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PAUL DOUGLASS

*MODERNISM AND SCIENCE: THE CASE OF  
POUND'S ABC OF READING*

Modernist writers clearly responded to the scientific ideas of their era, whether those ideas were original, popularized, or pseudo-scientific. Yet few would probably argue that Modernism's base or foundation was cast in its response to science, in the way in which, for example, one might argue that Naturalism arose largely in response to 19th century empiricism. And when one reviews the Anglo-American case list of Woolf, Joyce, Stevens, Eliot, Faulkner, Pound, and so forth, Ezra Pound seems to stand out as an exception. Only Stevens, perhaps, was as concerned as Pound that, in Pound's own words, "literature has fallen behind science . . . [a]nd this crisis should carry such of us as are readers and certainly such of us as are writers to a closer consideration of language."<sup>1</sup> Although Modernists generally liked to describe the artist's job as the equal in difficulty of a laboratory chemist or speculative physicist, those comparisons seem mostly skin-deep. And Pound's career-long campaign to turn the critic into a biologist seems in contrast extraordinary.

Pound distilled the biology/poetry analogy in his "How to Read" (1928) and *ABC of Reading* (1934). Ian Bell has rightly argued that Pound's modernism may be defined to a great extent by his responses to scientific traditions and concepts.<sup>2</sup> But I wish to take a broader view than Bell's, arguing that Pound's fiery embrace with Agassiz's 19th century experimental method signifies far less than his general sympathies with the *psychologisms* of his own day--Bergson, James, and Dewey. I find Pound's response to science rather more typical at base than exceptional as Bell has

1. Pound, papers in Beinecke Library, Yale University. Quoted in Kathryn V. Lindberg, *Reading Pound Reading: Modernism After Nietzsche* (New York: Oxford University Press, 1987), p.34.

2. Ian F. A. Bell, *Critic As Scientist: The Modernist Poetics of Ezra Pound* (London: Methuen, 1981), p. 85.

argued, if I understand him correctly. Moreover, Pound's adoption of a psychologistic posture toward the "hard" sciences led him to a conflation that has also troubled the definition of an experimental method for psychological studies: a conflation in his case of the roles of critic and artist. Again, I find Pound typifies Modernism's theoretical base, which from my vantage appears unfortunately cracked.

Of course, perhaps all literary theory is at base a bit "cracked." Naturalism's claims to an artistic imitation of science provide one good example. Such an imitation—as in even the work of Zola, but especially the work of his more romantic American followers, Dreiser, Norris, and Dos Passos—appears superficial, and has been viewed with contempt by authorities on biological and chemical theory and practice. Nonetheless Naturalism assumes a stereotypically "scientific" posture of making observation the basis for determining causation. Precisely because of this obsession with causation, Naturalistic writers have generally adopted a pessimistic determinism that is also stereotypically associated with the "hard" sciences. Modernism, in contrast, has struggled with the burden of a heavily psychological, even at times mystical emphasis. Pitting itself *against* unspiritual science, Modernism appears to emphasize the subjective realities of the stream of consciousness: Memory, emotion, paradox, illusion. Though the early rhetoric of Vorticism, Imagism, and Futurism laid claim to an aesthetic of sharp, Byzantine patterns of organization and exposition, there has still always been a constitutive trace in Modernism of Bergsonian and Jamesian psychology, and that trace is often called "romanticism" because it reflects the romantic elevation of "feeling" over "rationalizing."

By this light, Modernism's responses to science would certainly seem soft, disorganized, resistive; and Pound's strong response anomalous. Modernist writers' adaptation of scientific concepts in their work as poets, critics, and novelists, reflected (as many would argue) simply an anxiety about science's inroads into traditional bastions of religion and art. Their statements of analogy between the artist's and the scientist's roles are often dismissed—by Bell, for example—as "modish" and shallow.<sup>3</sup>

Yet we should recall that humanist psychology itself arose in imitation of "hard" science, and was indeed busy *turning literature itself into part of its own base*. The

3. *Ibid.*, p. 85. Bell refers here to Eliot, but writes in a similarly dismissive vein about many other modernist appropriations of science-jargon.

"Benjy" section of *The Sound and the Fury*, the Molly Bloom soliloquy of *Ulysses*, the brilliant monologues of Stein's *Three Lives*, the cerebral bypaths of *Swann's Way*—all have been analyzed as documents of associationist psychology. Stein studied under James, who, like Bergson, had been trying to help psychology and philosophy assert "scientism," and in her case a long career of literary experimentalism ensued. And why did Bergson become the most celebrated European intellectual of the pre-World War One period? The main reason was that he provided a rationale by which philosophers, painters, poets, and theologians could claim value in a world obsessed with technocratic visions of "progress." Modernist writers were not alone in amalgamating a vocabulary from the jargon of aesthetics and criticism, and from mathematics, chemistry, biology, and physics. Bergson, James, and Dewey attained the foreground in their era precisely because they wished to set both philosophy *and* art upon firm empirical ground.

The modernist conception of the artist as it was elaborated by T. E. Hulme, Ezra Pound, Wyndham Lewis, and T. S. Eliot, stands in this psychologistic tradition. The artist they conceived would be a psychic spelunker, bringing back data from what Eliot would later in "East Coker" call "raid[s] on the inarticulate" (sec.V). Hulme had convinced Eliot and Pound, during a brief but absolutely essential period in the formation of Modernism, that Bergson provided a way for theory about such artists "to be stated accurately," and a "much better vocabulary" for talking about artistic creation.<sup>4</sup> The artist of Hulme is in fact an advance scout for the new empiricism Bergson had hoped to found on the "immediate data of consciousness": "The creative artist, the innovator, leaves the level where things are crystallized out into these definite shapes, and, diving down into the inner flux, comes back with a new shape which he endeavors to fix. He cannot be said to have created it *but to have discovered it*, because when he has definitely expressed it we recognize it as true." Hulme's intuitive artist contacts a reality that can only be known empirically, and the poet-empiricist, who dives into experience, is possessed by a "passionate desire for accuracy."<sup>5</sup>

4. T. E. Hulme, *Speculations: Essays on Humanism and the Philosophy of Art* (London: Kegan Paul, 1924), pp. 263-64, 157.

5. *Ibid.*, pp. 149, 153; my italics. For a full commentary on this matter, see my own work, *Bergson, Eliot and American Literature* (Lexington: University Press of Kentucky, 1986), esp. Chapter Two: "The Gold Coin."

Consistent with this general approach, Modernists would (in theory) base their work more on empirical research than "theory."<sup>6</sup> While they may falter and even appear not to know their own minds, at times, when they explain what such an artist actually does in the depths of his psyche, they are at no loss to tell what is *made* of the artist's discoveries—how they are organized, catalogued and exhibited. These matters could and would be explained in terms scientists might respect. Thus science formed an indispensable base for the Modernist *apologia* for both artistic and critical activity.

One sees this, for example, in *The Spirit of Romance* (1910), wherein Pound discusses the relative roles of artist and scientist—implying that, though they are obviously different, they still work the same field. He compares reality to a river "perturbed at times by the quality of the riverbed, [but] in a way independent of that bed. . . . Stationary objects are reflected, but the quality of motion is of the river. The scientist is concerned with all these things, the artist with that which flows."<sup>7</sup> In this early work, Pound also spoke of poetry as a "sort of inspired mathematics, which gives us equations not for abstract figures, triangles, spheres, and the like, but equations of human emotions."<sup>8</sup> A poem like "In a Station of the Metro" (begun in 1913) applies Pound's approach, in effect distilling perception, keeping as close as possible to "thingness," but more importantly, seeking its "essence," just as a scientist reduces, in his alembic, a solution to its essential residuum. The poem also seeks to work in a reactive way in the mind of the reader, as though it were an energy or force released upon contact with the imagination.

Other Modernist writers expressed a similar theoretical orientation. If we cannot have presentation of the actual thing in art, we can still have what Bergson had called the "emotional equivalent" of it.<sup>9</sup> Eliot's "objective correlative" is rooted in this notion, as it proposes a "chain of events which shall be the formula of [a] particular emotion."<sup>10</sup> Faulkner, too, spoke of aesthetics as a science, like chemistry, with certain scientific rules "which, when properly applied, will produce great art as surely as certain

6. Harvey Gross pointed this out in *The Contrived Corridor: History and Fatality in Modern Literature* (Ann Arbor: Univ. of Michigan Press, 1971), p. 19.

7. Ezra Pound, *The Spirit of Romance* (1910 rep. New York: New Directions, 1953), pp. 7-8, 222.

8. *Ibid.*, p. 5.

9. Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness*, trans. F. L. Pogson (New York: The MacMillan Co., 1910), p. 15.

chemical elements combined in the proper proportions will produce certain reactions."<sup>11</sup> Hemingway half-playfully suggested this equation for the novelist: "Nouns plus motion = emotion."<sup>12</sup> Eliot, much more seriously, had described the poet as a "catalyst," a "platinum filament" in his early essay, "Tradition and the Individual Talent."<sup>13</sup>

The desire to compete with science, turning the powers of intelligence on unexplored territory, is endemic to Modernism. Once one confronts the ubiquitousness of quasi-scientific nomenclature, one recognizes that Modernist writers generally assume a conception of the artist as an empirical researcher. Yet this assumption carries with it a troublesome effacement of the distinction between critic and author, as cold method shoulders aside artistic intuition and inspiration. If artists become "filaments" (in Eliot's term), or "antennae of the race" (in Pound's jargon), they are reduced to a passive role of alertness, unless they, too, adopt the methodology of the scientist, and operate as both enabling apparatus and scientific analyst.

Pound's *ABC of Reading* epitomizes this conflation of critic and poet. Published in 1934, it had been a project on which he had worked for years, and it extends his response to science along lines extrapolated from *The Spirit of Romance*. Pound divides his book into a polemical first section and a second section titled "Exhibits." He devotes the first four chapters to laying groundwork. Chapter One makes the announcement that "The proper METHOD for studying poetry and good letters is the method of contemporary biologists, that is careful first-hand examination of the matter, and continued COMPARISON of one 'slide' or specimen with another."<sup>14</sup> Pound follows this with a famous illustration, in which he describes biologist Louis Agassiz teaching a graduate student to observe and record data from the dissection of a sunfish. The student's laborious work and painstaking attention to detail illustrate, Pound declares, the "method [by which] modern science has arisen," a method quite opposite to that "narrow edge of mediaeval logic suspended in a vacuum" (p. 18). The clear point is that only such a laboratory method, rather than speculation

10. Eliot, *Selected Essays*, p. 124.

11. William Faulkner, *Early Prose and Poetry*, ed. Carvel Collins (Boston: Little, Brown, 1962), p. 74.

12. Ernest Hemingway, source under research.

13. T. S. Eliot, "Tradition and the Individual Talent," in *Selected Essays* (London: Faber and Faber, Limited, 1932), p. 17.

14. Ezra Pound, *ABC of Reading* (New Directions, 1934), p. 17. Further references to page numbers from this edition will appear in the text.

or metaphysics, can give rise to progress in the study of literature. (This is also, patently, the cornerstone of James' pragmatism and Bergson's philosophical scientism.)

Pound then lauds Fenollosa as having made the "first definite assertion of the applicability of scientific method to literary criticism," and elevates the Chinese language because it eschews abstraction and stays close to images of things. He declares that nothing (including science) has progressed until someone insisted that conclusions be based on "direct examination of phenomena" (p. 20). Pound asserts again here his fascination for Chinese ideograms, as he argues that the ideogram is exactly analogous to a biologist assembling slides for exhibit (p. 22).

But note that Pound's scientific method of studying poetry posits a scientific character for poetry itself. The critic plays biologist, *but the poet did so first*. Poetry is itself a slide-making activity, a sorting, not merely a gathering of evidence. That premise precedes Pound's conclusion that Chinese characters are (because of their slide-like character) inherently poetic. Chinese written language, he says, "HAD TO STAY POETIC; simply couldn't help being and staying poetic in a way that a column of English type might very well not stay poetic" (p. 22). Pound passes over this matter in his conclusion to Chapter One of the *ABC of Reading* and proceeds to describe the nature of "laboratory conditions" for a critic, bemoaning the state of European and American intellectual life, in which everyone is content to take general ideas about art at second hand rather than to experience it directly. The implications for the poet himself thus remain unstated, implicit. Yet everything that follows bears upon poetic as well as critical practice.

In the subsequent three chapters Pound underscores the *enduring* value of great literature, defining it as "news that STAYS news" (p. 29), defines good writers as those who keep language "efficient," "accurate," and "clear" (p. 32), and offers the formula: "Dichten = condensare" (to write equals to condense). Seizing the obvious conclusion to his line of reasoning directly, Pound claims that the object of the critic is, like that of a chemist, to arrive at a table of elements, below which one cannot reduce poetic substance to any greater purity (p. 38). He then suggests several reading lists, makes bombastic judgments, and suggests exercises in writing for students, ranging from "let the pupil write the description of a tree" (p. 66) to comparing Swinburne and Milton (p. 78). Section Two contains Pound's "exhibits," beginning with brief passages from Dante, Cavalcanti, and

Villon, dwelling heavily on Chaucer, and then careening in one hundred pages through the intervening centuries to a halt with Walt Whitman. I contend that Pound's specific choices signify far less than his adoption of a general method, one that applies ambiguously to critic and poet. The poet, too, seeks a table of elements, a set of formulas to relate them, a predictable array of consequences for artistic choices. Note, especially, that this chemical analysis is wedded to a biological paradigm—literature as the elaboration of living forms and energies.

A very interesting consequence of Pound's approach stems directly from his adoption of both a biological and a chemical paradigm. One might be tempted to think that he had in some way anticipated molecular biology's orientation here, but the truth is that he looks backward, not forward. His taxonomical efforts begin with Agassiz, and despite his emphasis on "process" and "change," Pound is an anti-evolutionist in literary study, and his taxonomy of authors shows his rigorous avoidance of anything like a progressivist or evolutionist posture. This leads him into puzzlements similar to those that troubled Agassiz's taxonomies: He is interested in an assemblage of "ideal forms," and is willing to ignore vast stretches of literature because it is not germane to a "type." The comparison between such a taxonomy and any "table of elements" or bookkeeper's ledgers (p. 38) is therefore bogus. The truth is that Pound wants to have it both ways: to compare poets to chemists, critics to biologists; to see poetry as a slide-making activity, and the critic as assembling his table of elements. The mixed metaphor of this approach reaches limits which become drastically apparent in *ABC of Reading*. Here, one ceases to be able to separate the roles of the author and critic, for their basic methodology is the same strange mixture of Agassiz's search for ideal forms (best of their kind) and chemical experimentalism (x combined with y produces z).

My point has been that a similar method—and a similar conflation between art and criticism—underlie Modernist literature generally. Assuming for the moment that this assertion has merit, two questions immediately arise: First, what specific features might one expect to find, given the scientific pretensions and preoccupations described here? And second, what consequences does this overlapping of artistic and critical activity bring?

Considering the first question, one might hypothesize that Modernist art would exhibit a tendency to cata-

logue details, to offer "exhibits," especially lists of items. This indeed could describe much of Pound's work in *The Cantos*. It certainly describes the eerie effect of passages from Eliot's *Waste Land* that read like they were assembled by an archaeologist--Pound's editorial influence accentuated that effect, but Eliot accepted it. William Carlos Williams embedded newspaper articles in the text of *Paterson*, and his "decentred" structure for that poem suggests a series of exhibits in a case. Crane's *The Bridge* also offers a "casebook" approach.

Or consider the Ithaca section of Joyce's *Ulysses*, in which questions are put and answered in a cool, laboratory-style diction, reflecting of course an ironic view of scientific preoccupation with diagramming and detail, yet also a reflexive comment on Joyce's own predilection for painstaking recreation of physical and emotional environs. Gertrude Stein's *Tender Buttons* (written in 1911 and published in 1914) might be another important though lesser-known example in this case. It consists of a catalogue of items--"A Box," "A Plate," "A Chair"--with cryptic entries tracing lines out from the object of attention, as though a mental "rubbing" had been made of its form in the manner of a "rubbing" done of a grave marker.<sup>15</sup> Certainly Stein's *Three Lives* (1909), like Anderson's later *Winesburg, Ohio* (1919), is a casebook approach to fiction that undermines the very notion of novelistic plot and seeks in stylistic experimentation some objective correlate to the stifling rigors of "proper" society.

To begin cataloguing such Modernist imitations of science leads to a better understanding of its abandonment of discursive poetry. It also deepens one's appreciation for the characteristic Modernist "layering" of text, collage-like, which is so ubiquitous. And it shows that Modernists adopted a "casebook" approach not dissimilar to that touted by Naturalist writers. *Winesburg, Ohio's* several stories, and Faulkner's *The Sound and the Fury* (or perhaps even more appropriately, *As I Lay Dying*) also "exhibit" modes of consciousness and experience for readers rather than subject them to traditional exposition. Consciously or not, these authors have also sought the dispassionate approach of the scientist, attempting in their work to give the look and feel of spare fragmentary evidence in scientific research, and like Joyce, attempting to remove their own fingerprints from the exhibits in the case.

15. Gertrude Stein, *Tender Buttons* (New York: Claire Marie Publishers, 1914).

Like Naturalism, then, and despite its emphasis on the dark forms of the psyche, Modernism appears to emphasize objectivity over subjectivity, empiricism over speculation. That emphasis stems from a desire to make adequate response to the stunning success of the "hard" sciences. These Modernist emphases have tended, as they did with Naturalism, to suggest bleak consequences. Sartre accused Faulkner of having "decapitated time," and he meant by this that Faulkner's world was a deterministic one.<sup>16</sup> That is an accusation traditionally hurled at the Naturalistic writer, and it has caused some, like John Conder, to argue for placing Faulkner in a Naturalistic tradition.<sup>17</sup> But isn't it more accurate to say that, in their responses to science, both Naturalism and Modernism imply fatalism? Individual writers' worlds differ, but in their greatest work both Naturalists and Modernists transcend fatalism to show us, as Faulkner himself once said, that free will "functions against a Greek background of fate."<sup>18</sup> While the model of scientific investigation will never take the full measure of Modernism's theoretical base, one must still admit that without this factor in the equation, Pound's posture in *ABC of Reading* seems anomalous, when it is actually typical, and affinities among certain writers--like Fitzgerald and Hemingway, for example--remain theoretically puzzling. The hypothesis Ian Bell used to explore Pound's work does appear, one might say, to give results elsewhere.

As to the second question, what consequences the apparent conflation of author and critic has had, the answer is not encouraging. The results of Pound's own literary "investigations" in *ABC of Reading* never approach his dream of conclusiveness, mainly because he resisted, as Kathryne V. Lindberg has recently and thoroughly argued, the kind of systematization for which he campaigned,<sup>19</sup> but primarily, as I have suggested, because his taxonomy is rambunctious, reactionary, and (by the light of an evolutionist theory) highly idiosyncratic and (therefore) misleading. Pound's opinions on the relative value and purity of various artistic creations do not signify half so much, I repeat, as his adoption of a methodology that conflates artist and critic.

16. Jean-Paul Sartre, "Time in Faulkner: *The Sound and the Fury*," in Frederick Hoffman and Olga W. Vickery, *William Faulkner: Three Decades of Criticism* (Michigan State University Press, 1960), p. 230.

17. See John J. Conder, *Naturalism in American Fiction: The Classic Phase* (University Press of Kentucky, 1984).

18. William Faulkner, *Faulkner in the University*, ed. Joseph L. Blotner and F. L. Gwynn (Charlottesville: University of Virginia Press, 1959), p. 38.

19. See Lindberg, cited above.

That absorption of the artistic by the critical method was openly rejected by some, like Eliot, for example, who argued to the end that poetic composition was not really an intellectual act. Pound, who strenuously declared that it was, appears to have been just as busy mining that harbor with paradoxical and destabilising assertions. The long-term consequence seems to have been that Modernism's imitation of science contributed to the leveling of the arts and the blurring of the theoretical boundary between art and criticism. Whether a cause or a symptom of that change, Modernism's imitation of science has complicated and muddied rather than resolved and clarified literature's role in this century of scientific advancement. Pound's strong response to scientific themes and practices may be seen as epitomizing, rather than diverging from, that Modernist tendency.

## DAVID GORDON

### POUND'S CHINESE: A DEAD LANGUAGE?

Despite the cultivated, deferential, and intelligent treatment afforded to Pound's translations of the *Odes* by Mr. Chang ["Pound's Chinese Translations" by Chang Yao-Xin (*Paideuma* xvii.1 1938, pp. 113 ff)], what he actually thinks about the Chinese language is in diametrical opposition to all that Pound has ever stood for:

In most cases characters no longer call forth any pictures, and generally people could not [sic] care less about them . . . language has . . . become every bit as abstract as any phonetic languages ever invented on this planet. [129] Symbols are no longer tokens for concrete objects or 'processes of action in nature' as Fenollosa says they are. They stand today for nothing more than an abstract idea. The Chinese language has become "juggling counters" of a kind. [130]

Since Mr. Chang speaks from the Chinese Academy, and thus with considerable authority on this matter we want to restate his position with care: the ancient Chinese language of actual drawings of "the operations of nature" has over the millenia evolved at present into an abstract language of pure phonetic values, without any actual visual significance. And so for Mr. Chang, it appears that the Chinese visual language of Pound, Fenollosa, and Karlgren is dead.

Mr. Chang corroborates his view in detail with several readings from Pound's "prose" translations of Confucius. That Pound went indisputably too far in arbitrarily splitting ideograms—we are in accord with Mr. Chang—but in the following examples we see that Mr. Chang's readings are the result, not of a failure to realize

1. Against all this "abstract" language is "literature as the embodiment of our thoughts," from China's first and perhaps greatest literary critic, Lu Ki (born 261 AD) [See Achilles Fang's translation in *New Mexico Quarterly* Vol. xxii, No. 3, Autumn 1952, p. 28].

And of course Western poetry has sought the concrete in place of the abstract from Eliot's "objective correlative," to Sir Philip Sidney's *Defence of Poetry*, to Homer.