kant: Feeling, Knowing, and Willing. He writes: "Where did this threefold division of the functions of the mind come from? Kant took it ready made from the Leibnizian writer Tetens. He drew a suggestion from the rhetoricians of the sixteenth century and they found it, in an imperfect form in their idolized Plato...." (MS 909: 45). Who are the rhetoricians Peirce is alluding to? Among thinkers that come to mind are Francis Bacon, who distinguished six faculties (reason, imagination, memory, understanding, will, and appetite), Melanchthon, Agricola, and Peter Ramus, but we would like a precise,

version 4 are Peirce's own and many are incorrect. The correct figures are given in *Essential Peirce 1*, p. 271. "The diagram shows curves of the distribution of wealth among the players at the end of the 100th, 400th, 900th, 1600th, and 2500th throws. What is called the moral wealth in probabilities is the logarithm of the wealth divided by the smallest amount on which a man can live. It is the earliest example of the recognition in a special case of the psychophysical law, which governs the relations of the outer and inner worlds. The moral wealth, then, measures the mental impression produced by physical wealth. I have reckoned the moral wealth along the horizontal axis of coordinates, and have taken the vertical coordinates of the different points of each curve so that the area included between two vertical lines, the curve, and the horizontal axis of coordinates should measure the number of players whose fortunes are intermediate between the two values corresponding to the vertical lines" (MS 909: 57).

textually founded, identification.

*Question 13.*

The *Nation* review of Abbot's *The Way Out of Agnosticism* (15 May 1890see left) was brought to our attention by Frank M. Oppenheim, S.J., who wonders if it may be Peirce's. Peirce had reviewed Abbot for *The Nation* in 1886, which might suggest that Peirce would be a likely choice to review him again, and the thought expressed in the "agnosticism" review does resemble Peirce's, but we could find nothing conclusive one way or the other among our resources. Ken Ketner, who edited Peirce's contributions to *The Nation* advised us that the review is unassigned in Haskell (the authoritative source for *Nation* review identifications) and that he remains open to attributing it to Peirce. We continue to study the review and to look for evidence of authorship but would appreciate help from the community anything to confirm or disconfirm Peirce's authorship or support either side.

## DIRECTOR'S REPORT [\(top\)](#)

A great deal has happened since my report in the last issue of this newslettersome good and some not so good. Among the better things I can report was the arrival in mid-January of Richard Miller to set up a Website for the Project and to help plan the electronic edition of the Writings. With the present issue, he has taken over as editor of the newsletter (best wishes to our previous editor, Beth Eccles, as she and her husband begin a new phase of their lives with their new daughter). Richard will be in Indianapolis through the first week of May but will continue his work for PEP

Although it would be wonderful to raise enough money to fully fund the edition with proceeds from the endowment, that would require the receipt of several million dollarsmore than we can reasonably expect. We would be content to raise enough to insure a significant annual contribution to our operating costs. Some of you will be approached by IUPUI's Development Office, which has agreed to conduct a feasibility study for us to help determine the level of contributions we should seek. Please be patient and try not to be offended if the approach is more direct and intrusive than

after his return to the University of Missouri at Rolla.

Continuing on a positive note, in August weas co-applicants with the Chair of the Department of Philosophy at Bloomingtonreceived a grant from Indiana University's Graduate School that has enabled us to hire a philosophy graduate student as a part-time research assistant for one year. This will speed up the bibliographical work for W6. We hope to be able to some day establish two or three graduate research assistantships on an on-going basis, but for now we are very glad for occasional blessings.

The bad news that I have to report is that our most recent application to NEH was eliminated from the competition for 1996 funding (see "Congress Slashes NEH Budget" on p. 1). I had tried very hard, after last year's failure with NEH, to make sure our new application was exceptionally strong, and I had some good reasons to believe that it was, so it was a great disappointment to learn that we were no longer eligible. (Fortunately for the James, Dewey, and Santayana editions, they remained eligible because of their "funded" status in 1995. Watch for the results of this year's competition; if any of the American philosophical editions fail to receive new funding be sure to let US public officials know that you disapprove! ) We have been invited to apply for next year's competition (applications are due in August), but have heard that the funding levels will be considerably less than in previous years. The US Congress has really eviscerated the National Endowments and editions can no longer expect to receive adequate funding from federal agencies. What is to be done? We are investigating the feasibility of a fund-

you would likeremember that they are trying to further our work.

We are also trying to find ways to involve external scholars and centers more actively in the ongoing work of the edition. Centers that wish to become officially associated with PEP must be sufficiently funded to meet related expenses and to devote one full-time research assistant to work for the edition, and the center director must agree to visit the Indianapolis office to work out details. If you are involved with a research center that would be interested in taking on some manuscript work for the edition, please let me know.

We have received many contributions and encouraging letters of support and we are very grateful. A few contributors have made a second annual contribution. That kind of commitment is especially important to us and I encourage those of you who have not yet contributed to our work to add the Peirce Edition Project to the list of organizations you support with annual contributions. Helping with the preservation and promotion of the thought of C. S. Peirce is surely a worthy cause but it is one whose importance and value is appreciated by a relatively small scholarly community. As I note in each issue, contributions should be sent to the Peirce Edition Project at the address on page 2. If you can give a substantial amount but would like to discuss what form your gift should take, with both the Project's and your own interests in mind, we can provide you with expert advice through the services of the Indiana University Foundation. Please consider making a bequest to PEPor you might take out a life insurance policy making PEP the beneficiary. I will be happy to talk with you about the different ways you can support our work.

raising campaign to fund a Peirce  
Endowment.

—Nathan Houser

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"It is with deep regret that I write to tell you that the review cycle in the Editions Program has been canceled this year. . . . Although the Endowment's budget for fiscal 1996 has not yet been determined, congressional actions make it clear that the agency's grantmaking funds will be reduced by approximately forty percent. Since a considerable portion of the remaining funds has been stipulated by Congress as line items for specific programs, the funds available to make new grants in the Division of Research Programs will be drastically diminished. . . . During the coming months the Endowment will be reorganized to accommodate a significantly reduced budget. We expect that we will again be able to review applications for scholarly research projects during the next calendar year . . ."

"I know how much thought and time have gone into preparing your application and how disappointing this announcement will be to you. I can only say how deeply distressed we are that the present circumstances have made this decision necessary, and so late in the review process."

And so the Peirce Edition Project has taken another hit. Since receiving the above, the US Congress did indeed slash the NEH budget and many Endowment employees lost their jobs. Many divisions have been consolidated and the Editions Program has been put in a division with museums and archeological digs. The competition for the much decreased available funds will be very great and it is now clear that NEH can no longer be viewed as a probable source for substantial support.

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1996 is also the 50th anniversary of the publication of the general logical design of the first modern computer, sometimes called the "von Neumann computer." This appeared in a monograph by John von Neumann, Herman Goldstine, and me. The computers of this class had the first dynamic random access memories (DRAM) large enough to store the program as well as the data. The program language and the control were designed so

One achievement is a learning program that, when put in a simulated Deweyan problematic environment, can solve simple problems *and* also develop a simple form of rational goal-directedness. The software used for this is a combination of John Holland's genetic algorithm, his classifier programming system, and an artificial competitive economic environment. Each classifier is an instruction that accepts a datum (message) and transforms it or not. A classifier is the imperative form of a Peircean practical conditional. There are also: a market



that a program could modify itself or another program, as is standard today. Modern computers often have some form of a relational database, which is a computer application of Peirce's logic of relations.

Charles Babbage was the first to conceive of a general-purpose programmable computer. He partly planned a mechanical machine that he called "the analytical engine." Peirce understood Babbage's plan well and was also interested in logic machines. Peirce's student Alan Marquand built an improvement of Jevons's wooden logic machine. In 1886, Peirce wrote to Marquand suggesting that he build an electromechanical relay version of that machine, and Marquand drew up a wiring diagram for it, though he never built the machine.

In his Marquand letter, Peirce also suggested that relay technology could be used to "make a machine for really very difficult mathematical problems." I think Peirce was suggesting an electromechanical relay version of Babbage's analytical engine. The first such machines were contemporaneous with the ENIAC. (Peirce also recognized that a neuron is a logical element.) I belong to a faculty research seminar of mathematical social-scientists that study non-linear systems by means of analysis and interactive human-computer exploration and test. We have studied simple evolutionary systems from biology and social history and iterated cases of the game-theory prisoner's dilemma. And we have also developed learning programs. Some examples are: a program that learns to run a maze as well as a rat, and programs that solve simple problems as well as a human does.

All of these systems are in the philosophical

economy reward system that distributes payoffs to the classifiers according to their contribution to problem solving; and Holland's genetic algorithm to generate new classifiers from the most successful old classifiers. These two features are applications of Ricardo's market and Mendel-Darwin genetic evolution. In this faculty research seminar we often refer to Peirce's ideas: his theory of signs, his practical conditionals, and his theory of cosmic evolution as a rational goal-directed learning process.

—Arthur W. Burks

Burks, Alice R. and Arthur W. Burks, 1988. *The First Electronic Computer: The Atanasoff Story*. Ann Arbor: University of Michigan Press, pp. 333-48.

Burks, Arthur W., Herman H. Goldstine, and John von Neumann, 1946. *Preliminary Discussion of the Logical Design of an Electronic Computing Instrument*. Princeton, Institute for Advanced Study. 2nd edition, 1947. Reprinted on pp. 97-142 of *Papers of John von Neumann on Computers and Computer Theory*, edited by William Aspray and Arthur W. Burks. Cambridge: MIT Press, 1987.

Burks, Arthur W., 1988. "The Logic of Evolution, and the Reduction of Coherent-Holistic Systems to Hierarchical-Feedback Systems." *Causation in Decision, Belief, Change, and Statistics*, pp. 135-191. Edited by William Harper and Bryan Skyrms. Dordrecht, Holland: Kluwer Academic Publishers.

Ketner, Kenneth. 1984. "The Early History of

category of coherent-holistic systems; our goal is to simulate these by hierarchical-feedback computer programs.

Computer Design: Charles Sanders Peirce and Marquand's Logical Machines." *Princeton University Library Chronicle*, no. 3, 186-211.

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Beth Eccles, on maternity leave since October, has resigned to join her husband in a farming venture. Then my arrival at PEP for the spring term was delayed by illness. Finally all the attention of Project staff that could be diverted from the critical edition had to be focused on grant applications proposed to expand the personnel base. We do hope, however, to return to the twice-yearly publication schedule, with the next issue planned for early summer of 1996.

... continued from Editor's Note

After some discussion, I have agreed to take over editorship of the PPNL. With the relative simplicity of electronic mail and file transfer, it will not be too complicated for me to work from the University of Missouri-Rolla. What can't be done via email will be handled by surface ("snail") mail or by visits to the Indianapolis office.

As a part of that editorship, I will handle correspondence through the PEP address given on the masthead. Email should be sent to [rmiller1@indyunix.iupui.edu](mailto:rmiller1@indyunix.iupui.edu).

In a related matter, I have begun to design a World Wide Web site for the PEP. Current plans are to provide a little biographical material about Peirce (largely for those who come upon the page while "surfing the Web"), information about PEP and the Critical Edition (with some descriptions of the published volumes), and pointers to related sites (Peircean, American philosophy, philosophy in general, etc.). One clear goal will be to have a copy of the PPNL available as part of the site. Until that occurs, we will continue to send electronic copies as before. With a little luck there will be more extensive information about the PEP home page, including its URL, in the next issue of the PPNL.

... continued from [In the Works](#)  
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Both the *Collected Papers* Vol. I (1931) and *The Essential Peirce* (1992) published what collation shows to be the fourth draft, the most complete but not the most fully developed version of Chapter VI. The full collation of variant forms reveals that, for a critical edition, the textual decisions are indeed very complex.

Five distinct openings for this chapter survive. In the first two (MS 909:43, 44 and 39), which are incomplete fragments, Peirce belittles the biologists of his day for paying too much attention to inessential details while disregarding the method from which all modern sciences have sprung: the method of analysis, also called the "Newtonian philosophy." Both fragments present an example taken from the history of astronomy to show how analysis led to the eventual explanation of planetary motion, but neither brings the discussion of this example to a conclusion.

The third draft (MS 909:56, 58, 51) puts a similar emphasis on the benefits of analysis, though more briefly as it shifts the main topic to biological evolution. The astronomy example disappears, and Peirce goes instead into an "abstract" and "diagrammatic" discussion of the role of chance in the theory of natural selection. He again resorts to an

(now called sporting, hereditary transmission, and elimination of characters) are connected to the triad consisting of chance, compulsion, and generalization.

The fifth and final surviving version (MS 909:59, 57, 50) begins as a revision of version 4.

These are transcriptions of brief excerpts from Version 4 (left) and Version 5 (above) of chapter six of "A Guess at the Riddle." They include both Peirce's revisions and errors he left in the documents

The gaming chart is reduced to a summary of the sixteenth throw (see illustration), but is followed with a much more expanded explanation of the analogy between the increasing wealth of some players and the procreative power of species. Included in this explanation is the description of a statistical chart (now lost\*) from which Peirce formulates a "most important principle" that the frequency of a given variation is greater in the direction of the future than of the origin of a species. Peirce maintains that this opens a whole new line of statistical research not explored by Quételet or others. Here version 5 ends abruptly, without going into the triadic

example, that of a statistical game of chance (repeated in drafts 4 and 5), no longer to substantiate the power of analysis, but to draw an analogy between the wealth of the players and a species' power of procreation. This is then followed with the identification of the three elements at work in natural selection: chance or sporting (individual variations), inheritance of procreative power, and hereditary fixation of beneficial variations. Part of the latter discussion does not reappear in versions 4 and 5, but because it illuminates the way Peirce's thoughts developed, it will be recorded in the Notes in W6.

In version 4 (MS 909:28-30), Peirce omits the preliminary considerations about analysis and tackles directly the theory of natural selection and survival of the fittest by questioning how fortuitous variations can reinforce the adaptation of a species to its environment. The "game of chance" statistical example appears in revised form, but augmented with a chart carrying the game of chance through sixteen iterations (see illustration). Version 4 concludes with a significant section describing how adaptation is based on a process of elimination of unfavorable characters and how the three principles

considerations present in version 4.

All five versions were typed on Peirce's Hammond typewriter, probably by Peirce, and all include holograph or typewritten interlinear revisions by Peirce. The last three evolve without radical departure in organization or content. Version 4 is the most complete in terms of structure, since it dwells also at some length on the connection with the three fundamental elements, but version 5 promised to be more fully developed, as shown by the extended considerations on statistics and probabilities. It is impossible to tell why Peirce broke off this most comprehensive version in mid-page and in mid-chapter. Since Peirce does not indicate a preference for earlier forms, this factor does not diminish version 5's status as the final form over which Peirce exercised complete compositional control. As far as it goes, version 5 presents the fullest development of the material and will serve as copy-text for the first half of chapter VI. Version 4 represents the most mature surviving form of the remaining portion of the chapter, and will serve as copy-text beginning where version 5 terminates.

—JE & ADT

Editor: Richard W. Miller

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