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“Peirce’s Epistemic Eschatology”

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Lower Lock 1
PEIRCE’S EPISTEMIC ESCHATOLOGY

1. THE SEEMINGLY UNBRIDGEABLE GAP BETWEEN REALITY AND ITS APPEARANCE

The American philosophers Charles Sanders Peirce (1839 - 1914) the recent philosopher who, more than any other, has come to sensible terms with the inevitable imperfections of our human knowledge regarding the world’s realities. His approach to the issue was predicted in the realization that there is simply no getting away from the distinction between Reality and its Appearance, between the actual truth of things and the putative truth as we think it to be. The injunction

- Tell me what actually is so as distinct from what you merely believe to be so.

is an instruction we would be hard pressed to endeavor to obey. The project of endeavoring to detail how things actually are “in and of themselves” at issue with the Kantian idea of “things in themselves” as distinct from our opinions about them (“the phenomena”) presents an ever-problematic challenge. The problem of the cognitive domestication of Reality—of access to the certifiable truth regarding the world and its ways—is a challenge that has preoccupied philosophers throughout the ages.

2. PEIRCE’S APPROACH TO THE COGNITIVE DOMESTICATION OF REALITY

Faced with the distinction between Real and Putative Realty, Peirce proposed a crucial unification. The actual problem, so he held, is not one of a bifurcation of Reality into the section Real and Putative (Actual and Phenomenal) with the real and actual somehow positive outside the realm of cognitive domain of knowledge and belief. What is at issue, he held, is simply one inequality but two different ways of thinking about viz. correctly and incorrectly. Accordingly, the distinction at issue is not ontological but epistemic.
And Peirce insisted that the cognitive status of this unique Reality is one of inherently open access to cognition. As he saw it knowability is a pivotally essential feature of the Real.

But that said, we need to take many steps of explanatory clarification.

The first step is as follows:

Step 1: The issue is not one of “known to me” but rather one of “known to us.”

The Essential move here is that from the individual to the wider community. And this paves the way to:

Step 2: The us-community at issue is not indiscriminately all-inclusive, but is focused on the manifold of competent, trivial, and seriously dedicated inquirers: the scientific community.

And moving on from here is must be acknowledges that a further step is needed:

Step 3: The community at issue is not the scientific community as presently constituted, but rather this community as it will evolve over time: the scientific community of the eventual future.

But even this is not the end of the story, for a still further step is to be taken:

Step 4: The characterized ideas of that future scientific community is not some particular specified future time $T$, but rather is the future of “the long run”—of what happens in the end, so to speak.

And so as Peirce saw it, the authentic truth about actual reality is something that is accessible via the course of development of the cognitive enterprise. But it is not a matter of present reality (no matter what the present defining date on the calendar may be). Rather it is a matter of
how matters will unfold in “the long run.” And this of course shifts matters onto the track of eschatological deliberations.

Cognitive access to reality becomes assumed—albeit at a cost to distributive collectivity and chronological eventuality.

3. A PROBLEM: THE LONG RUN

There is, to be sure, a pretty large problem inherent in Peirce’s proposed solution to the appearance/reality problem, mainly its critical reliance on what happens in the long run. For not only does the long run never arrive, . . . .

Peirce himself was certainly not oblivious to this difficulty, and thought he had a plausible way of addressing it. Here Peirce proposed to take his cue from science, and in particular from two ranges of phenomenon.

The first range was that of stochastical mechanisms like coin-tossing and dice-tossing. Here Peirce could and did invoke the Law of Large Numbers to show that there is a substantial and ever increasing likelihood of being able to discern the long-run outcome in a medium term of finite scope.

The second range was that of determining nature’s constants such as the speed of light or—Pierce’s congenial example of the force of gravity through the gravitation technique of pendulum swinging. Here the course of expendable experience manifests an ever more accurate determination, decimal place by incessive decimal place, and the technique of measurement response. The eventual language outcome can thus be foreseen with increasingly accuracy even over the accessible medium range.

In both cases, and others like them one need not vainly look to developments in the never-to-be-realized long run. For the ultimate result can be anticipated with sufficient accuracy in the near or medium term. The world’s arrangements are such that ultimate outcomes emerge deservedly from the fog of the future even over the inaccessible short run.

4. A FLY IN THE OINTMENT
To be sure, there is still a possible fly in the ointment. The problem roots in the consideration that there is no way that the short run can issue any categorical guarantees for the long. The series of 0s can continue for a zillion such entries and then, for aught one can tell in advance switch to 1s. Even in the measurement of whose weight closer investigation can issue is developing the divergence that we associate with isotopes.

And so in his cautious moments, Pierce qualifies the definition of truth as the result of long-range inquiry by cautiously reformulating it in the actual manner.

If there indeed is a fact of the matter then long range inquiry will resist it in an ever more precise way.

Those pesky isotopes now don’t present a problem. For in the quest as the one unique and definite atomic weight then we have to face the fact that there just is no well-defined fact of the matter.

In the absence of long-range determinacy the issue before us is simply based on a false presupposition. The question at hand was ill-formed and there is no truth of the matter. There is no reality to apprehend, but only misapprehension.

5. A SAVING REASSURANCE VIA EVOLUTION

So abstractly speaking, and viewing matters from the angle of theoretically conceivable possibilities, the world might be an anarchic jumble—a chaos without any order and demand of the stability needed to define ongoing individual types, and kinds without lawful order and thus without conceptualizable facts.

As Peirce saw it, this sort of situation is certainly conceivable and might even have been actual at the very outset of cosmic evaluation. But its present realizability is simply not in prospect.

Peirce positions his epistemology in a dually evolutionary context, looking at once both to cosmic and to biological evolution. In respect to cosmic evolution, Peirce saw the world as intelligence-friendly, with cosmic evolution ongoingly rendering the world more intelligible—more and more subject to different types and varieties of intelli-
gible order and regularity. And in regard to biological evolution Peirce saw an inherent impetus toward the development of intelligent beings who deploy thought rather than automaticity as a mechanism of species-survival. Overall, then, Peirce envisioned a universe that was user-friendly to intelligence, functioning by way of increasing the extent to which its modus operandi is understandable to and understood by intelligent beings—beings which can only evolve in an intelligible world but which, in turn, are evolutionarily destined to do so.

And dual impetus to intelligence (both cosmic and biological) assumed for Peirce the evolutionary conformation between nature and its intelligent investigations that guaranteed a world exhibition the essential requisites of factual cognition—the manifestation of long-run stabilities over the near or medium term.

In this way Peirce closed the gap between the theoretical prospect of knowledge precluding instabilities and the realistic conditions prevailing in this actual and intelligible world. The crux, for Peirce, lies in a complex evolutionary conformation between the nature of intelligent beings and the modus operandi of an intelligence sustaining world.

Peirce envisioned a basic metaphysical principle at work in providing for an impetus to pattern stability. Cosmic evolution, he held, is such that patterns are self-potentiating: prevailing regularities—even if themselves the product of choice fluctuations—have a statistical tendency not only for self-perpetuation but also as paving the way for the creation of further regularities. The result is a phenomenological order and stability that provides grist for intelligent apprehension, and thereby provides an evolutionary edge for creatures that live by their wits and use pattern detection details as a guide to behaviour. The intelligence of creatures and the intelligibility of the world thus march arm-in-arm down an evolutionary road. But that intelligence is not only at work on the biological side, it is a formative force operative in the ontology of the cosmos.

6. THE ESCHATOLOGICAL DIMENSION

But there is yet one further significant aspect to epistemological eschatology. Consider again Maynard Keynes’s quip that “In the long
run we are all dead.” It all depends—and depends critically on that little word “us.” It is certainly true of us as individuals. And perhaps even of us as the species, *Homo sapiens*. But it is not necessarily so with us taken as the whole of the genus: Intelligent Beings. And it was not outside the lager range of Peirce’s long-range vision that in this intelligence-friendly cosmos at large there is the prospect that Intelligent Beings are here to stay.

And so instead of having it be that “In the long run we are all dead” Peirce was prepared to contemplate that In the long run we are all well informed—because in the long run, and “the fullness of time” there will emerge a conclusive convergence between cognition and reality: between intelligence in the world and its cognitive grasp on the modus operandi of an intelligence-friendly cosmos.

Now where does all of this leave us? When we look at the matter not through Peirce’s eyes but through our own, we are certainly not in a position to say that Peirce’s position is correct. But on the other hand nothing that has happened in natural science since Peirce’s time constitutes conclusive impediment to the prospect of its being so. With respect to those long-run developments we are in no position to deem ourselves wiser than Peirce.

**7. A CONCLUDING CAVEAT**

One salient point on which it seems advisable to part company with Peirce in this matter is to explicitly and deliberately substitute the *methodology* of inquiry and substantiation for his somewhat mysterious capacity of *insight* or *instinct*. On this revised approach, the venture of hypothesis formulation is guided by heuristic principles of method, involving the use of proven methods which themselves have eventually emerged from a process of trail-and-error in inquiry. It seems reasonable to take the stance that scientific discovery (or at any rate scientific conjecture) is subject to the guidance of rational principles of search, principles whose basis is a matter of method and not instinct. We thus retain the Peircean recourse to plausibility, but alter drastically the basis on which the plausibility rests.

After all, scientific hypotheses are not created *ex nihilo* by random groping; they are constructed on a suitable methodological foundation.
They emerge not from random combinations but from the detection of patterns in the empirical data. Without such methodological guidance, we are driven to a “method” that is in effect the absence of method, the “method of last resort” as it were, a merely random search through the possibilities. It is just at this point that methodological, regulative, and procedural considerations can come into effective operation.\(^1\) We cannot at each stage of inquiry place the whole spectrum of logically possible alternatives on equal footing. Of course, we cannot eliminate the “implausible” candidates on the basis of certain knowledge, since the operative principles of analogy and coherence are only presumptive in their force. Such a cognitively constitutive stance is not appropriate. But we can take the cognitively regulative approach that certain sorts of alternatives (“plausible” on the basis of preserving analogies) can be taken as more worthy of serious considerations.

In effect, the shift from instincts to methods (that is, methods for thesis-substantiation) enables us to have it both ways. We avoid occultism by relying at the methodological level on a strictly trial and error mechanism of learning; and we avoid the rational impotence of not being able to account for the actual course of scientific progress. Such a combination of a model of method-learning, based on the blind groping of trial and error, and of thesis-learning, based on the use of methods, makes it possible to have the best of both worlds.\(^2\) We can accept a model of cognitive progress based on the mechanism of pure trial and error, but we reorient its applicability from theses (theories) towards methods for thesis-selection. We also are able to account for the rapidity of scientific progress in a straightforward methodological way. Our approach thus proceeds by inserting the matter of methodology as a mediating link emplaced between the operation of a trial and error mechanism and the espousal of factual theses.

A possible objection looms. The process of rational selection implements an evolutionary model in which substantive adequacy is correlative with historical survival. But, of course, people are not as rational as that; they have their moments of aberration and folly. And might not such tendencies selectively favor the survival of the fallacious be shunted away from truth and our sense of the plausible distorted? Peirce certainly recognized this prospect:
Logicality in regard to practical matters . . . is the most useful quality an animal can possess, and might, therefore, result from the action of natural selection; but outside of these it is probably of more advantage to the animal to have his mind filled with pleasing and encouraging visions, independently of their truth; and thus, upon unpractical subjects, natural selection might occasion a fallacious tendency of thought. (CP, 5.366 [c. 1877])

However, the methodological and regulative orientation of our present approach to plausibility again safeguards against such a fallacious tendency. At the level of individual beliefs, “pleasing and encouraging visions” might indeed receive a survival-favoring impetus; but this unpleasant prospect is effectively removed where a systematic method of inquiry is concerned. This method must by its very synoptic nature penetrate deeply throughout the sphere of the pragmatically effective.

In sum, these considerations suggest a possible and promising alternative to Peirce’s handling of the key issue of abductive talent. For this can now be construed not as a matter of a historically evolved instinct for creating truth-approximating hypotheses, but rather as a historically developed methodology for guiding the search for efficiently data-accommodating hypotheses. Such an approach envisages a transformation from an instinct for hypothesis selection into an evolving “logic” or methodological organon for hypothesis-construction. This shift from an instinctive and biological to a deliberated and pragmatic hypothesis-selection process enables us to preserve all the advantages of Peirce’s approach, while avoiding its problematic reliance on a somewhat mysterious metaphysical insight. It affords a perspective that carries Peirce’s own pragmatism through to its logical conclusion.

NOTES

1 The issues of this problem-area have perhaps been pursued more effectively by Herbert A. Simon than by any other cognitive theoretician. See his essay “Does Scientific Discovery Have a Logic?” Philosophy of Science, vol. 40 (1973), pp. 471-480, where further references to his work are given. One key summary runs thus: “The more difficult and novel the problem, the greater is likely to be the amount of trial and error required to find a solution. At the same time, the trial and error is not completely random or blind; it is, in fact, highly selective” (The Science of the Artificial [Cambridge, Mass., 1969], p. 95). Exploration of the computer simulation of the processes of the human learning and discovery brings clearly to
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light the operation of an essentially regulative/methodological heuristic. It is based on principles (such as the priority of “similarity”-augmentation transformations in problem-solving) which qua theses are clearly false (are heuristic “fictions” in the sense of Vaihinger), but which prove methodologically effective.

2 The methodological approach can thus lay claims to resolving the issue perceptively posed by Donald T. Campbell:

Popper has, in fact, disparaged the common belief in “chance” discoveries in science as partaking of the inductivist belief in directly learning from experience, . . . [T]hat issue, and the more general problem of spelling out in detail the way in which a natural selection of scientific theories is compatible with a dogmatic blind-variation-and-selective-retention epistemology remain high priority tasks for the future. (P. A. Schilpp, ed., *The Philosophy of Karl Popper*, 2 vols. [La Salle, 1974], p. 436)

The present theory provides a natural basis for combining a natural selection process at the level of theories with an epistemology of blind-variation-and-selective-retention at the level of methods.


4 The idea of such a developing methodology of discovery (or “logic of discovery”) is itself altogether in sympathy with Peirce’s ideas. (See CP, 2.108 [c. 1902].) For some modern developments along these lines, which would surely be congenial to him, see Norwood R. Hanson, *Pattern of Discovery* (Cambridge, 1958), and his influential 1961 paper “Is there a Logic of Discovery?” in H. Feigl and G. Maxwell, eds., *Correct Issues in the Philosophy of Science*, vol. 1 (New York, 1961). The work of Herbert A. Simon is an important development in this area: “Thinking by Computers” and “Scientific Discovery and the Psychology of Problem Solving” in R. G. Colodny, ed., *Mind and Cosmos* (Pittsburgh, 1966); Alan Newell and H. A. Simon, *Computer Simulation and Human Thinking* (New York, 1961).

5 Some of this chapter’s lines of thought of this chapter are developed more fully in the author’s *A Useful Inheritance* (Totowa NJ: Rowman & Littlefield, 1990).