From Vortex to Vorticism: Ezra Pound's art and science.

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On December 3, 1924, Ezra Pound wrote from the Italian town of Rapallo to Percy Wyndham Lewis in London: "I have just, ten years and a bit after its appearance, and in this far distant locus, taken out a copy of the great MAGENTA cover'd opusculus. We were hefty guys in them days; and of what has come after us, we seem to have survived without a great mass of successors" (Lewis and Pound 138). The "great MAGENTA cover'd opusculus" to which Pound refers in his letter was the first number of the magazine BLAST, published in June 1914. (1) The painter and writer Wyndham Lewis—its main editor—recalled BLAST as the "hugest and pinkest of all magazines" (Rude Assignment 135). The magazine clearly had a special significance for both men, who cite it throughout their forty-three-year-long correspondence; indeed, no other entry is indexed as frequently as BLAST, which literally spans from the first to the last letter (cf. Pound and Lewis). Pound in particular keeps coming back to it over and over; in 1914, he requests galley proofs of the magazine from Lewis, and in 1957, only a month before Lewis's death brought an end to their long, complicated friendship, Pound complains of a radio show which "in noticing the disease of modern awt listed all movements save the VORT/ AND as the listed movements were precisely those criticized in BLAST of holy memOry, and as by chance the main VORTS opposed pinkismo from the beginning the coINcidence shd/ be USED" (Lewis and Pound 302).

In this passage, Pound uses a term that had entered the world along with BLAST in the subtitle of the magazine: "Review of the Great English Vortex." Pound writes VORT and invokes the neologisms he himself had derived from the Vortex: Vorticism referring to the movement, and Vorticists to the artists who made up the group. Neither for the first nor for the last time in this radio show, Vorticism had been omitted from a list of avant-garde art movements. The reason for this exclusion may be that the First World War had erupted only a month after the declaration of Vorticism; as a result, the London avant-garde project never became as well known as other continental groups whose birth either long predated the war or emerged in its aftermath.

What is remarkable about the Pound-Lewis correspondence is that it reveals Pound's enduring commitment to Vorticism's goals forty years after its short life ended and his desire to see Vorticism reinvigorated. Something deeper than nostalgia is at work. As will be shown in this paper, the Vortex had a special and complex meaning for Pound's development as an artist; in citing it so frequently, rather than taking a trip down memory lane with an old friend, he was honoring this influence.

Although Lewis and Pound were co-founders of Vorticism, right from the start their views of it differed significantly. Whereas Pound was mainly interested in what the Vortex could bring to poetry, Lewis, a serious painter as well as a writer, saw it largely in relation to the visual arts. In a letter to the editor of the Partisan Review, which, for some reason, he never sent, Lewis insisted that the movement had been his brain-child and that it "was purely a painters [sic] affair" whereas Imagism—Pound's earlier project—"was a purely literary movement, having no
relation whatever to vorticism, nor anything in common with it” (Lewis, Letters 492). Lewis's efforts to define Vorticism as a "painters' affair" enjoyed considerable success; insofar as the movement is known today, it is largely as a visual arts project. The result has been an unfortunate distortion in our understanding of the movement. For it was Ezra Pound who invented the name, and it possessed a broader significance and deeper meaning for the poet than for any of the other artists involved in Vorticism, including Lewis himself.

The Birth of Vorticism

In the spring of 1914, Lewis had been working on the publication of a magazine, for which BLAST had been considered as a title. Progress of this "revue cubiste" (Pound and Shakespear 315), as Pound called it in a letter to his fiancee, was slow. In April 1914 Pound wrote to James Joyce that "Lewis is starting a new Futurist, Cubist, Imagiste Quarterly.... I cant tell, it is mostly a painters magazine with me to do the poems" (Joyce and Pound 26). No mention yet of a vortex, let alone Vorticism. The immediate inspiration for launching the journal was to offer a British alternative to Italian Futurism. Initially captivated by Futurism, Pound, Lewis, and other British artists were disillusioned by Filippo Tommaso Marinetti's increasingly arrogant behavior during his visits to London in the early 1910s. In a June 1914 article Lewis sneered: "England practically invented this civilisation that Signor Marinetti has come to preach to us about" (Cork I, 234). When Marinetti published an English Futurist manifesto and used the names of some London artists as signatures without asking their permission or interest, Lewis soon assembled "a determined band of miscellaneous antifuturists" (Lewis, Blasting 36). But Lewis and his co-conspirators had no wish to call themselves anti-Futurists in public, since this would have meant giving too much credit and publicity to Marinetti, whom they despised. The solution came in mid-June 1914, when the name Vorticism seemed to appear out of nowhere. At last, here was a term that allowed for the propagandistic self-assertion of a homegrown British avant-garde, one that stood apart from influential continental rivals such as Italian Futurism, French Cubism, and German Expressionism. The Yorkshire Observer could now write: "Futurism in this country has hardly been born before it has budded off into Vorticism" (Cork I, 234). Lewis became the head of Vorticism, Pound the baptizer and one of its most articulate publicists.

But why Vorticism? What did the vortex mean, and what made it seem so peculiarly English? Was it the whirling "vortex" of the city of London that Pound had already used as a metaphor in 1913 when writing a letter to his friend William Carlos Williams back in America (Pound and Williams 23)? Or was it the vortex that he considered crucial for any artistic development in a letter to his fiancee, Dorothy Shakespear: "Energy depends on ones ability to make a vortex--genius meme" (Pound and Shakespear 251).

For the majority of the Vorticists, including Wyndham Lewis, Pound's choice of the word never much mattered. On the occasion of a Vorticism retrospective at London's Tate Gallery in 1956, Lewis wrote: "Vorticism. This name is an invention of Ezra Pound.... What does this word mean? I do not know. How anyone can get angry about it, I cannot imagine, but let me say I did not ask for this meaningless word to be revived at the Tate" (Lewis, Letters 567).

Back in 1914 the Vorticists-to-be adopted the name quickly and invested it with their own meanings. The first issue of BLAST carried three articles on the vortex by Lewis, Pound, and the sculptor Henri Gaudier-Brzeska. The art historian Walter Michel has lucidly characterized their different interpretations of the Vortex in a single sentence: "Pound links the symbol of the Vortex to his ideas of primary form; Gaudier uses it as the starting point for his magnificent survey of the art of sculpture; Lewis, in 'Our Vortex,' makes much use of the name, but barely acknowledges the possibilities of the symbol" (Michel 63). In both Lewis's and Gaudier's
essays, the vortex functions as a welcome but radically overcharged allegory. Here the vortex is a whirlwind that contains almost anything, all of whose energies are concentrated in its still center--exactly the center that the Vorticist sees himself occupying.

Pound's version of the vortex (Pound, "VORTEX" 153-4) differs fundamentally. He shares the view that "the vortex is the point of maximum energy" and that "all experience rushes into this vortex." But from the start his notion of the vortex seems to have much more structure and form, and the choice of words appears much less arbitrary and rather more precise, even scientific, in character. When Pound speaks of his vortex, he refers to such prosaic mechanisms and scientific concepts as "efficiency," "mechanics," or "fluid force." He also names the "primary pigment" as the core of true artistry.

The Perfect Symbol

As he does so often on other occasions, Pound is hiding his sources, but his choice of name is anything but arbitrary. With the "vortex," Pound brings a whole new world into his aesthetics, an aesthetics that he has been developing for the purposes of creating his poetry. Although he primarily expresses himself in verse, Pound's conception of art is all-embracing, and the vortex is far more than a theory of poetry. Rather, his goal is to develop a poetics that would connect all the different arts, and perhaps more than just the arts. In avant-garde artist groups--the Vorticists among them--painters met writers and sculptors met poets. In his writings, Pound creates encounters that go beyond that, but it would seem that he is mainly working for himself and maybe a few cognoscenti. The vortex provides him with what he calls a perfect symbol: it works for everyone by the force of its image, but it only makes its "revelations to those who are already expert" (Spirit of Romance 89). Writing in 1912 in Poetry Review, he specified his definition in a "Credo": "I believe that the proper and perfect symbol is the natural object, that if a man use 'symbols' he must so use them that their symbolic function does not obtrude; so that a sense, and the poetic quality of the passage, is not lost to those who do not understand the symbol as such, to whom, for instance, a hawk is a hawk" ("Prologomena" 60).

By the seemingly harmless choice of the hawk as an example for his radical symbol theory, Pound indicates how much a naive reader is missing if he doesn't know the more comprehensive meaning of a symbol and gets only "a sense" of it instead of the complete impression. To understand a hawk merely as a bird of prey with all possible implications does not do justice to this iconic animal. As a student and scholar of medieval poetry, Pound must have been aware of the hawk's status as a symbol par excellence of rank, authority and mastery. (2) By using this example as illustration for his concept of the perfect symbol, Pound sets a snare, as it were, for any reader less expert, less educated than himself.

To reveal the secrets of the vortex, we need to become experts of the vortex; we will have to transcend the limits of poetry and art to reach this kind of expertise. Pound himself advised a young poet: "One should always find a few things which 'no other living person' has done, a few vast territories of print that you can have to yourself and a few friends" (Pound, Letters 140). While I am not suggesting that "no other living person" has done so before, only "a few friends" (and not many of them Pound scholars) have crossed over from the realm of literature to the "vast territory" of Victorian science in which the vortex played a central role (for exceptions, see Bell; Clarke and Henderson, ed.; Hagen; and Henderson). It is a legitimate field for explorations, especially since Pound's own metaphors already point towards physics. As Pound once observed: "Your first job is to get the tools for your work" (Pound, Letters 140).
The Physics of the Vortex

The scientist who introduced the vortex into nineteenth-century physics was the prodigiously gifted German Hermann von Helmholtz (1821-1894), originally a doctor, then professor for anatomy and later physics. Pound must have come across Helmholtz, since he used his name as a pseudonym, (3) although there is no other reference to the scientist's work in Pound's writings. It is hardly surprising that the poet should have been intrigued by Helmholtz's "interdisciplinary, polymathic approach," something that "Pound admired in all branches of learning." No doubt he also identified with "the figure of a man isolated from his contemporaries by his distance from the mainstream of current thought" (Bell 160).

In 1858 Helmholtz published an article "Uber Wirbelbewegungen" ["On Vortex Motion"] (3-37), "that epoch-making paper on Vortex theory, which may be said to have initiated modern hydrodynamics," as one excited reader, British physicist Oliver Lodge, wrote in 1925 (Bell 161). In fact, this treatise not only initiated a novel hydrodynamics but also stimulated a new way of thinking about the atom. In his paper, Helmholtz studied particle movements in ideal fluids--at his time a purely mathematical concept, today (almost) an experimental reality known as superfluids. (4) These fluids have very particular qualities: they are frictionless and have no velocity potential. The absence of a velocity potential essentially means that the fluid as a whole is not in any kind of movement. (5) The latter stipulation set Helmholtz's vortex studies apart from previous examinations of eddies in flowing water. Helmholtz found that vortices in an ideal fluid have the following surprising properties: only in a velocity-free fluid do the smallest particles rotate "freely," and since the fluid is also frictionless, the vortex movement of these particles remains constant: the elements that rotate will do so forever, while the nonrotating particles will never do otherwise. A group of rotating particles forms a so-called vortex thread, and multiple threads form a vortex tube. These threads and tubes will always consist of the same particles, and they can end only where the fluid ends, or, as Maxwell writes almost poetically: "If the fluid is infinite the vortex tube must be infinite, or else it must return into itself" (Maxwell, "Atom" 470). Helmholtz called these vortex tubes returning into themselves vortex rings (cf. Helmholtz 31ff.). As a colleague put it in a review of Helmholtz's essay: "A vortex-ring may move from place to place, but it carries with it the liquid of which it is composed, never leaving any particle behind, and never taking up any particle from the surrounding liquid" (Clifford 783). Helmholtz's vortices thus exist permanently and indestructibly and are all within the fluidity of the liquid as durable and lasting as the hardest solid. With this description Helmholtz defined an element of an ideal fluid that has all the properties of a solid. It was precisely this definition that caught the eye of William Thomson (Lord Kelvin) when he was trying to solve the inconsistency of how transverse waves--known physically and mathematically to require extremely solid bodies to propagate--could traverse the ether, which was understood as an ideal fluid. (6) The solidity of Helmholtz's vortex rings offered a solution that became the basis of Kelvin's model of the atom as a vortex in the ether.

Helmholtz and Kelvin had become friends in their early thirties and conducted an ongoing correspondence on scientific as well as personal matters. Yet it was only in 1867 that Kelvin--having been busy working on problems arising in the process of the laying of the first trans-Atlantic telegraphic cable--was able to take a closer look at Helmholtz's vortex paper. Thrilled by the paper's implications for his own work, he wrote to congratulate his colleague:

The absolute permanence of the rotation and the unchangeable relation you have proved between it and the portion of the fluid once acquiring such motion, in a perfect fluid, shows that if there is a perfect fluid all through space, constituting the substance of

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all matter, a vortex ring would be as permanent as the solid hard atoms assumed by Lucretius and his followers. (Horz II, 31)

Kelvin's "On Vortex Atoms" appeared first in volume VI (1867) of the Proceedings of the Royal Society of Edinburgh and was reprinted the same year in the Philosophical Magazine (volume XXXIV). Kelvin opens the article with the assertions "that Helmholtz's rings are the only true atoms" and "all bodies are composed of vortex atoms in a perfect homogeneous liquid" (Thomson 1-2), which is how the ether was conceived at the time.

In the 1860s the atom was naturally understood as the smallest entity of matter, as a primary particle, and Maxwell starts the entry on the atom for the famous ninth edition of the Encyclopedia Britannica with the categorical statement: the "ATOM ... is a body which cannot be cut in two" (Maxwell, "Atom" 445). According to all experiments known in physics at the time, the atom had to be indestructible and permanent, just like the vortex rings.

The concept of the vortex atom was based on the presumed existence of the ether and implied the chimerical claim that matter and ether consist principally of the same substance and that their only difference is the substance's state of motion. This would mean that vortex motion alone transforms imponderable ether into ponderable particles of matter that are--in contrast to the ether--subject to gravitation. In other words, vortex motion would be the origin of all (material) things. (7) This consolidation of ether and atom, explaining the greatest and the smallest at once, represented the truly imperial claim of Victorian physics. Its interest is to present not simply a new theory of the atom, but a theory that simultaneously underscores its own universal application and prestige. The great reputation of English science in general and of Victorian physics in particular during the late nineteenth-century depended in large part on this ultimate claim to be able to explain all the innermost correlations of the physical world. In its ambitions, the vortex theory of the atom easily matched the powerful claim of the British Empire to know and govern its colonial possessions, just as it was later to be matched by Ezra Pound's ambitious art theory and its claim to represent the totality of art, past and present.

The Vortex Becomes Popular

The discussion of the vortex-atom theory did not remain in the lofty confines of professional physics for long. Popular interest in the sciences ran high in the nineteenth century, and vortex theory was soon picked up by popularizers of scientific knowledge. For example, an article in Harper's Magazine in 1905 on "Gravitation and the Ether" offered the broad public a primer on the concept of the vortex in English physics. The author starts out with a statement that might well have captured the attention of an aspiring poet like Pound: "Until Newton, who taught us, as [Herbert] Spencer says, 'how the universe is balanced,' it was only the poet or seer that had divined this truth" (Saleeby 237). Pound, who sought to reinstall the poet as the prophesier of truths hidden from other people, might have easily picked up that cue.

Indeed the vortex atom became much more significant in popular understanding than in the sciences themselves, since the model didn't solve any of the problems with which physicists were struggling at the time; instead it supported a hypothesis--of the existence of the ether--that, frustratingly, could never be proved. Indeed, one of the most important tests conducted to provide evidence of the ether's reality came up empty, leading eventually to the ether's abolition. Thanks to the writings of Dutch physicist Hendrik Lorentz, in 1904 Albert Einstein became aware of the findings of the failed Michelson-Morley-experiment on a supposed ether-drift. (8) Einstein used some of the equations of Lorentz in his conception of the theory of special relativity. For most physicists, the theory of special relativity put paid to any speculations about the ether. But it took well over two decades to implement the theory of
relativity in the realms of professional physics and even more time among amateurs. Until the First World War and at the time when Vorticism was founded, the views of British physics and its popular followers were still completely dominated by the ether-vortex-atom model.

The vortex is alive and well, for instance, in The Unseen Universe (1875), a very successful book written by established scientists for a non-expert audience. The Unseen Universe, or, Physical Speculations on a Future State--so runs the complete title of the book--was written for a general public but based on solid and detailed knowledge of contemporary physics. The authors, Balfour Stewart and Peter Guthrie Tait, were two of the most eminent scientists of their time, friends, colleagues, and collaborators of James Clerk Maxwell and Lord Kelvin. (9) Stewart and Tait start their book with some of the latest discoveries and innovations of their field, then engage in a discussion of a more general philosophical character, and finally conclude in what we would today call a kind of scientific occultism. (10) The Unseen Universe, which proposed a particular application of vortex theory as its central argument, became an instant bestseller and is instructive for our investigation because it reveals the influence of vortex theory in a domain that seems as distant from scholarly physics as the art of the Vorticists. (11)

With The Unseen Universe, Stewart and Tait tried to enter and resolve a debate that divided the scientific community during the second half of the nineteenth century. Fueled by the writings of Charles Darwin, the debate revolved around the question of whether the findings of modern science were reconcilable with a belief in God. Just as Kelvin's new atom model had unified "atomists" with champions of the concept of a continuous ether, Stewart and Tait tried to reunite believers in God with advocates of modern science, because, as they state in their introduction, "the presumed incompatibility of Science and Religion does not exist" (XI). For many of their readers for whom the almost contemporary Nietzschean claim that "God is dead" would have been deeply unsettling, this reassurance must have been a great relief.

As in Kelvin's atom model, the vortex is the key in Stewart's and Tait's Unseen Universe. The authors conclude that if atoms are vortices of the ether, then nothing would undermine the assumption that in a similar proportion as ether exists to matter, there could be a second ether, much finer than the first, whose vortices would form not matter but what they call a "spiritual body," which would be an organism of the "unseen universe ... with whose motions our consciousness is as much connected as it is with our material bodies," as one reviewer put it (Clifford 790). Stewart and Tait's explanation for this proposition is very clever and operates on the highest scientific level of its time. They use the analogy of smoke rings, just as Kelvin had done for his vortex-atoms: "Let us begin by supposing an intelligent agent in the present visible universe,--that is to say a man--to be developing vortex rings--smoke-rings, let us imagine.... Just as the smoke-ring was developed out of ordinary molecules, so let us imagine ordinary molecules to be developed as vortex rings out of something much finer and more subtle than themselves" (218-19).

According to Stewart and Tait, the ether will continue existing long after the molecule (or atom) disappears, just as the molecules of the smoke survive the disappearance of the ring. So far they are in agreement with Kelvin, but they go further by suggesting that ether consists of vortex rings of a substance much finer and subtler than itself, etc., ad infinitum. Each finer substance has existed before the coarser one and will linger after the coarser one has disappeared. Everything that is smaller than an atom belongs to the "unseen universe." Just as a man consisting of atoms can produce smoke rings in the air, an "intelligent agent" of the unseen universe can produce vortices in the ether. "In fine, our conclusion is, that the visible universe has been developed by an intelligence resident in the Unseen" (223), precisely in a
"creative act" (140), or, as they write elsewhere, "an act of creation in time" (155). Even here, Stewart and Tait take their prompt from Kelvin, who had mused in his first publication on vortex atoms: "To generate or to destroy 'Wirbelbewegung' in a perfect fluid can only be an act of creative power" (Thomson 1).

After an extensive reading of the Bible, the two authors of the Unseen Universe reach the conclusion that their "intelligent agent"--arrived at through scientific deduction--corresponds with the Christian God and Creator: the biblical image of God "represents that conditioned, yet infinitely powerful developing agent, to which the universe, objectively considered, appears to lead up" (226). "A Divine Agency" (245) thus has supposedly created the visible world by producing vortices in the ether.

Pound's Vortex

This divine process of creation, demonstrated in one of the most popular books of its time, takes us back to the Vorticists. Consider, for instance, Ezra Pound's letter to his fiancee: Artistic energy "depends on ones ability to make a vortex" (Pound and Shakespear 251). For Pound, just as for Stewart and Tait, the decisive question is: Who produces the vortex? Questions about god are irrelevant for Pound, who--characteristically propagandistic and programmatic at once--declares that the ability to make a vortex is the sign of the true artist. From the perspective of the Unseen Universe, Pound proclaims art as his religion and puts the artist in the place of god. One could argue Pound takes the vortex from its key position in the Unseen Universe, where it stands for a divine existence as the base of everything, and reinterprets it as "art exists as the base of everything." The art that emerges from this conviction is called Vorticism.

Vorticism was more crucial for Pound and his artistic growth than for the other Vorticists. During his London years, between 1908 and 1920, he was busy developing a poetics that was to become the foundation for his main work, the Cantos, this "poem including history." Pound always saw his critical work as a somewhat technical preparation before the "actual" writing could start: "I consider criticism merely a preliminary excitement, a statement of things a writer has to clear up in his own head sometime or other, probably antecedent to writing" ("Criticism" 266). He published a great body of critical writings throughout his life, but it seems that he had established the foundations of his poetics in the texts he published before the end of the First World War, and the vortex had a decisive function in it. As Samuel Hynes observes:

There is nothing in his later work which contradicts, or even alters significantly, those early statements; Pound's poetic theory was fixed by the time he was thirty.... His most important statements date from the years 1913-16--the years immediately preceding the first Cantos. In the prose writings of this period we can see the process by which Pound formulated the aesthetic which underlies his epic; and it seems reasonable to say that the aesthetic had to be defined before the major work could proceed. (12)

Pound himself saw a certain overlap between the critical work and the Cantos. In an interview for the Paris Review he remembers: "I began the Cantos about 1904 ... or 1905. The problem is to get a form--something elastic enough to take the necessary material. It had to be a form that wouldn't exclude something merely because it didn't fit." (13) Searching for a medium that could contain any artistic expression, every experiment, like the ether--elastic and durable at the same time--and for a primary matter, a form and substance like the vortex, located in the repertoire of scientific terms as an "elastic solid," Pound took the familiar ether-medium and
used its properties to describe what he sought with his poetry.

Artist as Scientist

In a series of articles published in 1913, the year before the birth of Vorticism, Pound drew a comparison between the work of an artist and that of a scientist. His main purpose in these essays was to distance himself from the romance of the "lyric poet [who] might as well die at thirty"; for Pound, "most important poetry has been written by men over thirty" ("Serious Artist" [Nov. 1], 195). The work of a "serious artist," to Pound, is less a matter of blazing, spontaneous inspiration as of sustained, patient, painstaking experiment, much like the systematic work of a scientist: the serious artist "is like a chemist experimenting, forty results are useless, his time is spent without payment, the forty-first or the four hundredth and first combination of elements produces the marvel" ("Patria Mia" 38).

Among the virtues of the true artist must be the talent to judge which experiments are failures and to recognize the "marvel." For Pound it seems to have been clear from the beginning that becoming a good poet requires a lot of hard work. Writing in 1913, under the heading "How I Began," he recalled: "I knew at fifteen pretty much what I wanted to do. I believed that the 'Impulse' is with the gods; that technique is a man's own responsibility." (14) To acquire the technique necessary to implement the gods' impulse, Pound is determined "that at thirty I would know more about poetry than any man living," just as any student of the sciences would investigate and master the achievements in his field. Pound defends this ambition to know "everything" about poetry, even though he acknowledges that "no amount of scholarship will help a man to write poetry." But the studies will prevent the poet from "reinventing the wheel," and they will give him a sense for quality which "does help him to destroy a certain percentage of his failures" ("How I Began" 147). Apparently Pound himself shredded many of his poems that didn't pass the test on a rereading.

What Pound admires above all in the scientist's work is its "passionate desire for accuracy" ("Patria Mia" I, 77), which he would love to see passed on to literature. He complains that "it is nearly impossible to write with scientific preciseness about 'prose and verse' unless one writes a complete treatise on the 'art of writing,' defining each work as one would define the terms in a treatise on chemistry" ("Serious Artist" [Nov. 1], 194). Most literary critics are far too imprecise when dealing with the objects of their studies. In a review of the book The Science of Poetry, Pound harshly criticizes its author, Hudson Maxim, a chemist: "His first scientific definition of poetry depends on a word equally undefined, i.e., 'artistic'" ("Science of Poetry" 41). Pound has no objection to relating science to poetry; quite the contrary. But Maxim gambles away all his chances: "If he begins by saying that six is more than four, he ends by saying that green is a prettier color than pink." It seems incomprehensible to Pound that a scientist like Maxim could overlook the most obvious relations: "The equations of analytical geometry ... are, however, much nearer to poetry in their essential nature than anything Mr. Maxim succeeds in defining.... I suspect that the noted chemist is as little a mathematician as he is master of English."

Pound rejects the supposedly scientific methods of the chemist Hudson Maxim not because he thinks poetry resists scientific interpretation, but rather because "poetry does admit of scientific analysis and discussion; it is subject to law and laws.... Poetry admits new and profounder explanations in the light of modern science, but Mr. Maxim has not contributed to the advance of this critical science" (41). In other words, modern science will shed light on poetry and allow more profound insights so long as the writer is an expert in the laws of poetry. What Maxim's book notably lacks is expertise--the supreme test of a work's virtue, whether scientific or poetic, in Pound's view. And expertise is the first and last demand that
Pound places on his own work as well. (15) This demand may have prevented Pound from venturing into fields other than literature or art. Poetry is his discipline, and he uses every possible comparison to express what he wants to say but he would never have dared to write a scientific treatise.

Pound's Vorticist project for poetry resembled Kelvin's vortex theory and the claims of British science in its ambition to produce a theory that was not simply new but that answered fundamental questions of its object (poetry) and that explained the basic mechanisms operative in master works. His goal is "to clear up a certain messy place in the history of literature ... to make our sentiment of it more accurate.... For it is certain that we have had no 'greatest poet' and no 'great period' save at, or after, a time when many people were busy examining the media and the traditions of the art" ("I Gather the Limbs" 45). For this cleanup, Pound draws upon the sciences of his time. He uses the standard knowledge of physics when he writes: "We have about us the universe of fluid force," and "in the realm of fluid force, one sort of vibration produces at different intensities, heat and light" (Spirit of Romance 92-94). The ether and its vibrations are clearly known concepts for him. In this universe that his contemporary science described with such mathematical precision, Pound seeks to anchor his poetry as the formula for the essence of human life. Because "Art is a fluid moving above or over the minds of men" (Spirit of Romance 7), almost like the more subtle second ether of Stewart and Tait that is no longer connected to matter but to the "spiritual body," the mind, the soul (cf. Stewart and Tait XVI, 208).

For Pound, poetry was serious business, not the pastime of Sunday litterateurs. In 1912 he pressed Harriet Monroe, the editor of the American magazine Poetry: "Can you teach the American poet that poetry is an art, an art with a technique, with media.... I'm sick to loathing of people who don't care for the master-work, who set out as artists with no intention of producing it, who make no effort toward the best.... I've got a right to be severe" (Pound, Letters 43ff.). William Carlos Williams remembers in his autobiography that "Ezra never explained or joked about his writing ... He joked, cruelly, about anything but that" (Ackroyd 10). The "immorality of bad art" infuriated him:

> Bad art is inaccurate art. It is art that makes false reports. If a scientist falsifies a report either deliberately or through negligence we consider him as either a criminal or a bad scientist ... and he is punished or despised accordingly.

> ... If an artist falsifies his report as to the nature of man, as to his own nature, as to the nature of his ideal of the perfect,... in order that he may conform to the taste of his time, to the proprieties of a sovereign, to the conveniences of a preconceived code of ethics, then that artist lies. If he lies out of deliberate will to lie, if he lies out of carelessness, out of laziness, out of cowardice ... he should be punished or despised in proportion to the seriousness of his offence. ("Serious Artist" [Oct. 15], 162)

This is also the meticulous standard Pound's own work has to meet. This rigorous understanding of art itself suggests that Pound would never have used arbitrary or careless metaphors for his poetry or poetics. The vortex cannot have been a coincidental analogy, but only a very conscious decision. We can, in fact, read it as a shibboleth combining his critical and theoretical work up to 1914, decipherable for those who already know about the vortex. Pound has clearly known the vortex for a long time. He first used it publicly in an early poem, "Plotinus," written in 1905. A close reading of this poem reveals that even then he was aware of at least some implications of the scientific vortex. But he needed more time. In the thirties
he remembered: "I hadn't in 1910 made a language, I don't mean a language to use, but even a language to think in" ("Cavalcanti" 194). Only when he feels closer to his goal to know "everything" about poetry, and perhaps also pushed by the need for a name for the rebellious artists' group, he risks presenting his vortex to a wider audience. And still he manages to keep the symbol perfectly hidden from the lay audience, decodable only for the expert: "For the initiated the signs are a door into eternity and into the boundless ether" ("Wisdom of Poetry" 76). Pound's vortex thus points to the ether, connecting the largest and the smallest, the medium (of art) and the Luminous Detail, two things that were of paramount importance to him. "VORTEX. POUND" in the magazine BLAST refers clearly to this ecstatically physical discourse. Artistic man is busy "DIRECTING a certain fluid force," "CONCEIVING instead of merely observing and reflecting" (153-54). The creative act of conceiving consists of the directing of a fluid force in a way that produces a "PRIMARY PIGMENT." Here Pound's artist truly takes the place of Stewart and Tait's "Divine Agency" (Stewart and Tait 245), establishing the vortex as the primary pigment of the ether fluid.

Pound's project in the arts can be likened to the physicist's search for a "grand unified theory" that could explain and make sense of all known natural laws. (16) The New York Times wrote in August 1914: "What is Vorticism? Well, like Futurism, and Imagisme, and Cubism, essentially it is nonsense. But it is more important than these other fantastic, artistic, and literary movements because it is their sure conclusion" (Wees 3). Nonsense Vorticism was not. But otherwise, Pound could not have agreed more with the paper of record: Vorticism for him represented the culmination of all the modern art movements, the Absolute of art.

Notes

1. The second and final issue appeared in July 1915.

2. Cf. Carroll: "For the nobility, falconry practiced on a magnificent scale became an essential element in establishing and maintaining personal and national prestige."

3. In 1914 Pound published several essays under the pseudonym of the two indistinguishable brothers "Bastien and Baptiste von Helmholtz." Of Pound's many pseudonyms, these were the only that were modeled after a known person.

4. Superfluid helium is a liquid with unique and fascinating properties. Below a temperature of about 2 degrees Kelvin, the most common isotope of helium completely loses its viscosity. Once set in circular motion, for example, it will, in fact, keep on flowing forever--without external forces necessary.

5. With one exception that Helmholtz mentions: "the rotation of a fluid around an axis with the same angular velocity for all particles" (Helmholtz 3-4).

6. The ether was a mysterious substance needed in Victorian physics because action at a distance could not possibly be imagined, and the propagation of radiant energy across space needed to be explained. Its existence seemed as difficult to prove as to disprove. The famous Scottish physicist James Clerk Maxwell wrote in an 1875 Encyclopaedia Britannica article on the subject: "Whatever difficulties we may have in forming a consistent idea of the constitution of the aether, there can be no doubt that the interplanetary and interstellar spaces are not empty, but are occupied by a material substance or body, which is certainly the largest, and probably the most uniform body of which we have any knowledge (Maxwell, "Ether" 775). For detailed discussions of ether concepts in Victorian physics, see Clarke, Energy Forms 163ff.; and Hunt.
7. Different properties of different atoms Kelvin explained with the assumption that there are different forms of vortex rings knotted in three dimensions: either "a single wire knotted in various ways," or two or more "approximately equal vortex rings passing through one another like two links of a chain" (Thomson 5).

8. For more on the often unexpected and surprising outcomes of experiments, see Ronell.

9. In 1867, Kelvin and Tait had published together the first volume of the first edition of A Treatise on Natural Philosophy, which was to see more editions and improvements over the years and became a standard textbook first in British physics departments, but also in Germany, after Hermann von Helmholtz had arranged for a translation.

10. Clarke, Energy Forms, discusses the Unseen Universe particularly in terms of its use and presentation of Maxwellian thermodynamics.

11. Linda Dalrymple Henderson presented a similar case in her book The Fourth Dimension and Non-Euclidean Geometry in Modern Art. The English mathematician Charles Howard Hinton with his The Fourth Dimension (1904) exerted a significant influence on Cubist painters.


13. Hall 36. Pound, in fact, wrote in 1904-05 the poem "Scriptor Ignotus," that contains the lines: "And I see my greater soul-self bending/ Sibylwise with that forty-year epic/ That you know of, yet unwrit" (A Lume Spento 38)

14. Even here Pound makes a reference to the sciences, as "impulse" is foremost a technical term.

15. Cf. "Obviously we must know accurately a great number of minute facts about any subject if we are really to know it" (Pound, "I Gather the Limbs" 44). The reader may understand this also as an explanation for going into all the physical details of the vortex earlier in this essay.

16. Attempts in physics to find a meta-theory that would explain all phenomena of the physical world--up to the present day a fruitless effort--are called "grand unified theory" (cf. Heilbron).

Works Cited


______. "VORTEX. POUND." In BLAST 153-154.


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