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Peirce's Concept of Habit and Its Value for Modern Educators

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PEIRCE'S CONCEPT OF HABIT AND ITS VALUE FOR MODERN EDUCATORS

by

James J. Velasco

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Finally, I would like to note the valued and herculean effort of Mrs. Virginia Hughes who turned my scrawl into readable typescript.
VITA

The author, James John Velasco, is the son of Thomas Hector Velasco and Catherine (Carlson) Velasco. He was born April 6, 1946, in Chicago, Illinois.

His elementary education was obtained at Saint Viator School in Chicago, Illinois, and secondary education at Loyola Academy, Wilmette, Illinois, where he graduated in 1964.

In September, 1964, he entered Loyola University, and in June, 1968, received the degree of Bachelor of Arts (Classics) with a major in Greek. While attending Loyola University, he was chosen as a member of Alpha Sigma Nu, the Jesuit Honor Society.

In February, 1978 he was awarded the Master of Arts in Foundations of Education (Philosophy).
CHAPTER I

INTRODUCTION

Charles Sanders Santiago Peirce, an original American thinker in mathematics, physics, ethics, metaphysics, cosmology, religion and history, has often been ridiculed for awkward phrasing, abstruse vocabulary, and bewildering repetition. Peirce, however, argued that each word which he chose was the product of deliberate selection. His choice, he would have argued, underscored a methodical principle, a plan concerned more with a systematic than a metaphysical approach.

"Habit" is one of Peirce's prime concepts; it is a term of deliberate selection and a concept of which modern educators should be aware.

The general goal of this thesis is to offer the proper apologia for Peircean habit, an apologia which clearly defines the nature of habit within Peirce's mature works and which formulates a proposition on the value of habit for both those educators who have considered the role of habit in education and those who have not.

Having briefly sketched Peirce's life and having reviewed the literature on Peircean habit, I will clear the ground for an explication of "habit." "Ground clearing" will define common terms and concepts which Peirce charged with new meanings (meanings which manifestly
departed from ordinary usage) and will define the peculiarly Peircean vocabulary which bears upon the understanding of the single concept, habit.

Since Peirce "failed" (chose not) to develop "habit" completely in any one article or volume, I will consider all his collected published papers and concentrate on his more mature, thus more developed, works. I will restate the sense of the quoted text for clearness, and then make appropriate explanations, expansions, and internal criticisms. I will note sundry Peircean modifications, shortcomings, and characteristic features.

At conclusion, I will highlight the emphatic value and merit of Peircean habit for modern education. Within the conclusion, I will comment briefly on the works of any education scholars who have written extensively on Peirce's value to education.
THE LIFE OF PEIRCE

The founder of Pragmaticism, Charles Sanders Peirce, was the second son of mathematician Benjamin Peirce. Born on September 10, 1839, Charles was a student of both mathematics and physical science. Although he graduated from Harvard at age 20, he hardly distinguished himself as a scholar.

By encouragement and education, Peirce was a scientist. By desire, he was a philosopher. Yet necessity dictated that Peirce work for the United States Coast and Geodetic Survey which his father supervised. He simultaneously furthered his scientific studies at both Lawrence Scientific School and Harvard. By the age of 24, he added an M.A. degree and an Sc.B summa cum laude to his credits.

During his 30 years with the Survey, Charles published minor articles on philosophy and logic and was appointed lecturer at Johns Hopkins. He remained at Johns Hopkins from 1879 to 1884. His longer and seemingly more labored works on logic vainly sought the light of publication. Photometric Research is Peirce's sole book published during his lifetime.

Although he had not the benefit of publication, Peirce did have the benefit of illustrious friends of no mean influence. Benefactor and fellow philosopher William James, philosopher Chauncey Wright, and jurist Oliver Wendell Holmes contributed considerably and actively to the dialogue on pragmatism or "pragmaticism," Peirce's philosophical creation.
With a small inheritance, Charles S. Peirce retired to Milford, Pennsylvania in 1887. He died in undeserved obscurity in 1914. He was survived by his second wife, Juliette Froissy.
"How to Make Our Ideas Clear," a paper originally written in French, is considered by biographer philosopher Paul Weiss to be Charles Peirce's first definite statement of the pragmatic principle. Ironically, it is in this statement as in so many others that Peirce argued for the precision of his language. It is, however, Peirce's very precision which, retrospectively, forbids appeal. Charles S. Peirce, a teacher without students, a philosopher flashing brilliant amid obscure darkness, failed to realize that all too often he came close to being lucid but not close enough. He is a man of genius who left a wealth of coded brilliance, a brilliance which many have succeeded partially in decoding.

He died on April 19, 1914 leaving hundreds of unindexed, undated, unpaginated manuscripts which Harvard University purchased from Juliette Froissy Peirce. Charles Hartshorne and Paul Weiss, in six volumes, coedited the Collected Papers of Charles Sanders Peirce from 1931 to 1935. Bibliographer Arthur W. Burks, in 1958, edited the seventh and eighth volumes. There are also a number of available paper back collections on Peirce, The Transactions of The Charles S. Peirce Society, and sundry articles.

However, excepting Gary Shapiro's work on habit which does not mention the value of Peirce's concept of habit for education, there is no single work to which a modern educator could turn for an
explication of habit. There are adequate piecemeal treatments of habit. The authors of these works have not failed to explain habit; but, like Peirce, they sought to explain other things.

I am indebted to the following: Vincent G. Potter, S.J., who capably resolved many inconsistencies in Peirce's system and who admirably interprets Peirce's logical, ethical, and esthetic systems; Murray G. Murphey who traced and delineated Peirce's philosophy and was particularly lucid in explaining "cognition," "inquiry," and "cosmology;" Francis E. Reilly, S.J. who underscored "habit" as a permanent theme in Peirce and explained, so that even a novice like myself could understand, Peirce's use of the scientific method; Richard J. Bernstein who, in a single extraordinary essay, developed a precise delineation of "Firstness," "Secondness," "Thirdness," and Peircean self-control; Edward C. Moore and Richard S. Robin who edited Studies In The Philosophy of Charles Sanders Peirce, a volume without which my thesis would be considerably less.

My greatest debt, however, is to Gary Shapiro who has given a rather important, if, at times, rather recondite, appraisal of the general nature of habit, of personality as a cluster of habits, of belief and its habitual connection, and of the relationships among "rule," "sensation," "case," decisions to act and results. Furthermore, Shapiro charts the interrelationships among logic and habit, and physiology and habit. In a reasonable manner Shapiro also delineates the influences in Peirce's philosophical life.
CHAPTER II

PEIRCEAN VOCABULARY

Language is only the extreme form of expression..." wrote Charles S. Peirce. He concluded that "...life itself may be considered...as Expression."

Peirce's concept of habit can best be explained if some vocabulary "ground clearing" takes place. Charles S. Peirce wrote for both the lay and technical readers. Rigorously selecting the right word, Peirce often used technical terms and charged them with new meaning. When the word which he sought did not exist, he coined it. His vocabulary is both common and extraordinary; and his concept of habit is affected by his vocabulary.

It is my main intention to get at, to explicate the meaning of Peircean habit and demonstrate its value for education. Others have had the intention of explaining the meaning of these key Peircean concepts, key, that is, to the nature of habit.

I have chosen ten terms. These terms are part of the whole Peircean system. All of these terms will be included within my third chapter. They are terms, if one speaks metaphorically, woven within the fabric of habit. They are part of the interlacing threads, introducing details which are connected to the whole called habit.
Before I present this basic lexicon for Peircean habit, allow me to illustrate briefly why I have selected these terms: Peirce does employ "categories" in a traditional sense; yet he places all within his categories of Firstness, Secondness, and Thirdness. It is essential to be aware of, if not totally understand, Peirce's categories before one approaches a thorough study of habit. Furthermore, when one views Peircean habit, he views a world of evolution consisting in the lessening of "chance," of paradoxical "freedom," and of habit related "conduct, law, perception and thinking." The "future," the process of "inquiry" and "induction" are defined in a manner unique to Peirce; and, like the other terms, they are integral to an understanding of habit.

Lest I appear a dunce in the modern rather than the Renaissance sense of the word, I will allow Peircean experts to comment on the meaning of: categories, chance, conduct, freedom, the future, inquiry, law, induction, perception, and thinking. These concepts will be presented in lexical fashion:

The Categories: Firstness, Secondness, Thirdness

My view is that there are modes of being. I hold that we can directly observe them in elements of whatever is at any time before the mind in any way. They are the being of positive quality, the being of actual fact, and the being of law that will govern facts in the future.

The first category comprises the qualities of phenomena, such as red, bitter, tedious, hard, heartening, noble....

The second category of elements comprises the actual facts. The qualities in so far as they are general....
The third category of elements of phenomena consists of what we call laws when we contemplate them from the outside only. (1.301-2)

Firstness, Secondness, and Thirdness are Peirce's irreducible categories, his threefold ontological classification which he subsequently referred to as It (the world of the senses), Thou (the world of the mind), and I (the world of the abstract). These categories, derived from Kantian doctrine, are related to habit. In fact Peirce places "habit" in the category of Thirdness. Habits, laws, rules, potentiality, concepts and meaning are Thirdness.

Firstness is qualitative and immediate. It is neither subjective nor objective. It is "unattached possibility" never encountered by itself, always encountered in the concrete, in experience from which it is inseparable. Richard Bernstein noted that Firstness should not be confused with actual experience. It is similar to the vague feeling which we, as men, claim to have sensed -- love. Like love, it is not subject to analysis.  

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Secondness, as Bernstein further demonstrates, is similar to the relationship of a shoulder being pushed against a door. The shoulder is being made to exert effort. The door resists. This is action, not conduct. It is dual and oppugnant, a mutual struggle. It is *hic et nunc*.

Thirdness like habit (because it includes habit) is future oriented. It is like law (cf. "law" entry). It requires Secondness as Secondness requires Thirdness. To underscore: if it were not for Secondness, there would be no Thirdness. If it were not for brute action, there would be no rules, laws, signs, or habits.

Peirce's categories frame his entire work. The categories of Peirce are too detailed to concern us here. It must, however, be remembered that for Peirce the categories represent the three irreducible modes of being: possibility, actuality, and law. It must also be remembered that Peirce assigns habit to the category of Thirdness, the mode of being concerned with the future.

**Chance:**

I make use of chance chiefly to make room for a principle of generalization, or tendency to form habits, which I hold has produced all regularities,. I attribute it altogether to chance, it is true, but to chance in the form of spontaneity which is to some degree regular. (6,63)

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3 Ibid. pp. 71-72.
4 Ibid. pp. 75-76.
5 Cf. 1.23
Within the Peircean Universe, there is the prime element of chance or spontaneity. Chance, the mathematical Peircean term for spontaneity, becomes an important part of the philosophical system of Peirce. "What Peirce is getting at is there is no such thing as purely mechanical movement. All movement requires some degree of spontaneity..."\(^6\)

Conduct:

Although the word "conduct" itself is not of unusual import in Peircean literature, it is of value and should be listed in this rudimentary lexicon. Conduct as Bernstein concluded is what Peirce calls "would be's."\(^7\) It is tied by Peirce to the future and to the idea of control. Of equal importance, a "deliberate, or self-controlled habit is precisely a belief." (5.480)

"Conduct, as distinguished from brute action, is essentially general. While brute action is singular, conduct is a type of activity."\(^8\) Peirce, as Vincent Potter summarized, puts forth conduct as something which does not come from the innate or intuitive disposition of man. Rather Peircean man "makes...(an) intention articulate and explicit by formulating rules of conduct,"\(^9\) Conduct is based on facts known.\(^10\)

\(^7\) Bernstein, Perspectives, p. 75.
\(^8\) Ibid. p. 77.
\(^10\) Cf. 5.460
Freedom:

Vincent Potter waxes both poetic and paradoxical when he writes of freedom as he sees it in the writings of Peirce:

Human purposes are both normative and capable of modification by critical review. Human purpose, the archetype of final causes, involves habit acquired or modified by reflection on experience. It is this capacity for critical review and control of actions which defines man as a rational animal and therefore while it supposes freedom on man's part, freedom of choice, man is not free to accept or reject his nature and its freedom.\(^1\)

A man has no choice but to be rational and thus to become more reasonable.

Future:

And do not overlook the fact that the pragmaticist maxim says nothing of single experiments or of single experimental phenomena (for what is conditionally true in futuro can hardly be singular), but only speaks of general kinds of experimental phenomena. (5.459)

Whether Peirce is writing Latin or English, he is concerned about the future. Peirce takes the future more immediately than most, for the future as Gary Shapiro states "is real, i.e. It must be recognized in the final account of things as independent of the thought of any particular person or group."\(^2\)

It should be noted that habit is future oriented.

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Induction:

John W. Lenz explicates Peirce's claim that "induction is self-corrective." Finding Peirce too unclear, he, however, makes no definitive statement. The argument is long but does highlight many matters which the true amateur of Peircean induction may want to see highlighted. David Savan considers the complexities in Peircean assertions about induction in the well argued essay "Peirce's Infallibilism." Arthur W. Burks theorizes about Peircean induction and probability in "Peirce's Two Theories of Probability." The nature of Peircean induction is perhaps best summarized by Victor Lenzen in an essay entitled "Charles S. Peirce as Astronomer."

...for all our knowledge is derived from induction, and its analogue, hypothesis. Peirce states that the general nature of induction is everywhere the same and is completely typified by the following example. From a bag of black and white beans I take out a handful, and I assume that the black and white are nearly in the same ratio throughout the bag. If the experimenter is in error in this conclusion, it is an error which a repetition of the same process must tend to rectify. It is, therefore, a valid inference. But it clearly teaches nothing in reference to the color of any particular bean. Only the approximate general ratio can be inferred and this is represented by the probability for black or white beans. Given a large number of bags in each of which we know the relative number of black beans, then if the black beans have a value and the white beans none, the man who knew the relative number of black beans in every bag would act as though the bean he would draw from the bag which contained the larger proportion of black ones were known to be

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14 David Savan, "Peirce's Infallibilism," in Studies, pp. 190-211.
15 Studies, pp. 141-150.
black, and as though the bean he would draw from the other would be certainly white. For knowledge derives its practical im-
portance from its influence upon our conduct.16

Inquiry:

Hence, the sole object of inquiry is the settlement of opinion... That the settlement of opinion is the sole end of inquiry is a very important proposition....(5.375)

The above quotations are from the "Fixation of Belief," an 1877 essay in which Peirce makes valued claims for habit and its relationship to belief. In 1899, Peirce considered the way of inquiry so important that he suggested, "Do not block the way of inquiry" (1.135) should be grafted on every wall of philosophy. In the 1877 article which Peirce published in Popular Science Monthly, he noted that one of the facts with which logic begins is: "That belief gradually tends to fix itself under the influence of inquiry...." (3.670)

Richard Robin takes the disparate threads entangling inquiry and sorts them out: "Since inquiry is defined in terms of the struggle caused by the irritation of doubt to attain a state of belief, the end of inquiry becomes the fixation of belief...truth is that at which inquiry aims...."17

Peirce, trusting in science, equates rational inquiry with scientific inquiry. Truth, for Peirce, is belief compelled by scientific inquiry.

16Studies, pp. 41-42.
Law

Peirce uses law in a less rigid sense than most scientists would. Law should not be confused with "law-statement." For Peirce, the law of reason is the basis for regularities or habits. It is subject to both modification and growth. It demands not exact conformity; it does not freeze further modifications of habit. "The law of mind makes a given feeling more likely to rise." (6.23) Law, for Peirce, involves spontaneity or chance; it involves the future and, of course, habit. Law for Peirce is a generalizing tendency; it is the cause of action and "self generative."

Rollin Workman, in an essay entitled "Pragmatism and Realism" makes a clear distinction between two senses of the word "law."

...A Law is in the first place a real active thing (5.107, 1.542). It is active in the way habit is active. In fact a habit is simply a law as the latter appears in human beings (2.148). In the second sense, a law is a verbal statement of a law in the first meaning. The description of a habit is also a law in sense two. 18

Perception:

Richard J. Bernstein warns in "Peirce's Theory of Perception." "When approaching Peirce, one cannot help feeling a bit apprehensive about presenting a coherent account of his views on perception..." 19

Bernstein, at length, considers perception in terms of Peirce's philosophic dialectic and concludes:

18Rollin Workman, "Pragmatism and Realism," Studies, p. 244.
19Studies, p. 165.
Perception, for Peirce, is the means by which we come into contact with a richly textured qualitative world which is far more extensive than the narrow boundaries set by both empiricists and rationalists as well as by contemporary analysts. Through perception we are aware of a world which forces itself upon us. Perception is both the starting point and testing ground for our most imaginative speculations. Perception as judgment is logically continuous with the self-controlled judgments that are characteristic of the higher reaches of rationality. Perception, nevertheless, stands at the threshold of all inquiry controllable and eminently fallible. Perception conditions all thought and is the basis for the rational control of action. "The elements of every concept enter into logical thought at the gate of perception and make their exit at the gate of purposive action; and whatever cannot show its passports at both those two gates is to be arrested as unauthorized by reason." 20

Thinking:

Vincent Potter notes as J. Boler did in Charles Peirce and Scholastic Realism:

Of course pragmaticism recognizes a connection between thought and action. Ultimately it makes thought apply to action, and indeed it is thought which distinguishes conduct from mere activity. Yet this is quite different from saying either that thought consists in action or that thought's ultimate purpose is action. 21

Potter concludes the above summary with Peirce's words:

...As for the ultimate purpose of thought, which must be the purpose of everything, it is beyond human comprehension; but according to the stage or approach my thought has made of it... it is by the indefinite replication of self-control upon self-control that the vir is begotten, and by action, through thought, he grows an esthetic ideal...as the share which God permits him to have in the work of creation. (5.403)

20 Ibid. p. 184; cf. also 5.22.
21 Potter, On Norms, p. 66.
The "ground clearing" is accomplished. The terms, necessary to an understanding of habit, have been examined. Their importance will become evident in the following chapter.
CHAPTER III

HABIT

Habit, for Charles Sanders Peirce, is basic. Peirce considered and reconsidered the ontological status of habit. To understand how Peirce could make habit of such fundamental importance, one must view habit in its various stages within Peircean literature: from habit associated with habitualiter to habit specified as belief.

Peirce clarified, by degrees, the difference between habitual presence and habit as belief. What is of particular importance in a consideration of the educational value of Peircean habit is that all beliefs, for Peirce, are habits and all habits, however, are not beliefs. In fact, it is within the consideration of "belief-habit" that Peirce becomes the most lucid, the most coherent. "Belief-habit" is the keystone supporting the more encompassing notion of habit. Peirce's development of "belief-habit" is not linear, thus it must be examined at various times in a variety of contexts.

These examinations are essential to an understanding of "belief-habit." I will examine habit and capability, habit and the tendency to take habits, and habit as distinguished from the habitual. I will also note the logical context into which Peirce placed habit. I shall then examine, via illustration, Peircean man believing, controlling, and doubting. I shall further examine two important corollaries which
Peirce drew from his consideration of "belief-habit." From Peirce's definitions of belief and habit, will emerge man, a cluster of habits.

HABIT AND CAPABILITY

In the mode of Duns Scotus, Peirce postulated that a notion could exist in the mind habitualiter, i.e. when it can but does not necessarily produce a conception. Peirce is considering a type of abstract knowledge, which although capable, is not realized in consciousness, i.e. does not reach intellectual fruition. This type of abstract knowledge is present in some sense. For example: John, a high school student, may know various rules governing the use of the gerund, its relationship to a noun, and its verbal limitations. Yet, John may never call to mind this knowledge when he writes "Biking is good exercise." This type of knowledge is an example of the habitualiter notion. For to know the function and the use of the gerund admits to John a capability. It is a capability which John can but does not use; it is a capability which does not produce. Peirce is noting, through the use of the word habitualiter, capability and its relation to habit. Eventually, Peirce will argue that a person can have a belief as one can have a concept which will not necessarily, at once, be put to use. It could be used if the occasion arises. The capability is there.

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The notion of capability will be developed in the consideration of belief-habit.

Thus Peirce, the pragmatic philosopher, in the 1860's, is considering habit in terms of capability; simultaneously the mathematical Peirce is considering that, within infinity, certain characters start appearing with greater frequency than others, i.e. (to use a Peircean phrase) there is "a tendency to take habits."²

HABIT AND THE TENDENCY TO TAKE HABITS

"To take" is not as innocent as it appears. It is worthy of consideration. The idea of "taking" connotes garbing, clothing, and, often, changing of outward appearance. Peirce begins his argument on habit in medias res. For the word "habit" and the idea of "taking" gives the student the impression of arming one's self for the occasion. Peirce connects the two: "habit" and "taking;" but he does not explain the tone, the ideas which he associates with "habit." He uses "habit" on account of what he associates with the word; it is not immediately clear for the student of Peirce what these associations are. It is only in Peirce's later works when we begin to understand the linking of "habit," "taking," and belief that we begin to understand what Peirce associates with habit.

HABIT AND ITS LOGICAL CONTEXT

Within the Peircean consideration of habit and the habitual, a further clarification developed. In "Some Consequences of Four Incapacities," Peirce underscored the formation of habit as an induction:

²Cf. 6.21 and 6.22
Attention produces effects upon the nervous system. These effects are habits... A habit arises when, having had the sensation of performing a certain act, \( m \), on several occasions \( a, b, c \), we come to do it upon every occurrence of the general event, \( \overline{m} \), of which \( a, b, c \) are special cases.

Thus the formation of a habit is an induction, and is therefore necessarily connected with attention and abstraction. Voluntary actions result from the sensations produced by habit, as instructive actions result from our original nature. (5.297)

Thus a habit results from a case or stimulus or occasion presenting itself. A result has occurred. A rule is followed, more precisely "a belief of a rule." For Peirce, every belief is a rule.\(^3\) Every belief is a rule in the sense that a person is disposed to act, prepared to act if the occasion arises. In fact, the person is prepared even if the occasion does not arise.

The always logical Peirce uses induction as his logical formula to express the forming of a habit. If one links induction to the earlier idea of capability, one can see that habit is more than an innate disposition. It is an induction tied to a "general event."

When a habit is operative, a result may come about. That is, when certain events occur, Peirce argues a habit may become operative. Conditions present themselves. Man notes the particular facts and is attentive since he has seen similar conditions. He then separates the thought from the circumstance. He may have noted the conditions repeatedly before. His attention and abstraction are voluntary for he is dealing with signs of which he is and has been aware. He then

\(^3\)Cf. 2.643.
draws a conclusion based upon the past (previous manifestations of these conditions). Then he may act. The action which results from this Peircean "welding of sensation" is also voluntary; it is action which results from perception. This type of action should not be confused with action which is instinctive, i.e. action resulting from man's original nature.  

PEIRCEAN MAN

Peirce saw man's innate or natural disposition, by degrees, becoming a structure informed or given character and, still gradually, becoming more developed, less chaotic because man's disposition acquired, via experience and perception, habits. Peirce (like Wordsworth: "the eye it cannot choose but see") considered perception to lack control. How can man control then what he perceives? Peircean man, we shall see, controls by way of habit and its inferential nature.

One illustration may serve to make perception and inferential activity and their connection to habit clear: Mr. Santiago is driving down an unknown street. Seeing a "stop sign," he stops because his attention was drawn to an essentially "general event," not a particular sign. He stopped not on account of intuition but because he had the habit of stopping at stop signs, because he had abstracted "stop" from the red octagon, and because he applied the rule "stop at stop signs" to this particular attention-drawing sign. He stopped here and now.

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4 Cf. 6.228.
5 Cf. 5.504; 5.5115; 1.647.
6 Cf. Chapter two: "Perception"
The act of stopping is an individual act; but it is related to Mr. Santiago's past experience. The action is a further securing of the "habit" for the future. Mr. Santiago believes in this habit. Since he believes, he knows that by taking his foot off the gas and braking he can achieve the desired result. Believing guides or molds his action. Mr. Santiago is satisfied for, as Peirce would append, Mr. Santiago is certain.

What would happen if a sign said "stop" but it did not resemble the usual red octagon? Should Mr. Santiago stop? The "if" information is different; Mr. Santiago cannot follow his usual sequence. It is not that Santiago disbelieves; no, rather he is in a state of uncertainty about the future. His habit, which is future oriented, has faltered. He must reshape his habit. He must now exercise control for there is a problem in his guiding principle.

Control, for Peirce, is the power to reason, the power to place ideals or purposes under a microscope of critical review. The object of reasoning is to find out what we do not know. In order to find out what we do not know, we must begin with knowledge already acquired which we believe to be true and valid, knowledge which can inferentially guide us.

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7 Cf. Chapter two: "Conduct"
That which determines us, from given premises, to draw one inference rather than another, is some habit of mind, whether it be constitutional or acquired. The habit is good... according as it produces true conclusions... and an inference is valid... according as the habit which determines it is such to produce true conclusions. The particular habit of mind which governs this or that inference may be formulated in a proposition whose truth depends on the validity of the inference which the habit determines; and such a formula is called the guiding principle of inference.  

With perception and control delineated, habit and belief can be outlined. Peirce, interestingly, approached belief both positively and negatively. Negatively, he considered "doubt," the foil of belief. Returning to the previous example may help to illustrate both belief and doubt.

Mr. Santiago had a belief, a habit of which he was conscious. If he actually called this belief to mind and it, in a logical sense, held true, this would be a good judgment.

What our hypothetical Mr. Santiago did, when he came to the non-red octagon stop sign, was compare pertinent past experiences to the present stimulus, i.e. the non-red sign. He then reconsidered. His activity was erratic. His reconsidering, however, may lead to the forming of a new resolve which will become a new habit. The erratic activity and old habit will be superseded by a new habit. Perhaps, he will stop at all signs lettered "stop." The individual stimulus,
the non-red stop sign has become part of the cluster of thoughts.

This new resolve is consequent to previous resolves as one thought is consequent to a previous thought. This new resolve is a belief habit. A belief is always a habit; and thus belief should be referred to as "belief-habit."\footnote{11}

Belief-habit is a dialogue among the past, the present, and the future.\footnote{12} A belief may be completed only for a moment. The dialogue may, as in the case of Mr. Santiago, be interrupted by doubt:

A true doubt of such a belief must interfere with this natural mode of acting...these new habits must not be regarded as expressions of the natural belief simply; for they inevitably involve something more. Consequently, if subsequent reflection results in doubt of them, it is not necessarily doubt of the original belief, although it may be mistaken for such a doubt. (5.76)

Whether it is a doubt of the original belief or not, doubt creates an uneasy dissatisfaction; it thus causes a different sensation than believing causes. Doubting does not guide man or mold action. Rather, man is forced, because he doubts, to free himself from this annoying feeling of dissatisfaction; man is forced, because he doubts, to seek satisfaction and calm; man is forced to believe. Doubt is appeased; habit is established.

Simply stated: doubt will stimulate man to struggle for belief; and belief places man in a condition from which he is

\footnote{11}{Cf. Chapter two: Thinking}
\footnote{12}{Cf. Chapter two: Future}
capable of reacting in a certain way if the occasion arises. Thus the occasion to struggle to attain belief is doubt. The motive for belief is the removal of doubt. Satisfaction comes to the believer; for his belief settles the immediate doubt, establishes a temporary terminus for opinion, ends inquiry, and enables the dialogue among the past, present, and future to continue.

Mr. Santiago's "belief-habit" was obstructed, he doubted. The conditions being different from those which he usually perceived destroyed his certainty. His habit gave way to uncertainty. In a more serious case, uncertainty often gives birth to apprehension, qualms, and anxiety. Man (Mr. Santiago is typical of the species), thus, is motivated to seek a new habit which will not be blocked, a belief with "practical consequences" which are expected to alleviate disappointment.

It is Peirce's view that every problem (struggle to believe/inquiry) \footnote{Cf. Chapter two: "Inquiry"} is stimulated by doubt and ended with a new belief—a conscious, deliberate habit of action.

Peirce draws two corollaries from his consideration of "habit of action": (1) Belief is a rule of action.\footnote{I would like to direct the reader's attention to Baldwin's Dictionary of Philosophy. Two articles, one on "Rule" and one on "Laws of Thought", are initialed "C.S.P." I would further suggest that the use of "rule" suggests an approved procedure, approved that is by the actor.} (2) Two apparently different beliefs, having the same practical consequences, have the same meaning. Within this second proposition lies the Pragmatic criterion of meaning. In Peircean terms, it is related thus:
In order to ascertain the meaning of an intellectual conception, one should consider what practical consequences might conceivably result by necessity from the truth of that conception; and the sum of these consequences will constitute the entire meaning of the conception. (5.9)

Belief, falling under the category of Thirdness,\(^{15}\) is a rule of action. Action, stemming from thought,\(^{16}\) involves consequences; in fact, a belief-habit is the very purpose which Peirce attributes to thought. In Peircean terms, when a person states that he understands the meaning of a thing, he really is saying that he understands not the thought behind an action but rather the very action brought about. This action is the result of action; more specifically, it is the result of the sum of the belief-habits involved.

It must be noted that action is the result of the habits involved and the correct circumstances. In Peircean terms, a habit is on a continuum with other habits. An individual habit can only be identified by "how" it might lead someone to act "when" certain circumstances prevail. The identity of a habit depends on both the stimulus received by way of perception and the eventuating sensible results.\(^{17}\)

The second corollary involves the meaning of a habit; that meaning is associated with actual results.

\(^{15}\)Cf. Chapter two: "Categories"

\(^{16}\)Cf. 6.20 and Chapter two: "Thinking"

\(^{17}\)Cf. 5.400
It should be noted that two people may have the same habit; and this fact (that they have the same habit) can be judged by an observation of the practical consequences.

Allow me to illustrate with a non-belief habit: two boys are shooting baskets from different points in a court. Gravitation is different. Age is different. Size is different. Both boys make all their shots. The same practical consequences occur. Their clusters of training, adroitness, and experience produce results with the same meaning.

So too, what the result of a habit will be depends partly on what other habits the subject has and partly on the ability of one habit to modify another. To illustrate this Peirce uses the effect of gravitation on two different subjects. Gravitation is a non-belief habit that has a different result when it is applied to a billiard ball being dropped from a high building than when it is applied to a parachutist jumping from a plane. Both the billiard ball and the parachutist are clusters of non-belief habits. The results are different.

Consider man to be a cluster of habits. The cluster for each man is different. Another habit is added to the cluster. This habit, like all habits, is similar to a line drawn on a blackboard. The line gets its continuity, its coherence, its detailing from the blackboard itself as the habit gets its immediate connection to a subject
and its meaning because a structure already exists, a structure of other habits which have similar but not equal staying power. 18

Peirce has defined "belief-habit" slowly. It is a definition which becomes clear by degrees. Capability, habit-taking, and induction are associated with habit, but habit becomes most lucid when specified as a belief.

To sum up thus far: Peircean man thinks in order to establish a belief, a rule of action, a habit of the mind. A belief-habit is something of which man is conscious. A belief-habit contents doubt; thought rests. This belief-habit influences other thinking. If one applies this belief, further doubt may come about. Further thinking follows further doubt. Peircean man will continue to reflect upon an ideal. Intending to act, he will continue to formulate rules of conduct. Holding a concept, his mind constantly encounters matter and evolves. His thought grows when he forms new habits, discards old habits, or allows one habit to influence another. Peircean man becomes more uniform; he is less deformed by spontaneity when he continues to establish rules of conduct, habits of thought.

Habits are general; action, however, is singular. The habit effects a certain disposition which is affected by other habits; the habit, with other habits, becomes part of the pragmatic man's "muscles." The desired ideal, by way of reflection, becomes a

18 Cf. 6.228
potentiality and thus a calculus for prediction. The "would be"
becomes a foundation for the "will be." The ideal becomes a habit,
a law of conduct.19

Habit, developed, modified, and corrected, by both experience
and reflection is simply a law. It is not a law of exact conformity.20
It is a conditional law having requirements or stipulations. Given
these conditions the action may follow. Physical laws demand a
response in exact accordance. Exact compliance, Peirce would argue,
negates man's freedom. Man, in a Peircean paradox, is not free to
reject his freedom, not free to be irrational.21 Man, using his
reasons, is not free to be irrational. With reason the Peircean man
is not only sapient but liberated. Man, compelled to make life more
reasonable, of necessity will review critically all habits acquired
and modified. Not governed by absolute belief-habit, man may,
through force of habit, hold fast to a rule of conduct proven to be
an impediment to truth. Nevertheless, (thank Zeus for Peircean op-
timism!) this same man will through force of reason give up the
habit. Peircean man can modify a habit by experience or by will.

...every man exercises more or less control over himself by
means of modifying his own habits; and the way in which he
goes to work to bring this effect about in those cases in
which circumstances will not permit him to practice reitera-
tions of the desired kind of conduct in the outer world...

19 Cf. Chapter two: "Law"
20 Cf. 6.23
21 Cf. Chapter two: "Freedom"
fancied reiterations, if well intensified by direct effort, produce habits; and these habits will have power to influence actual behavior in the outer world...(5.487)

Habits will have the power, the capability, to influence behavior in the world outside the mind. Peircean man can woolgather about a certain situation: he can prepare to save the life of his burning sister, to accept an award for heroism beyond the call of duty, to talk back to his boss, or to reprimand a naughty child. The situations may arise again and again in his mind. Each time he practices, in the world of the imagination, the action for the situation.

Peircean man is a citizen of a "double world;" the outer world and the world of fancy or the imagination. The degree to which a man can be affected by the world of fancy depends on his innate disposition and his other habits.

Of notable importance is that the man, who chooses to exercise control, can work to bring about in his mind a habit which circumstances in the outer world do not allow. This habit can influence other habits; but this habit comes under the Peircean law of habit.

Uniformities in the modes of action of things have come about by their taking habits. At present, the course of events is approximately determined by law. In the past that approximation was less perfect; in the future it will become more and more perfect. The tendency to obey laws has always been and will be growing. (1.409)
Peirce, ever the mathematician, viewed the world as consisting in uniformities, potentialities, regularities, and habits: These habits, subject to modification, may establish new better habits or potentialities. Belief-habits, also subject to modification, may also establish better belief-habits bridging "the chasm between the chance medley of chaos and the cosmos of order and law." (6.262)

One can infer the actual behavior of men from their "potentialities." There is, however, a necessary admonition: this inference can be made with degrees of, not complete, certainty for Peirce is concerned with probability and the long run. To say that a man has a habit is to state that he will "probably" react in one way because he has already reacted in this way. Action always contains "a certain amount of spontaneity;" and habits are "gentle forces" making a certain action more likely.

The essence of the Peircean man is his behavior, his observed habits. Behavior is the sum of the habits involved. We know what a man is by viewing what he does. Definitions, for Peirce, are vital, alive with action. They consist in descriptions of what habits are calculated to produce. "Ye shall know them by their fruits."

In Peirce's cosmos, the tendency to form habits grows through itself. The degree of conformity of habit to law increases with
the exercise of habit. Peirce's universe is one of chaotic chance tending to order. His man is a child of chance evolving to uniformity.

To conclude: belief-habit is an intelligently acquired habit. Habit is prime for the Peircean man. Habit is a law or conditional relating antecedent conditions to consequent experience. Habit allows man to criticize his activity and the activity of others. Habit is the essence of belief. Different beliefs will establish different modes of action. Habit is at the very core of man's ability to control his activity. To Peirce, control and the tendency to take habits are synonymous. To reason is to demonstrate the capacity for control. Reasoning begins with a truth, or rather the recognition of something as true²² and proceeds to a new truth. Reasoning, deliberate and controlled, supposes freedom and yet forces man, who sees the more reasonable course, to acquire various habits. The establishment of habit is the essence of belief.²³ Beliefs are distinguished pragmatically by the actions to which they give rise, by their sensible effects.

It is Peirce's deliberation on habit which led to his pragmatic maxim:

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²² Cf. 4.476
²³ Cf. 5.39
Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then our conception of these effects is the whole of our conception of the object. (5.402)

It is also habit which is at the nucleus of the Peircean theory of the universe.

The one intelligible theory of the universe is that of objective idealism, that matter is effete mind, inveterate habits becoming physical laws. (6.25)
In my concluding chapter, I do not intend to argue the rightness of Peirce's evaluation of habit. I do not intend to base a curriculum or even a syllabus upon Peircean habit. Rather, I intend to suggest that Charles Sanders Peirce's work is worthy of consideration in the educational field and that "habit" is a good focal point at which educators could begin that consideration.

As I noted in Chapter One, Peirce left a wealth of coded brilliance; but his work was hardly systematic. Since Peirce did not present a clear system, many students of Peirce have imposed an order upon his works. Unfortunately, the ordering of Peirce's works is often arbitrary. In fact, the works are often treated in a Procrustean manner. Head and legs, if one will excuse the gory metaphor, are stretched or chopped to make Peirce's work fit theory. Peirce, however, lies uncomfortably in another's theory.

In the field of education, two dissertations, Elvira Tarr's "The Epistemology of Charles Sanders Peirce and Its Relation To Education" and George S. Maccia's "The Epistemology of Charles S. Peirce and Its Implications For A Philosophy of Education" demonstrate the educational value of Peirce's works, provide seminal material for further discussion and debate, and underscore the difficulty of ordering Peirce's works. I will limit my remarks on the dissertations to brief summaries and comments pertinent to habit. Having discussed the two dissertations, I will then provide
an illustration of an educator considering a student's problem in terms of Peircean habit.

I

George Maccia's dissertation is worthy of praise. Without his audacious attempt Ms. Tarr's work and my own would probably have met with less success. In 1952, Maccia attempted to systematize educationally *The Collected Papers* and to compare their content to John Dewey's *Democracy and Education*. In Maccia's own words, the purpose of this study was to answer the following questions:

What is the relation between the knower and the known?
What is the relation between knowing and truth?
What is the relation between knowing and the good?
What are the aims of education as derived from Peirce's epistemology?
What are the aims of education as stated by John Dewey in *Democracy and Education*?
How do these aims of education as derived from Peirce compare with those stated by Dewey?
Who should control the curriculum?
What should be the organization of the curriculum?1

Directing his dissertation towards both students of philosophy and students of education, Maccia failed to serve Peirce well. Attempting too much, Maccia was also asking rhetorically whether the attacks against modern education would be valid and effective if they were leveled against Peirce's philosophy of pragmaticism. In the world of the hypothetical, Maccia's questions were meritoriously profitable. As I noted, however, the scope was too large; and the

limitations were arbitrary and without needed defense. For example it is difficult to understand the validity of the following premise:

The study of the aims of education of John Dewey will be limited to those found in his book entitled *Democracy and Education*. This writing of Dewey is widely used as a text in colleges of education and departments of education in universities throughout the country. Therefore, it is assumed that aims of education expressed in this volume would be reflected in educational teaching and practice which follow the teachings of John Dewey.²

Can John Dewey justly be limited to *Democracy and Education* and then compared to the whole published opus of Peirce?

Nonetheless, my main criticism of Maccia concerns habit. More specifically, Maccia depended on Peirce for consistency. At one point, Peirce may have insisted that one can develop habits only through experience; but, at another time, Peirce may state that important habits can be developed in the imagination. Imagination for Peirce plays a larger role than Maccia realized when he stated "Since the student can only learn through experience, he must experience conduct which is commensurate with the ethical aim."³

The vagaries of the imagination do not necessarily have to be tested in experience as Maccia suggested. The world of imagination can be conducive to habit formation and learning.

Additionally, since Peirce often uses a word in both a technical sense and common sense, it seems of value for Maccia to have mentioned

²Ibid. p. 16.
³Ibid. p. 177.
Ill defined, habit in Maccia's thesis omitted important denotations. Without a stipulative definition or an illustrative example, much became argued that was beyond the consideration of Peirce:

Habit and belief are closely allied; therefore, the distinction between the two must be clarified. A habit is a tendency to behave in a similar way under similar future circumstances. Habit is not an affection of consciousness. It is a general law of action. As a law, habit is a rule that determines that on a certain general kind of occasion man will act in a certain general kind of way. Belief is a habit.4

Not only does the above quotation fail to clarify habit or belief but it also leaves the reader in need of what both Maccia and I felt was an important distinction. Habit and belief are of more than passing importance, and Maccia's failure to clarify impeded my appreciation of his work.

Maccia has attempted too much: an encomium on Peircean aims, a derived Peircean epistemology, a comparison of Dewey to Peirce, and a proposed Peircean curricular solution to modern educational problems.

II

Unfortunately, Elvira Tarr's work views Peirce through a glass even more darkly than Maccia's work. Tarr's The Epistemology of Charles Sanders Peirce and Its Relation to Education provides an introduction, based on The Collected Papers, to Peirce's epistemology, his social philosophy, and their relation to education. Tarr's work is impressive but not totally satisfying.

4Ibid. p. 65.
If one reads the rather brief "summary" sections that serve as hardly more than textual glosses providing a running commentary, one understands Ms. Tarr's problem. Transitions from one idea to another were accomplished with great difficulty, for all of Peirce's work comprised his epistemology. The dissertation ranged too widely. It should have. For to analyze The Collected Papers would demand volumes of massive length and herculean effort.

Tarr's work, however, was impressive. It did identify and describe the Peircean limits of knowledge, the origin of philosophic doubt, the tradition in which he worked, his philosophic predecessors, and Peirce's importance to philosophy.

I found of particular interest Ms. Tarr's discussion of both conduct and experience. Her comments on both the teaching and learning of philosophy were significant and well worth re-examination.

Ms. Tarr's main concern, however, was with formulating the epistemology of Peirce from his published papers and with developing proposals for education based on these principles.

Without attempting to make Peirce's work coherent, Tarr examined what she considered major areas: Peirce's criticism of Kant and Descartes, his ontology, his concept of perception, his categories, his phenomenology, and his ideas concerning community, conformity, evolution, and control. Finally, Ms. Tarr suggested a curriculum based on her analysis of Peirce's work. Tarr's Peircean curriculum, above all, stressed inquiry and omitted the importance of habit.
Ms. Tarr dismissed "habit" early in her study:

Peirce uses the word 'instinct' in a rather broad sense. He builds on the idea of habit, which is a disposition, that is, a "general principle working in a man's nature to determine how he will act"; he further views an instinct as an inherited disposition. Because it is so difficult to be certain whether a habit is inherited or due to infantile training, Peirce uses the word 'instinct' to cover both cases (2.170).  

Having dismissed habit because Peirce at one time favored instinct, Tarr failed to note the countless occasions that habit was precisely the word Peirce chose. Yet a mere three paragraphs later Ms. Tarr herself, quoting and paraphrasing Peirce, used "habit" but failed to examine or to define it. In fact, habit is linked neither to belief nor to inquiry in Ms. Tarr's analysis. The use of habit is not a casual use; nor does every use of habit fall neatly under the cover of instinct. Habit is too easily dismissed. Its dismissal, I believe, leaves a noticeable lacuna in Tarr's evaluation of Peirce's epistemology.

Tarr unfortunately also uses inquiry, the struggle for belief, in both technical and common senses. This misuse often confuses the reader and, in fact, quite frankly perplexed me, for Ms. Tarr must have realized that there is a marked difference between a word which indicates a struggle to believe and a word which indicates a seeking of information by questioning.

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Ms. Tarr, however, did make an important contribution to Peircean literature. Hers is a study of wide spectrum; yet it is in the width of the study that the serious fault lies. One hundred and seventy pages simply cannot supply a complete epistemology for Charles S. Peirce. More to the point, habit, although mentioned, is never considered as a major philosophical concept in Tarr's chapters on epistemology, social philosophy, or education.

In both Tarr's and Maccia's works, width and seeming comprehensiveness circumscribe Peirce; his work is treated in such a cursory manner that often the examination seemed desultory and rambling. A more protracted, exhaustive approach would have achieved Ms. Tarr's desire to "stimulate educational practices and research."

III

Yet, as I believe is now obvious, habit is a term worth lingering over and contemplating. It is one term with which a gradual approach to Peirce could begin.

An awareness of Peircean habit could cause an educator to reconsider, to evaluate, to amend, to rectify, or to leave alone educational goals. Habit is a concept to which a reasoning educator should respond. It, I believe, is a concept capable of provoking excitement and stirring the imagination. Peircean habit takes us far beyond "a settled disposition or tendency (esp. on the part of the individual) leading one to do easily, naturally, and with growing skill or certainty what one does often."6

takes us beyond habit's synonyms carrying their own implications and information. Allow me to illustrate:

Solomon Broderick, having been raised on the West Side of Chicago, attended a Chicago Public High School for three years. Desiring to go to college but aware that his difficulties with written English would prove a stumbling block, Solomon sought the advice of his Senior English teacher.

Solomon's teacher, Mr. Armon, had encountered students like Solomon before -- students who were from "another country," students who had not learned to get by, and students whose errors in writing were not even predictable.

Armon felt that only a miracle, equivalent to the raising of Lazarus, would help Solomon in writing. Armon's expertise in belletristic literature was not what Solomon needed. Armon mused: "Solomon is not ineducable; he writes as he spoke; drab, colloquial jargon. Solomon writes that way because that type of writing always worked."

Upon closer analysis, Armon noted that Solomon's habitually bad writing was the product of many influences. Solomon, like his friends, found pleasure in community argot. He often imitated the clipt, elliptical speech of his TV or movie heroes. Speaking in class was a humiliating experience. Writing for school put Solomon in a state of confusion; avoidance of the task became commonplace. Hours were spent putting off the assignment; excuses
were made. The only thing Solomon was sure of was that the task was impossible. The more he had to write, the more strained he felt, the more he became aware of the fact that he could no longer communicate on paper what he really thought. Perhaps, Armon concluded, Solomon never could and never did communicate what he intended.

Let us now view Broderick through a Peircean scope.

Broderick is, on the positive side, less chaotic in his writing than he was in his early grammar school years. Believing that his writing was adequate for the goal of getting by, Broderick molded his action in accordance. He continued to write as he had been writing.

The future goal, however, for Broderick is different. Solomon Broderick feels that his writing will no longer be acceptable, i.e. the habit of writing which worked in the past to a minimum degree is failing him in the present and will fail him in the future. To correct this habit, control must be exercised. Solomon Broderick must reshape his habit of writing.

The habit of writing is made up of many components: punctuation, grammar, mechanics, spelling usage, style, and documentation. Some of those components are valid for Solomon. Solomon, for example, may have a basic sentence sense. This basic sentence sense could be the basis for writing effective prose. Perhaps, Armon could show Broderick how he weights his prose down with cliches,
vague language, misplaced modifiers. Broderick could be taught to view his own work from the reader's perspective, taught to see that words, phrases and punctuation are significant to people other than teachers.

But first Broderick should understand the nature of his doubt -- that he no longer believes that the idiosyncracies of street vernacular, omissions and illogic work.

Can Peirce help? Does Peirce's concept of habit allow the previous use? The question is sincere. The answer is positive but qualified.

Peirce would say that a new habit could be developed, that the student should begin with what he has; he would further stress the dialogue among the past, present, and future. Of course, he would note that this new habit would, if developed, become part of a cluster of other habits. All of these habits, Peirce would add, modify one another.

In this theoretical example, the word "habit" would take on implications far beyond the dictionary's definition and possibly beyond the contextual meaning of any text on writing. It could lead to a new way of looking at the world as it did with Peirce.

Habit, which Peirce viewed as giving order to the universe, ironically gives an ordered approach to Peirce's work. Peirce's work has been acknowledged by others as deserving investigation
for its educational value. My contribution has been to bring a single concept, habit, into sharp focus, a point of concentration from which educators may begin to study, to understand, or to argue with Peirce. I have removed all that was unnecessary to "habit" in order to strengthen my presentation; I have, however, been faithful to Peirce's work, a work which elucidates doubt, inquiry, and belief and a work which views man as a cluster of habits.
WORKS BY PEIRCE


WORKS ON PEIRCE


Ellis, Helen Peirce (Mrs. William R.). "Charles S. Peirce" Boston Evening Transcript 16 May (1914).


APPROVAL SHEET

The thesis submitted by James J. Velasco has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

October 26, 1977
Date

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Director's Signature