

Reconstructing the Normative Sciences

Reconstruindo as Ciências Normativas

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Abstract: From 1902 onward, Peirce viewed esthetics, ethics, and logic as “normative sciences,” interconnected spheres of philosophical inquiry that constitute his main work in value theory. The normative sciences provide the basis for a theoretical investigation of questions of value detached from practical interests. Because the normative sciences maintain Peirce’s well-known insistence on realism, they set his pragmatism apart from the more “nominalistic” pragmatism of James and Dewey. The paper aims to clarify Peirce’s idea of the normative sciences, to show how his realism applies in the sphere of value, and to explore his views on the proper relation between theory and practice. The concluding section suggests examples of how we might understand Peirce’s rich and innovative concept of normative esthetics.

Keywords: Peirce; pragmatism; pragmaticism; value theory; normative science; esthetics; ethics; logics.

Resumo: *De 1902 em diante, Peirce considerava a estética, a ética e a lógica como “ciências normativas”, esferas interconexas de inquirição filosófica que constituem seu principal trabalho em teoria do valor. As ciências normativas fornecem a base para uma investigação teórica de questões sobre valor, independentes de interesses práticos. Porque as ciências normativas mantêm a notória insistência de Peirce no realismo, elas colocam seu pragmaticismo à parte do pragmatismo mais “nominalista” de James e Dewey. O artigo almeja esclarecer a idéia de Peirce das ciências normativas, mostrar como seu realismo se aplica à esfera do valor, e explorar suas visões da própria relação entre ciência e prática. A seção concludente sugere exemplos de como podemos entender o rico e inovador conceito peirciano de estética normativa.*

Palavras-chave: *Peirce; pragmatismo; pragmaticismo; teoria do valor; ciência normativa; estética; ética; lógica.*

At the conclusion of a chapter entitled “Pragmatisms,” Louis Menand points out a significant problem with the “turn-of-the-century pragmatism” he describes so well in *The Metaphysical Club*:

[Pragmatism] takes interests for granted; it doesn’t provide for a way of judging whether they are worth pursuing apart from the consequences of acting on

them. We form beliefs to get what we want, but where do we get our wants? This is a question asked by writers like Veblen and Weber and Freud, but it is not a question that figures centrally in the thought of James and Dewey. . . . There is a sense in which history is lit by the deeds of men and women for whom ideas were things other than instruments of adjustment. Pragmatism explains everything about ideas except why a person would be willing to die for one (Menand 375).

I am inclined to agree that this is a problem with James's version of pragmatism. I am less certain that Menand's criticism applies to Dewey's thought.¹ I think it is significant that Peirce is not named in this particular criticism. I suspect that two factors may be involved in Menand's omission of Peirce. First, Peirce went to great lengths to set his pragmatism apart from James's and Dewey's philosophy. Even if one does not entirely comprehend the technical reasons behind his separatism, it is clear that "Peirce is a special case," as Menand says in another context (xii). Second, Menand is going after the big names in his chapter-ending summary. In terms of historical influence, Peirce was not in his day a big name. Whatever the reasons may be, I do consider it telling that Menand does not explicitly name Peirce as a target of his criticism.

In the context of developing his mature systematic philosophy (from 1902 onward), Peirce proposed a division of philosophy called "the normative sciences."² The normative sciences are comprised of esthetics, ethics (or practics), and logic (broadly conceived as semeiotic). Together, they constitute a comprehensive theory of value. At the heart of the normative sciences is the outline of a non-foundational ethical realism, grounded in esthetics and modeled on Peirce's pragmatic philosophy of scientific inquiry. Such realism is precisely what Menand and myriad other critics find missing from more "nominalistic" versions of pragmatism and neo-pragmatism.

1. Dewey does propose a standard against which we can evaluate our interests: whether they lead to experiences (or acts) that open, rather than close, opportunities for further meaningful experiences. Dewey indicates that if they do not, then anyone can apply "intelligence" to reform these wants. This helps, but one might argue that such "intelligence" is at bottom a rather mysterious and miraculous faculty of uncertain origin. A Menand-inspired critic might well ask what we make of those who apparently do not *want* to exercise intelligence over their desires, or inquire why, if we all possess intelligence innately, it seems to fail us so often.
2. The use of the word "norm" and its variants in English was a nineteenth century innovation. The *Oxford English Dictionary* (OED) notes that "norm," a noun indicating "a standard, model, pattern, or type" has been in common usage since only about 1855. The Latin *norma* was a carpenter's or mason's square, the indispensable layout tool used to establish and check right angles. Hence the adjective "normative" is defined in the OED as "establishing or setting up a norm or standard; deriving from, expressing, or implying a general standard, norm, or ideal." The first citation of this use in the OED is from W. Wallace's 1880 *Epicureanism*. Interestingly, Peirce himself had used the word in the 1865 Harvard "Lectures on the Logic of Science," where he asserted that "the whole idea of [laws of logic] being 'normative' laws is false" (W 1:166). By this, Peirce seems to have meant that the laws of formal logic, like the laws of physics, do not *recommend* but rather *explain* phenomena. Specialized uses of "normative" noted in the OED include "normative science" (first citation from Frank Thilly's 1895 translation of F. Paulsen, *Introduction to Philosophy*) and "normative grammar" (first citation from H. Oertel, *Lectures on the Study of Language*, 1901).

This is not to say that a developed theory of normative sciences would provide precisely what a strenuous-minded critic might want, however. The normative sciences offer no account of what beliefs one *should* be willing to die for – in Peirce’s view, philosophy is neither intended nor well-suited to establish *beliefs* of any sort (RLT 112). In the interest of heading off the relativism that a non-foundational value theory might seem to entail, and also in keeping with his insistence on the principle of fallibilism in any scientific inquiry, Peirce sharply distinguishes the normative science of *philosophical ethics* directed by reason, from the practical matter of *moral conduct*, guided by instinct and sentiment. Peirce does address the issue of belief, however, by suggesting the appropriate way for value theory to influence conduct. In this paper I hope to clarify Peirce’s idea of the normative sciences, show how his realism applies in the sphere of value, and explore his views on the proper relation between theory and practice.

I. Peirce’s Value Theory: The Normative Sciences

The three normative sciences appear at the center of Peirce’s mature classification of the sciences, which outlines his system of thought (Table 1).³ In this architectonic classification, mathematics and mathematical logic appear as the first major division. Peirce conceives mathematics as the purely hypothetical investigation of what conclusions follow from arbitrarily adopted postulates. The next major division is phenomenology, the nearly passive observation of the structures of experience. After phenomenology comes esthetics, the first normative science. Esthetics is the science of ideals: its aim is to formulate a concept of the *summum bonum*, that which is admirable in itself. The second normative science is practices, the inquiry into the nature of right and wrong action. The last of the normative sciences is logic, or semeiotic, which investigates the principles of the representation of truth. The studies preceding the normative sciences in the system do virtually nothing to affect reality, while those that follow — beginning with metaphysics and including the special sciences and practical arts — are increasingly directed toward understanding and altering reality in various ways. The normative sciences give these latter activities their direction: it is in normative science that we critically examine the ends that guide our interactions with the world, including the action of knowing the world. Thus, for Peirce, questions of value precede not only action, but they also precede most questions of fact (excepting only the most general questions of formal fact concerning mathematical relations, and those concerning the structure of experience which are raised in phenomenology). Peirce’s system thus embraces the post-Enlightenment idea that “all facts are value-laden.”

3. For detailed discussion of Peirce’s classification see Beverley Kent, *Charles S. Peirce: Logic and the Classification of the Sciences* (Montreal: McGill-Queen’s University Press, 1987) or Kelly Parker, *The Continuity of Peirce’s Thought* (Nashville: Vanderbilt University Press, 1998), Chapter 2.

I. Heuristic Sciences	A. Mathematics	
	B. Philosophy or Coenoscopy	1. Phenomenology 2. Normative Sciences 3. Metaphysics
	C. Special Sciences or Idioscopy	1. Psychical Sciences 2. Physical Sciences
II. Sciences of Review		
III. Practical Sciences		

Table 1. Outline of Peirce’s Classification of the Sciences

The normative sciences each address a particular mode of interaction with the world (Table 2): “For Normative Science in general being the science of the laws of conformity of things to ends, esthetics considers those things whose ends are to embody qualities of *feeling*, ethics those things whose ends lie in *action*, and logic those things whose end is to *represent* something” (CP 5.129, EP 2:200, emphasis added). There is moreover a clear interdependence among the three normative sciences. Each subsequent science considers a kind of end that is a narrower aspect of its predecessor’s focus. “Logical goodness and badness, which we shall find is simply the distinction of *Truth* and *Falsity* in general, amounts, in the last analysis, to nothing but a particular application of the more general distinction of Moral Goodness and Badness, or Righteousness and Wickedness” (CP 5.108, EP 2:188). In turn, “if the distinction [between] Good and Bad Logic is a special case [of the distinction between] Good and Bad Morals, by the same token the distinction of Good and Bad Morals is a special case of the distinction [between] esthetic Goodness and Badness” (CP 5.110, EP 2:189). In general, the three normative sciences “may be regarded as being the sciences of the conditions of truth and falsity, of wise and foolish conduct, of attractive and repulsive ideas” (CP 5.551, EP 2:378). Peirce maintains, in short, that Truth is a species of the Right, which is in turn a species of the Admirable in general (CP 5.130, EP 2:201).

Heuristic Science	Subject of Inquiry	Object of Knowledge
Esthetics	Quality of Feeling	The inherently admirable
Practics	Quality of Action	Right and wrong in conduct
Logic	Quality of Representation	Truth and falsity in thought

Table 2. The Normative Sciences

Thought or representation ought to conform to its proper ideal, which is just to say that we strive for our thoughts to be true. Logic in the broadest sense is the study of the conditions under which thought can reliably be considered to conform to Truth.

Likewise, action has its own proper ideal. Any action that is Right conforms to this ideal (whatever the ideal may be found to involve). It is the concern of Practics to articulate the conditions under which action can reliably be considered to conform to what is Right. So far Peirce was traveling familiar territory. When we come to esthetics, however, we find him departing from traditional conceptions of esthetics as the study of Beauty, or of the Pleasant.

Esthetics

Peircean esthetics is explained in terms exactly analogous to logic and practics: the concern of esthetics is to articulate the conditions under which our feelings can reliably be considered to conform to the Admirable.⁴ In esthetics we enter a shadowy realm of gradations of feeling: “that dualism which is so much marked in the True and False, logic’s object of study, and in the Useful and Pernicious of the confessional of Practics, is softened almost to obliteration in esthetics” (CP 5.551, EP 2:379). Esthetics aims to distinguish the “nobility” of feelings, which is a matter of how well they conform to the standard of the *summum bonum*.⁵ As a normative science, its role is to describe the basis of *admirable feeling*. In Peirce’s system, admirable feeling is the foundation upon which decisive action and critical thought mount their own more specific ideals:

If conduct is to be thoroughly deliberate, the ideal [that guides it] must be a habit of feeling which has grown up under the influence of a course of self-criticisms and hetero-criticisms; and the theory of the deliberate formation of such habits of feeling is what ought to be meant by *esthetics*. It is true that the Germans, who invented the word, and have done the most toward developing the science, limit it to *taste*, that is, to the action of the *Spieltrieb* from which deep and earnest emotion would seem to be excluded. But in the writer’s opinion the theory is the same, whether it be a question of forming a taste in bonnets or of a preference between electrocution and decapitation, or between supporting one’s family by agriculture or highway robbery. (CP 1.574, EP 2:377-78)

Taste just is what it is, having been shaped in any particular case by countless accidental experiences and associations. As a normative science, esthetics provides a means of discriminating among tastes.⁶ It proceeds upon the principle that habits of

4. Jeffrey Barnouw traces this conception of esthetics to Friedrich Schiller, whose 1885 *On the Aesthetic Education of Mankind* (“The Aesthetic Letters”) Peirce read closely as a young man. Barnouw writes: “With his 1906 conception of esthetics Peirce in effect came back to the key idea he had discerned in Schiller’s *Aesthetic Letters* . . . an idea of ‘aesthetic determinability’ which few before or since have really grasped” (Barnouw, 161).

5. I here use the word *nobility* to name the appropriate character of feelings. In its representation of what is true, good thought exhibits “veracity.” In its conformity to what is right, good action exhibits “propriety.” In its apprehension of what is admirable, good feeling exhibits “nobility.”

6. Peirce was never quite content with the conventional name *esthetics*. As late as 1906 he was still searching for an alternative: “If a new word must be made to designate that first section [of the normative sciences], I will suggest that *axiagastics* be the name of the science of the worthy of adoration” (MS 1334, p. 38).

feeling may be as deliberate as habits of action or thought. They may be deliberately cultivated to better conform to the Admirable, just as action may be deliberately cultivated to conform to the Right and thought to the True. Once habits of feeling that favor the Admirable are established, the ground is laid for good actions and thinking to follow more naturally.

All of this presumes that there is a singular standard or ideal that can be identified among the vast panorama of things that people actually do find attractive. Such an ideal must, on Peirce's view, recommend itself on pre-experiential grounds. That is, it must be such that it is uniquely suited as an object of feeling. The question of esthetics, accordingly, is "What is the one quality that is, in its immediate presence, [*kalos*]?" (CP 2.199). What state of things is admirable in itself? Peirce tentatively answers: "an object, to be esthetically good, must have a multitude of parts so related to one another as to impart a simple positive quality to their totality," *whatever* that quality may be (CP 5.132, EP 2:201). When applied to the totality of all that is, the evolving universe, the *summum bonum* consists "in that process of evolution whereby the existent comes more and more to embody those [real] generals which were just now said to be *destined*, which is what we strive to express in calling them *reasonable*" (CP 5.433, EP 2:343; see also Potter 64-65). The highest ideal tentatively described by Peirce's esthetics, then, is the quality of feeling evoked by the process that evolves greater reasonableness and harmony out of the plurality of things in the universe. In Peirce's view, the highest ideal conceivable to us is not a state of absolute harmony or absence of strife — not nirvana — but rather *the feeling that accompanies* increasing order and harmony in the world of our experience.

Practics

The connection between esthetics and ethics is almost immediate.⁷ One can hardly embrace an idea of the highest good without attempting to direct one's actions toward realizing it, but the close connection between esthetics and practics is more than psychological. According to Peirce, it is above all a logical connection: "the instant that an esthetic ideal is proposed as an ultimate end of action, at that instant a categorical imperative pronounces for or against it" (CP 5.133, EP 2:202). This Peircean categorical imperative is not quite the same as that described in Kant's famous formulae. In Peirce's view, the Kantian categorical imperative derives from Kant's particular conception of the *summum bonum*. While the Kingdom of Ends is a powerful and important conception of the categorical imperative, the principle of fallibilism indicates that neither it nor any other ought to be accepted as the last word on the matter.

7. The connection is so close that Peirce long failed to distinguish the two: "It was not until after [the 1898 Cambridge Conferences lectures] that I obtained the proof that logic must be founded on ethics, of which it is a higher development. Even then, I was for some time so stupid as not to see that ethics rests in the same manner on a foundation of esthetics, — by which, it is needless to say, I don't mean milk and water and sugar" (CP 8.255: Letter to William James 25 Nov. 1902). In fact, Peirce does not fully and clearly distinguish practics from esthetics until the 1906 "Basis of Pragmaticism" mss.

Although Peirce admired Kant's ethics,⁸ he offered one serious objection to Kant's theory: the categorical imperative described there is not presented as being subject to criticism. "Kant, as you know, proposes to allow that categorical imperative to stand unchallenged — an eternal pronouncement. His position is in extreme disfavor now, and not without reason" (CP 5.133, EP 2:202). Peirce's normative science of practics is an ongoing inquiry aimed at determining the ends toward which one's will ought to be directed. It encompasses "the purely theoretical studies of the student of ethics who seeks to ascertain, as a matter of curiosity, what the *fitness* of an ideal consists in, and to deduce from such definition of fitness what conduct ought to be" (CP 1.600). Esthetics asks what is good; practics asks what aspect of the good is the proper end of human action.

Though we have from Peirce a provisional account of the *summum bonum*, no finite being can realistically direct its will toward *universal* increase of reasonableness. "Accordingly," Peirce writes, "the problem of ethics [practics] is to ascertain what end is possible" (CP 5.134, EP 2:202). I read this statement to mean *what end is possible for finite individuals to pursue*. Peirce emphasizes the limitations of our situation: "Here we are in this workaday world, little creatures, mere cells in a social organism itself a poor and little thing enough, and we must look to see what little and definite task circumstances have set before our little strength to do" (RLT 121). Practics recognizes human finitude: the individual is an ineffective agent *if taken in isolation*.⁹ This fact indicates to Peirce that right action necessarily involves exerting individual effort in concert with the efforts of the extended community: "progress comes from every individual merging his individuality in sympathy with his neighbors" (CP 6.294, EP 1:357). Our part of the *summum bonum* is expressed in Peirce's interpretation of the Golden Rule: "Sacrifice your own perfection to the perfectionment of your neighbor" (CP 6.288, EP 1:353).

Aside from his insistence on fallibilism, Peirce's conception of the categorical imperative does closely resemble Kant's. Peirce emphasizes a certain universalizability or sustainability as the hallmark of right action:

It appears to me that any aim whatever which can be consistently pursued becomes, as soon as it is unflinchingly adopted, beyond all possible criticism, except the quite impertinent criticism of outsiders. An aim which *cannot* be adopted and consistently pursued is a bad aim. It cannot properly be called an *ultimate aim* at all. The only moral evil is not to have an ultimate aim. (CP 5.133, EP 2:202)

8. Peirce writes glowingly of "the doctrine of rights and duties" in the "Minute Logic," for example (CP 1.577).

9. This same insight forms the core of Josiah Royce's ethical and religious philosophy. In works such as *The Philosophy of Loyalty* and *The Sources of Religious Insight* Royce emphasizes the necessity of forming genuine communities animated by a shared spirit of loyalty to a common and transcendental good. In his greatest work, *The Problem of Christianity*, Royce develops his views in explicitly Peircean terms. Royce's concept of exercising "loyalty to loyalty" might even be regarded as an improved statement of the Peircean categorical imperative.

The Peircean categorical imperative might be formulated as follows: The aims one pursues ought above all to contribute, in the long run, to the increase of order, harmony, and connectedness within one's community and world of experience. Any action that neglects this imperative is ultimately pernicious.¹⁰

We can see now where Peirce departs from Kant's ethics. Actions that conform to Kantian duty would appear to conform to the Peircean categorical imperative by definition. Peirce's approach allows, however, that some actions that do not satisfy the Kantian categorical imperative may nonetheless be right. His notion that the ultimate aim rather than the defining maxim of an action is definitive of its rightness makes this difference. Peirce's practice appears able to tolerate those individual departures from strict Kantian duty that we sense to be right in some cases. Peirce could advise me to go ahead and fib to Aunt Betty about her awful hat when she asks my opinion, for example. To do otherwise would most probably violate the ultimate aims of harmony and connectedness as it they are manifest in familial love. Though the Kantian maxim ordinarily expresses an ultimate aim, to identify consistency of one's maxim as the ultimate aim is too narrow a conception of ethical goodness.

Logic

Peirce's work on logic is far better known, and is much more extensive, than that devoted to esthetics and ethics. Here we need only concentrate on two aspects of Peirce's logic. First, we must articulate its nature and position as one of the normative sciences. Second, we must bring out the non-foundational realism Peirce associated with logic. I suggest that the same realism Peirce discerns in logic must also apply to his esthetics and practices.

As was seen above, logic is the study of the conditions under which thought can reasonably be considered to conform to the ideal or standard of truth. Truth is a species of the Right, which in its turn is a species of the Admirable. To embrace a conception of the *summum bonum* implies that one ought to endeavor habitually to feel attraction to that ideal, to develop nobility of feeling. Moreover, one ought to endeavor habitually to act with propriety, in a manner that promotes the *summum bonum*. The inquiry into the proper ends of such actions is practice. Logic is the third component in Peirce's program for understanding and realizing the *summum bonum*. If practical goodness consists in actions that contribute to realizing the highest good, then logical goodness likewise consists in thoughts contributing to this end in their own mode: "logical goodness is simply the excellence of argument — its negative, and more fundamental, goodness

10. Note Peirce's virulent condemnation of Andrew Carnegie's *Gospel of Wealth* in "Evolutionary Love," where he refers to the "Gospel of Greed" (CP 6.294, EP 1:357). While Peirce's principles would certainly endorse the aims of philanthropy, he could not endorse the base of self-interested actions upon which Carnegie's monopolistic-capitalist philanthropy was to be erected. Peirce apparently saw the damage to harmony and connectedness in such a philanthropist's community *during* the empire-building as too great a cost, however admirable its final results might seem to be.

being its soundness and weight, its really having the force that it pretends to have and that force being great, while its quantitative goodness consists in the degree in which it advances our knowledge” (CP 5.143, EP 2:205). Logic aims to articulate the conditions for veracity, under which thinking can reasonably be considered to increase order, harmony, and connectedness in the world of thought.

Thought, according to Peirce, always occurs in the medium of triadic signs. The proper function of a *sign* is to represent accurately an *object* to an *interpretant* — three terms are always involved in a successful representation. The world of our experience is a world represented in thought. The world we inhabit can be seen, then, as an incredibly complex web of signs in constant and dynamic interpretive transaction. This activity, according to Peirce, is tending toward an ideal state of complete and accurate representation — an all-inclusive sign-relation (NEM 4:239-40). Such a sign-relation cannot in fact ever be accomplished, because such a sign would need to generate an interpretant of itself. Thus the process must either stop without completion, or else it must continue forever toward completion. This ultimate and ideal unity is, however, the *telos* of thought. Such an ideal, it is said, is like the stars that we steer by but never actually reach. Logic describes the patterns of association and interpretation of signs that tend toward truth, where truth is the accurate and complete representation of Reality. Normative logic, the third normative science, is semeiotic, the theory of signs and sign-action (CP 1.444, SS 80). It is much broader than *formal logic*, which Peirce identified as the Mathematics of Logic, a branch of mathematics.

The most important aspect of logic is that it concerns regularities and laws in thought and experience. Esthetics concerns immediate feelings, while practics concerns immediate feelings and particular actions. Logic concerns the immediate and the particular, as well as the general — and the regularities and laws it discerns may be found in the worlds of feeling, action, and thought alike. The determination of such generals in fluid and chaotic experience is the key to establishing order, harmony, and connectedness in the world. Logical goodness or “excellence of argument” is a function of the degree to which thought advances toward truth, conceived as a unifying representation of reality.

This generalizing and synthesizing activity of thought, when it is exercised with deliberate control, is the means by which we most effectively promote the *summum bonum*. On the one hand, logic describes the *method* of deliberate inquiry into the ends of feeling (esthetics) and action (practics). On the other hand, logical goodness is *itself* a further development of esthetic goodness and practical goodness. The process of valid inference not only advances us toward apprehending a truth, it is also at the same time a right action (because it is an act of synthesis conforming to the Peircean categorical imperative) and an instance of the *summum bonum* (because a feeling of increasing reasonableness, a “sentiment of rationality,” ordinarily accompanies the process).¹¹ In typical fashion, Peirce presents three distinct but interdependent areas of inquiry, which taken together describe the scope of value theory.

11. My thanks here are to Karen Carlson, who explored the esthetics of logical inference in an independent readings course on “Peirce and Esthetics” at Grand Valley State University, Summer and Fall 1994.

II. Non-foundational Realism

Perhaps the most important feature of Peirce's value theory, and of his philosophy in general, is its insistence on a non-foundational realist epistemology. This position is best explained in the context of his logic and philosophy of science, but it must apply in all areas of inquiry. Peirce's "scholastic realism" maintains that there is a universe of reality, and that the aim of thought and inquiry is to develop adequate and accurate representations of this reality. If inquiry follows a sound method of investigation, its erroneous conclusions can eventually be exposed and corrected. At the heart of a sound method of inquiry is of course valid reasoning about the matter at hand. Logic is the inquiry that takes good reasoning as its object, and not merely as its method.

Peirce writes that "The real . . . is that which, sooner or later, information and reasoning would finally result in, and which is therefore independent of the vagaries of me and you" (W 2:239, EP 1:52). A report of a unique phenomenon — such as a stone falling upward on one occasion — is a report of an unreal phenomenon, or else it is an incomplete or inadequate report of the operation of an as-yet-elusive general law of physical reality. If there is some odd exception to the law of gravity at work on one occasion, this too is a real feature of the universe that would "sooner or later" be disclosed to us through further inquiry. To say that it could never *in principle* be discovered why such a phenomenon reportedly occurred is precisely to say that the phenomenon is unreal. "And so those two series of cognitions — the real and the unreal — consist of those which, at a time sufficiently future, the community will always continue to re-affirm; and of those which, under the same conditions, will ever after be denied" (W 2:239, EP 1:52).

The "scholastic" component of Peirce's realism is this insistence that general laws governing the universe are the objects of genuine knowledge. These laws can be represented in cognizable sign-systems, and the laws thus represented are nothing other than the universals whose reality was maintained, against the nominalists, by Duns Scotus. This conception of the real, and of scientific inquiry as the project of constructing adequate and accurate (i.e. True) representations of reality, applies to all science — including the three normative sciences.

Peirce had ample opportunity and cause to work out the implications of applying his scholastic realism to logic. An early example appears in Peirce's 1879 review of Carveth Read's *Theory of Logic*, where he briefly surveys the three possible positions Read recognizes concerning the status of logical laws: "Some writers consider it a study of the operations of the understanding, thus bringing it into close relations with psychology. Others regard it as an analysis of the conditions which must be conformed to in the transformations of verbal expressions in order to avoid the introduction of falsehood. While others again — our author among them — think the propositions of logic are facts concerning the things reasoned about" (W 4:1). Peirce's scholastic realism leads him to prefer logical realism over psychologism or logical formalism. Just as the validity of the law of gravity is a question of what *will* happen when two or more massive bodies come near one another, "the question of the validity of reasoning is the question of how frequently a conclusion of a certain sort *will* be true when premises of a certain sort are true; and this is a question of fact, of how things are, not of how we think" (W 4:1, emphasis added).

The other notable feature of Peirce's epistemology is that it is non-foundational. This is not to say that knowledge builds upon a dubious base, but rather that the "indubitable foundations" of any inquiry are only contingently undoubted (W 2:247-48, EP 1:61). The inquirer starts with a doubt, which is the motive to inquiry. But the doubt is always enmeshed in a matrix of undoubted, practically indubitable belief — in terms of which the doubt is conceived. This matrix includes established commonsense knowledge, more esoteric knowledge established by previous inquiry, and a few items necessary "if reasoning is to go on at all: for example, all that is implied in the existence of doubt and belief, and of the passage from one to the other, of truth and falsehood, of reality, etc." (W 4:1-2). No belief is immune to criticism and even outright rejection, however. In fact, Peirce insists that the pragmatic assent to belief in the matrix of truths as it is understood by the inquirer at a given time must be balanced by the principle of fallibilism — the awareness that even though we can, and probably do, possess much true knowledge of reality, "we can never be absolutely certain of doing so in any special case" (W 2:239, EP 1:52). Roofers, rocket scientists, and everyone else are right to assume the truth of the law of gravity — as long as we realize the need to throw it overboard in the event that experience clearly shows it to be mistaken. Until that happens, though, we are fully justified in accepting and using it as a component in our "foundational" matrix of belief.

Peirce himself witnessed and contributed to the overthrow of practically indubitable beliefs in both logic and mathematics. He was also at the center of an intellectual circle in Cambridge, led by Chauncey Wright, that assimilated Darwin's evolutionary biology in the 1850's. These experiences with the structure of scientific revolutions convinced Peirce that foundations are always needed for inquiry, but that even the firmest foundation might conceal a dry rot. Peirce's realism thus remains "non-foundational" in the strict sense that there are no absolutely certain or essentially necessary components in our body of knowledge.

The meaning of Peirce's non-foundational scholastic realism for logic is clear: logic endeavors to describe the principles that govern reasoning when it successfully attains true conclusions, but we can never be certain that our present understanding of logical principles is complete or correct *even as we use those principles to conduct our inquiries*. The meaning of Peirce's non-foundational realism for esthetics and ethics is less clearly indicated in his writings. It is here, however, the Peirce offers some of his most interesting suggestions for value theory.

Taking up Peircean ethics first, we are led to ask what a non-foundational moral realism would entail. Likewise, we must ask what would be involved in practice, the theoretical inquiry into morality. Just as logical realism supposes that the principles that lead inference from true premises to a true conclusion are facts concerning the relations among propositions, so must moral realism suppose that the principles that lead action to conform to what is Right are facts concerning the relations among actions and aims. In other words, what makes actions right or wrong is something objective: the value of an action has to do with how well it actually conforms to a moral order that extends beyond the finite group's knowledge of morality.

Yet our knowledge of morality must also be non-foundational, on Peirce's account. When we inquire about ethics, it is because there is some doubt about our way of evaluating actions. Some principle of conventional morality appears problematic, or we come to suspect that our accepted understanding of what is right may be inadequate.

Practics affords the means of critical examination of conceptions relevant to the problem area. Once this critical examination has begun, the logic of inquiry places everything in jeopardy. Though only those conceptions that actually do appear problematic during inquiry are to be challenged, there is no conception that is intrinsically immune to possible criticism. Practics is an inherently radical science.¹² In genuine inquiry, any hypothesis may be suggested as a possible resolution of the present doubt. Theoretical inquiry in ethics may suggest that some of our cherished principles are in fact pernicious, though it may take remarkable experiences to bring us even to consider the suggestion. More often, inquiry will suggest that we are in need of reinterpretation and development: the notion of rights, for example, may need to be restricted or extended, or our assumptions about what effects do in fact result from some action (such as telling certain kinds of joke over coffee at the office) may need to be reconsidered. Practics asks what is involved in making our actions conform to an ideal. Because the ideal is a general conception (as are all realities, in Peirce's view), it is susceptible to further determination through inquiry. The answers to the questions practics poses may, then, in any given case involve changes in our principles for evaluating actions or in our accepted conception of the ideal itself. The aim, as with any heuritic science, is to develop a better representation and understanding of how things are in the world.

The same must apply to Peirce's esthetics. That esthetics would be non-foundational is not hard to envision. After the breakthroughs of modern art, it seems reasonable to regard esthetic thought as the deliberate effort to experiment and challenge received conceptions of the Good and the Beautiful. The notion that Peirce's *realism* can be applied in this area, however, requires some elaboration. What does it mean to speak of realism in esthetic theory? Perhaps only this: the process of finding and developing order in the raw materials (physical and cultural) in our universe of experience, and the feeling that accompanies this process, really is the highest ideal of human life. It is Peirce's view that, given a particular situation in place and time with its particular resources and problems, the essential good of our existence lies in fashioning a harmonious balance between the rich potentiality of order and the already ordered. The fine arts exemplify this process quite directly, but the same ideal — the *summum bonum* — motivates all our activities, from the most abstract mathematical reasoning to the most concrete efforts at subsistence farming.

The heuritic science of esthetics asks only one question: "What is the highest good?" The function of logical investigation of this question is to bring each individual, and each generation, to an understanding of the best answer that can be given to this central question. Esthetics, then, is a perpetual science of a single question. It is the work of practics and logic to determine what significance its answer has for our conduct and thought.

12. "Ethics, then, even if not a positively dangerous study, as it sometimes proves, is as useless a science as can be conceived" (CP 1.667).

III. Reason, Sentiment, and Nobility of Experience

Let us return to the familiar critique of pragmatism that Menand puts so succinctly: “Pragmatism explains everything about ideas except why a person would be willing to die for one.” I must now confess to having distorted Menand’s point just a bit. I left out one key comment which, taken in context, seems to me to suggest a sense that philosophy above all *ought* to provide ideas worth dying for. Menand writes: “Wants and beliefs can lead people to act in ways that are distinctly unpragmatic. Sometimes the results are destructive, but sometimes they are not.” The passage continues with his observation that “There is a sense in which history is lit by the deeds of men and women for whom ideas were things other than instruments of adjustment.” (Menand 375). *The Metaphysical Club* shows that pragmatism developed in a society that had been sickened and devastated by its Civil War, a war that was ostensibly fought for the sake of dearly held beliefs and ideals. But the experience of the U. S. Civil War, as Menand points out, taught the founders of pragmatism that “certitude leads to violence” (Menand 61).

There is no question that humans crave certainty and absolutes. The philosophical question is whether certainty and absolutism are justified. In secure times we feel a comfortable distance from their more violent and destructive results, and we may crave the energizing influence of “confident moralism” (Guelzo 36). In such times — and Menand wrote his book in such a time — pragmatism may come across as weak. Pragmatism presents philosophy as a critical method that itself provides no absolutes, no “ideas worth dying for.” Now the United States has again been devastated and sickened by the effects of violent actions arising from extreme moral certitude, an experience that many in the rest of the world have known all along.

Perhaps in this context we can attend to Peirce’s idea of the normative sciences as the critical and systematic examination of values. I agree with Menand that James’s pragmatism offers no adequate account of where we get our wants. I do believe that Dewey offers such an account — but I side with Peirce in viewing Dewey’s contribution as a psychologistic account of esthetics, ethics, and logic rather than as a contribution to the normative sciences themselves.¹³

Peirce saw the importance of distinguishing two kinds of question here. The first concerns what our most basic desires are, where we get them, and how they motivate us to act. These are questions of practical fact that admit of psychological or even biological answers. The second kind of question concerns what desires we ought to entertain, how we ought to acquire them, and the role that our various principles and beliefs ought to play in motivating our actions. These speculative or theoretical questions

13. See Peirce’s 1903 *Nation* review of Dewey’s *Studies in Logical Theory* (CP 8.188-190). Peirce expressed his views of Dewey’s logical work more directly in a private letter on June 9, 1904: “You propose to substitute for the Normative Science which in my judgement is the greatest need of our age a ‘Natural History’ of thought or of experience” (CP 8.239). A key moment in Peirce’s development of the normative sciences had come in early 1900, when he made similar criticisms of Frank Thilly’s *Introduction to Ethics* (published in *The Bookman* and *The Nation*) and Karl Pearson’s *Grammar of Science*. (Published in *The Nation* and in *Popular Science Monthly*). Finding Thilly’s and Pearson’s psychologist accounts of ethics inadequate, he began working in earnest to develop his own alternative.

are addressed in the normative sciences. Peirce's value theory is especially interesting because he proposed answers to both sorts of questions, and ventured to suggest how the two distinct realms, the practical and theoretical, interrelate.¹⁴

The desires that actually do motivate our actions are deeply embedded habits, so deeply embedded that Peirce considers them all "instinctive" whether they are acquired or innate.¹⁵ "It is the instincts, the sentiments, that make the substance of the soul. Cognition is only its surface" (RLT 110). We act on instinctive and sentimental desires because they are instantly ready guides to action. What these desires *are* is a matter not entirely of chance, because they are determined by the previous experience of the race and the individual. From the individual's perspective, these antecedents may appear largely accidental. From the race's perspective, though, we find that *most* instinctive behaviors are admirable and beneficial: think of parents' inclination to care for their children, the neighbor's selflessness in helping in time of need, or the citizen's willingness to take up arms to defend against direct attack. Such situations do admit of the kind of moral certitude we crave. On the basis of this general reliability of instinctive behavior, Peirce argues in favor of "philosophical sentimentalism" when it comes to ordinary practical action (RLT 111).

Nobody has a problem with the maternal instinct, of course. It is when instinct and sentiment motivate inappropriate and destructive actions that we look to philosophical reason for critique and reform. John Michael Krois observes that "The blind 'morality' of all true believers is more readily understandable in terms of 'sentiment' than argumentation. The objection might be raised that these are exceptional, extreme cases, that supporters of such causes identify with them to a degree that is untypical of ordinary ethical consciousness. But, and this is Peirce's point, they are not exceptions. They are typical — albeit deviant — examples of ethical attitudes." (Krois 34) Western philosophy has tended to suggest that once reflective and critical reason has identified a better way, our actions ought to immediately change. From there it is only a small step to the Enlightenment dream of a world in which all of our conduct, *all* our moral attitudes, arise from deliberate, reasoned decision: thus was born the economic fiction of the "rational consumer" who brings full information and ratiocination to every choice, for example.

Peirce was astute enough to realize three problems with this dream. First, it is not *necessary* to reason about every one of our actions. If the baby is hungry at 3 a.m., we simply get up and feed her. Second, it is not *possible* to reason about every action: time does not always permit it, and in many cases reason is inconclusive even though a

14. Peirce's most direct discussion of the relation between reason and instinct, between theory and practice, appears in "Philosophy and the Conduct of Life," the first of his 1898 "Cambridge Conferences" (published as RLT). Peirce wrote this lecture after it was suggested that he speak on some "vitaly important" topic. Since Peirce viewed philosophy as a theoretical science that did not necessarily address such areas of life, he laid out his view that it is "vitaly important" that scientists separate their work from practical concerns. Peirce's lecture is unfortunately filled with sarcasm, irony and overstatement; at least it reveals how he *really* felt about the relation of theory to practice. John K. Sheriff provides a very helpful discussion of Peirce's philosophical sentimentalism in *Charles S. Peirce's Guess at the Riddle*, pp. 83-89.

15. Peirce's account of the role of experience in shaping beliefs and habits suggests that there are very few innate instincts.

decision must be made. Finally, Peirce points out that it is often not even *desirable* to do so: individual ratiocination is highly fallible in matters of “vital importance.”¹⁶ The twentieth century has suffered far too many ill effects of a misguided trust in experts who would reform the world on the basis of their theoretical expertise. Kenneth Laine Ketner proposes the following illustrations of this phenomenon, though there are countless others: “Consider the widespread destruction of our planet’s environmental resources, or the use of rationalized systems of life (such as are reflected in political bureaucracies, collapsing Stalinism being a ubiquitous instance) in place of traditional systems of life” (Ketner 9). Blind moral certitude can be destructive, but as Camus observed in *The Rebel*, there is an extra dimension of horror involved when the certitude is “justified” by philosophy, when reason is used to transform “murderers into judges.” Philosophy and reason themselves are rendered impotent when they “justify” the spectre of “slave camps under the flag of freedom” (Camus, 3-4). Peirce goes so far as to say that, compared to the errors of limited reason, instinct and sentiment are “practically infallible” guides to action in ordinary affairs (RLT 111).

How, then, should reason, in the form of theoretical science, influence action? Peirce suggests that the channel of influence here is as slow and sure as the method of science itself:

Instinct is capable of development and growth, — though by a movement which is slow in the proportion in which it is vital; . . . [I]t chiefly takes place through the instrumentality of cognition. The soul’s deeper parts can only be reached through its surface. In this way the eternal forms, that mathematics and philosophy and the other sciences make us acquainted with will by slow percolation gradually reach the very core of one’s being, and will come to influence our lives . . . (RLT 121)

I suggest that we recognize two kinds of normative sciences: alongside the Heuristic (theoretically oriented) Normative Sciences described in Table 2, there are also Practical Normative Sciences, as indicated in Table 3. These relate in exactly the same way that the heuristic sciences of (theoretical) physics or mathematics relate to the practical science of engineering. Practical sciences use results from the heuristic sciences to attain some specific end other than the increase of knowledge about the world. These ends may be regarded as habits in the Peircean sense (think of predictably fluid traffic flow patterns or the stability of a bridge, which are the concrete instantiations of general laws in designed systems).

	Practical Normative Science	Habit to Be Cultivated
Arts of Enjoyment,	Practical Esthetics	Nobility of feeling
Action, and Reasoning in	Practical Practics	Propriety of action
Routine Matters	Practical Logic	Veracity of belief

Table 3. Influence of Reason on Habit

16. This last point is especially important in response to Deweyan criticisms of Peirce’s separation of theory and practice, such as that presented by John Stuhr in “Rendering the World More Reasonable.”

In like manner the practical normative sciences use theoretical knowledge about esthetics, ethics, and logic to achieve particular ends — to cultivate habits of feeling, action and thought. An example would be for us to use Peirce’s system of existential graphs to teach basic critical thinking skills to students, who then exhibit the habit of not committing common fallacies in their own thinking (see Forbes).

Conclusion: Practical Normative Esthetics

Let me close by offering a few illustrations of the “slow percolation of forms” that might be involved in Practical Esthetics. I take this to be one of the most interesting implications of the idea of Normative Sciences.

The first comes from Peirce himself. During 1898-1899 Peirce worked as a consulting engineer for George S. Morison on a bridge design project. In a surviving draft of his final report Peirce tried out (perhaps for the first time) a direct connection between esthetics and ethics.

When, after having agreed to calculate the effects of live loads upon your projected Hudson River bridge, I came to study the plan of it, I became more and more impressed with the honor of being concerned, even in that entirely obscure way, with such an instrument for the elevation of man. For whoever, in allowing his eye of a morning to rest a moment for refreshment on that splendid scene, should catch sight of that bridge and should reflect upon how calmly and simply it performed a great duty, conforming in every detail to the principles of good sense and of sound reason, would certainly receive a moral lesson which would have its effect upon his conduct for all that day. (MS 1357, p. 9)

Peirce continued with reflections on the beneficial effect such works of beauty may have on the unconscious mind, all such effects being accomplished by instinctive (or unreflective) response to the sight itself. There is, Peirce indicates, a moral dimension to engineering and design: “Distant ages shall rise up and extol the contrivers and executors of such a monument, as they would have reason to curse ever more and more deeply those who should deface the landscape with a hideous, broken-backed structure that should half intend one thing and half another, perpetually acting to debase the souls of the generations whose eyes it should weary and torture” (MS 1357, p. 10).

Morison’s bridge was never built. In 1927-31, Othmar Ammann’s George Washington Bridge was built on the proposed site. Of that structure, which resembles Morison’s bridge in line and proportion, the architect Le Corbusier wrote:

The George Washington Bridge over the Hudson is the most beautiful bridge in the world . . . It is blessed. It is the only seat of grace in the disordered city . . . When your car moves up the ramp, the two towers rise so high that it brings you happiness; their structure is so pure, so resolute, so regular that here, finally, steel architecture seems to laugh. (George Washington Bridge)

In his work on the bridge project, Peirce seems to have come to agree with a view that architects and designers have long held: the built environment teaches and influences us in deep ways. There is an ethical, not only an esthetic aspect to design.

As for the natural environment, consider the thought of Aldo Leopold, perhaps the first (and perhaps most philosophically influential) “professional” environmentalist.

His theoretical training in biology equipped him to challenge dominant wildlife management strategies in an essay called "Thinking Like a Mountain;" his sensitivity to the questions of order and harmony in both human and natural communities led him to challenge soil conservation strategies in another essay entitled "The Conservation Esthetic." It is against this background that he came to articulate his famous core principle of a "Land Ethic": "Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." (Leopold, 224-25) One could argue that a whole field of philosophy, environmental ethics, was founded on an insight from normative esthetics.¹⁷

Finally, a story from my own experience that suggests how insights first established in theoretical ethics may slowly but surely percolate through a culture to affect esthetic perception. For many years my introductory philosophy students have read Martin Luther King, Jr.'s "Letter from Birmingham Jail." In order to help them see the dialogical nature of philosophical argument, I ask them to write a short paper in which they reconstruct the specific criticisms to which King is responding, based only on reading King's "Letter." Several years ago students reported a difficulty with the assignment that I had not encountered before. They had no trouble inferring what the criticisms of King's non-violent direct actions had been. The problem was that they were uncomfortable perpetuating those regressive and racist ideas by writing them down in their own words for the assignment. I like to think that by about 1998 my Northern U.S. college freshmen had crossed a threshold in the civil rights movement. The movement had progressed from the stage of formulating theoretical arguments (the mid-19th century) to formulating social policy, laws, and ethical norms (the mid-20th century) and finally, I hope, to establishing an esthetic perception that racist and discriminatory ideas themselves are repulsive. It is often said that we cannot legislate morality. Perhaps this offers an example of how morality, once subjected to philosophical critique and then enacted in laws, can slowly but surely reach beyond cognition to affect the very substance of the soul.

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17. Leopold would not have known Peirce's work on normative sciences, though Bryan Norton has made a persuasive case for pragmatism's indirect influence on Leopold's thought.

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