

Hermeneutical Phase Transitions Within Non-Linear Thermodynamic Systems

C. P. Snow, Sokal's Hoax and the Science Wars

by David Payne

There are two strands to the “Two Cultures” debate, both of which are discussed in C.P. Snow’s essay, but which are not always kept separate. These strands indicate two gulfs between the cultures. The first is factual: scientists don’t know the arts and those within the arts don’t know science. This problem doesn’t seem to warrant much attention, but rather seems to be the natural result of a person’s interests. If you want to be excellent in a particular field, you must immerse yourself in that field and ignore other fields, at least to an extent. This is more true in modern times than in the past due to the sheer amount of available knowledge.

The second gulf is more interesting, for here the claim is that there is a methodological difference between science and the arts, a difference which leads to a feud over whose is the better or more important methodology. This feud has gotten nasty of late because the arts side, in particular philosophy, has had the audacity to claim that the scientific methodology is really no different from their own. In other words, the philosophers have tried to close the gulf between the two cultures and the scientists will have none of it. This explains the most recent vehemence behind the “science wars,” but of course, there has always been a war.

In 1996, Alan Sokal, a physicist from New York University, fanned the flames of this war when an article

of his was published in *Social Text*, a journal of cultural studies. The article, entitled “Transgressing the Boundaries — Toward a Transformative Hermeneutics of Quantum Gravity,”(2) was, in Sokal’s words, “liberally salted with nonsense” — nonsense not recognized as such by the editors of *Social Text*, who published the article without editorial review, much to their subsequent embarrassment. The article has come to be known as “Sokal’s Hoax,” and was revealed by Sokal himself in an article published soon after in the journal *Lingua Franca*. (3) But what did it prove? Sokal seemed to want to show at least two things: (a) the scientific ignorance of those in cultural studies in particular, and the arts in general, and (b) the lack of clarity in nonscientific thinking. There is a third point, though, that becomes clear in the *Lingua Franca* article, viz., (c) Sokal’s belief in the absurdity of what is known as the postmodern position. I would like to address these points in order.

The first point is not worth arguing about since it was never really in doubt. I said as much in the first paragraph of this paper. I guess Sokal’s point would be, then, that since those in the arts are scientifically ignorant, they should not tread on the sacred ground of science. Point granted. If you haven’t devoted your life to the complexities of quantum physics you will never understand the subtleties of such and will only make a fool of yourself by dabbling in the field. The same is true, though, of every discipline. In particular, the same is true of scientists who dabble in philosophy. Brilliance in science is no guarantee of brilliance in philosophy, as Steven Weinberg demonstrates in some of his recent articles on Thomas Kuhn. (4) There is a hidden assumption here by the scientist, who seems to think that

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if you are smart enough to do science you ipso facto can do philosophy, but not vice versa. He fails to realize that you can no more dabble in the one than the other without coming across as ignorant.

Sokal's second point has to do with the lack of clarity in non-scientific thinking. Again, point granted. There has been a lot of gibberish written over the years under the guise of philosophy and literary criticism. And there is more gibberish in the arts than in science. But isn't that to be expected? The scientist deals almost exclusively with the impersonal world, i.e., with the world of objects that are not conscious of being studied. Such objects lend themselves to objective study. They are not malevolent, they just ARE. "Nature is subtle, but not malicious," to paraphrase Einstein. The complacency of scientific objects of study lends itself to prediction and categorization. This complacency only begins to decay on the subatomic level when ... oops, never mind.

Philosophers, psychologists, social scientists, etc. deal with a different animal, one that bites back, and this aspect of the object studied makes that object epistemologically opaque. This inscrutable, muddled world of ambiguity, in all its unpredictability, is what poets, novelists, artists and philosophers are concerned with, and it cannot be quantified. When confronted with a work of art, whether a painting or a novel or a person, we are confronted with an ambiguous something that is there for us to interpret. Different people may derive different meanings from the same work, and there is no way to know even in principle who is correct. The artist/actor himself cannot be trusted, for even if he is trying to be truthful he may not be aware of his inner motivations, or may be repressing them. The gap, then, between the two cultures hangs on this epistemological problem.

There are those, though, who think the above distinction is false; that even the impersonal world is a work of art to be interpreted, and this leads us to the third point: Sokal's belief in the absurdity of postmodernism. The heart of the postmodern agenda is that interpretation is everything. You "deconstruct" a text or a theory by laying bare the underlying perspectives and prejudices from which the author is writing. (This is obviously an oversimplification, but it will have to do in this context.)

The most radical consequence of this agenda is that there is no "absolute" perspective — everything is an interpretation. This view infuriates people like Sokal and Weinberg, who want to hold that what they do, science, deals with Truth; THE Truth. How could anyone in his right mind believe that there is nothing but interpretation? Jump off a ten story building, says Sokal. Interpret that!

This is all very amusing, for no one in his right mind DOES believe such drivel. Sokal is venting his wrath against a straw man. No one of substance holds the radical position that he belittles, or at least not enough people hold it to warrant an attack as if it were a major intellectual movement. It is more a position held briefly when you begin studying philosophy, and then is dismissed when you realize there is serious business to be conducted. Sokal, who is merely dabbling in philosophy, evidently does not recognize this; but, as a dabbler, we forgive his ignorance.

But the claim to be dealing with Truth rather than with something less is of interest. Dr. Johnson, of course, beat Sokal to the jump-off-the-ten-story-building ploy long before when he claimed to have refuted Bishop Berkeley's idealism by kicking a stone. Neither are successful rebuttals, but the point is telling. Sokal, Weinberg, et al most certainly do not want it thought that their scientific theories are on a par with literary theories that try to discover the meaning of a mere text.

Since it is important to see the positions in the debate, let me lay them out by using a literary analogy. Suppose we have a novel by an author, now dead, who never attempted to enlighten readers as to his intentions in writing the novel. What does it mean to say that one has a "correct" interpretation of such a novel other than that your interpretation is self-consistent, adheres well with the text and explains everything nicely without straying from such? Some individuals bemoan the fact that we can never know what the "true" interpretation of the novel is since the author never enlightened us before he died. These are the skeptics. They hold that there is something out there that we might want to call the correct interpretation, but we will never know what it is. (Immanuel Kant was the culmination of this line of thinking in philosophy.) Then there are the scientists like Weinberg and Sokal, who think that we DO know what

the true interpretation is because the true interpretation (the one that the author had in mind but never told us) JUST IS the one that conforms best with the evidence. They never tell us how they KNOW this fortuitous correspondence holds — in fact, they cannot even argue for it without begging all the important questions. And finally there are the “postmoderns,” who don’t care that the author is dead because they aren’t trying to match their interpretation up to his anyway. They believe the text stands on its own, and to say an interpretation is true is just to say that it is self-consistent, conforms best with the evidence, etc. Notice the difference between this and the scientists’ claim. Truth for the postmoderns is textual coherence, NOT textual correspondence to some unknown and unknowable something, some “ding all sich” out there somewhere — maybe.

I think the postmodern position, called “pragmatism” in modern philosophy, has merit. (5) It is a position that takes the skeptical claim seriously — if you can never possibly know whether your language matches up (corresponds) to reality, why even worry about it? What hangs on it? Unfortunately, this postmodern position makes many scientists see red. (6) And, if they really understand the postmodern position, the only reason I can see for their anger is that they feel such a view belittles their field of inquiry. The postmodernist, with his world view, is in effect offering an olive branch to the scientist, saying: “listen, we’re in the same boat here, we should be able to get along.” But the scientist refuses to agree, feeling that to agree is to somehow demote their inquiry from necessary truths to contingent ones.

There is one other concern, of course. If you give up the thing-in-itself, even if you can never know such a thing, haven’t you cast yourself adrift in a sea of relativism? The fun answer is “yes,” if you simply want to infuriate your opponent. But more to the point, if you were never anchored anyway, the concept of relativism begins to crumble, for it only has meaning in relation to a now-discarded absolute. Thus, as Richard Rorty has pointed out, accusing a pragmatist of relativism is like accusing an atheist of blasphemy. She is no longer working in a theory where such things matter, and screaming “relativism” is just another jump-off-the-ten-story-building ploy. But again, we wouldn’t expect a

dabbler to appreciate such subtleties.

I made the offhand remark in the second paragraph that the science wars have always been with us. By this I have in mind the distinction that we trace back to the Enlightenment / Romantic wars of the previous century and even back to the Appollonian / Dionysian wars of ancient Greece. One extreme is always denouncing the other. As an example we cite the critics of the enlightenment (Derrida, Leavis, etc.) who claim that science and technology, with their penchant for categorization and abstraction, lend themselves to an authoritarian power structure. This is true, since predictability is the essence of science, and is also the hallmark of control — we can control what we can predict. Hence the popular fear of the nefarious white-robed scientist in his laboratory. Far better to be a romantic, someone who deals with the blooming buzzing confusion of events, and cares about the individual as an individual and not merely as something to be quantified and controlled. But in response to this, the defender of the enlightenment shows how the romantics, with their idealizations and their focus on their own fuzzy selves, tend to ignore those other than themselves and so, in their blindness, also promote a power structure. This is also true. Marjorie Levinson, in her analysis of Wordsworth’s “Tintern Abbey,” shows that on the day the great romantic wrote of the serenity of the setting, July 13, 1798, what he really would have seen and heard would have been much different: the desperate poor hanging about the ruins begging for alms from the crowds of middle class tourists, the sounds of the nearby ironworks casting cannon for the war with France, the air darkened by smoke, etc. (7) NOW who is abstracting? As the artist and the scientist vie for who has the humanizing endeavor and who the dehumanizing, we would do well to remember the aspect pointed out by Walter Benjamin when he said of our cultural treasures, those produced by scientists and non-scientists alike, that they all “have an origin which [one] cannot contemplate without horror. They owe their existence not only to the efforts of the great minds and talents who have created them, but also to the anonymous toil of their contemporaries.” (8)

My response to all this talk of “science wars” and “two cultures” is to point back to Heraclitus, the pre-

Socratic philosopher who first recognized that everything is in flux; claiming there was a constant movement between the extremes but that this very movement brought about an overriding stability, a “logos.” The logos, however, only existed as a movement between the extremes. Once you appreciate the historical nature of the two cultures debate, and see it in this Heraclitean light, you can sit back contentedly and watch the fracas with a smile. The debate is timeless but necessary, for its cutting edges define the warring topics themselves and thereby help us in our quest to define our place in the universe.

8. Quoted in Mark Edmundson, *Literature Against Philosophy* (Cambridge: Cambridge University Press, 1996), p. 124. It is from this excellent work that I derived the Levinson critique of Wordsworth mentioned above. Edmundson proceeds to give a critique of Levinson.

NOTES

1. [Http://members.tripod.com/ScienceWars/is](http://members.tripod.com/ScienceWars/is) an excellent site for current articles on this topic.
2. *Social Text* (Spring/Summer 1996), pp. 217-252.
3. “A Physicist Experiments with Cultural Studies,” *Lingua Franca* (May/June 1996), pp. 62-64. Both articles can be found at <http://www.physics.nyu.edu/faculty/sokal/index.html>.
4. See Weinberg, “Sokal’s Hoax,” *The New York Review of Books*, August 8, 1996; “The Revolution that Didn’t Happen,” *The New York Review of Books*, October 8, 1998 and his response to criticism in “T.S. Kuhn’s ‘Non-Revolution’: An Exchange,” *The New York Review of Books*, February 18, 1999.
5. No, I’m not going to say it’s “true.” If you thought I was, you are a dabbler.
6. Not all scientists see red. Many adhere to the “instrumentalist” position which claims that all that matters is what the instruments tell us, not what they may or may not point to “out there.” The Copenhagen Interpretation of quantum mechanics is similar to this in that ... never mind.
7. Marjorie Levinson, *Wordsworth’s Great Period Poems* (Cambridge: Cambridge University Press, 1986).