

## How Nice to Be an Outsider

Every one of my scholarly/literary activities is outside literary studies as such. Yet to a varying degree all that I do is the subject of the amoeboid activities of the field. I also have, in principle, no vested interest in the flow of students into your departments, nor do I have to worry about jobs for them, nor the level of remuneration of your sluggers and sometime pinchhitters. It seems to me that given this practical disinterest (reading Burke and Kant) I am ideally situated to make aesthetic judgments if not prognoses of the future of literary studies. Which is the reason, I suppose, that I was asked to do so.

### 1.

But first let me count the ways in which I am marginal. First of all, I am a chemist, of the theoretical subspecies. I have done some good science, even shaped the way that chemists think of the motion of electrons in molecules, and how the electrons determine the shape and reactions of those persistent groupings of atoms we've learned to see without seeing. My and my collaborators' work is divulged, some of my colleagues would say preached, in over 450 scientific articles (our stock in trade, rather than books). Such "texts" have become the subject of a burgeoning field of literary studies of science. But no one would bother with my texts; they are individually unimportant (though what they collectively teach is of value; I think of my articles as chapters in a serialized text, but please don't tell the editors of the journals in which I publish). And perhaps when I write science I am too self-conscious of the central problem of representation for me (or those messages that abandon me) to play the role of an innocent native (or his artifacts) awaiting the sage pseudo-anthropo/sociological investigation of the way I construct knowledge. Also the cognitive, intrascientific background needed to assess my papers is moderately formidable; there is a reason why chemists spend five years in graduate school... So, so far, I've escaped attention as an object of literary studies. I keep my fingers crossed.

Second, I have a modest career as a poet. It's much easier to make a living as a chemist (would I dearly like you to convince me that it is otherwise, by buying my books!), so the poetry is perforce a part-time vocation. Not much need be said about poetry as the subject of literary studies – past, present, and future. Fortunately for me, poetry of middling quality is not usually the object of literary studies. Unless it is written by figures of whom others have written...

Third, I write of chemistry, or I would prefer to say of the intersection of chemistry and culture – for various audiences. I do so for the ephemeral general public, for scientists who are not chemists, and, closest to my heart, just for you, my friends in the arts and humanities. I write for Lionel Trilling, who said:

Physical science in our day lies beyond the intellectual grasp of most men.... This exclusion of most of us from the mode of thought which is habitually said to be the characteristic achievement of the modern age is bound to be experienced as a wound to our intellectual self-esteem. About this humiliation we all agree to be silent; but can we doubt that it has its consequences, that it introduces into the life of the mind a significant element of dubiety and alienation, which must be taken into account in any estimate that is made of the present fortunes of mind. (13-14)<sup>1</sup>

Some of my writing is “popular,” some of it pretends to be scholarly. I also have a range of collaborations with artists. The outcomes are curiously positioned in-between art, literature, and science – an example is *Chemistry Imagined*, a kind of modern emblem book of chemistry that I’ve created with artist Vivian Torrence.

Expository writing about science has been a less popular subject of literary studies, I think. Curiously enough, the cognitive thornhedges around contemporary mainstream science have led literary scholars who seek to penetrate the barriers to rely much on just such expository writing. But critics have reflected little, I think, on the representational and narrative stances taken by the creators of the “better” popularized science genre. Some students of scientific texts and of scientists have become prisoners of the accessible metaphor. We have a curious situation that while humanists (and I) have been pushing scientists to accept the value of the metaphor within science, as a wellspring of creativity and an inevitable sidekick of just plain human thinking – while we have been desperately trying to do that, some people are applying insufficient caution to the knowledge received (in perforce metaphorical language) from science. Thomas Pynchon, a Cornell graduate who knows a lot of chemistry, writes: “The act of metaphor then was a thrust at truth and a lie, depending where you were: inside safe, or outside lost” (129).

Let me be specifically provocative: the interest, to put it mildly, expressed by humanists in chaos, fractals, and “order out of chaos” is totally out of proportion to the significance of these ideas in contemporary science. Now that is guaranteed to get me into trouble with some of my scientist friends, but I stand by it. Do ask some of your friends in mainstream science

1 I owe this quotation to Fritz Stern.

(who are not members of the Santa Fe Institute).

Triply an outsider, I have, however, great sympathy and empathy for your field. It's not only that I read, and sit in on your courses like any student. I also had the great fortune of listening to Mark Van Doren, Andrew Chiappe, and Donald Keene at Columbia in the fifties – sometimes I think I haven't grown up, I'm still in their classes... I do have as much fun as anyone reading of your internecine tribal conflicts, but that's just voyeurism. More seriously, theories of representation, semiotics and narrative are not only of intense interest to me, but they are personal ways to think about my science, within the science, and the presentation of that science to the outside. You might (only in weak moments, I know) think that your work is of little use – I tell you that I use it, in the most respectful way, i.e. without acknowledgment. So maybe I should take back what I said above about being disinterested. I'm very interested.

How nice to be an outsider, as I said. But as just a producer of science, literature, and genre, but not of literary studies, what can I then tell you – certainly nothing about the profession, but even about the purview of the enterprise? Let me essay two ideas about direction, and call these, loosely (1) a focus on audiences, and (2) the return of the subject.

## 2.

I think that writing (and scientific research, and teaching) are best seen as existential human acts within an overlapping spectrum of audiences. In the beginning there is glimpse of understanding, in the case of poetry just a phrase, or even a word that seems right or is reaching out to be connected. In that genesis understanding forms in some inner dialogue between parts of me, me and an imagined audience of one, me and a blurred, ever-shifting audience of teachers (yes, those Columbia professors), gurus, the dead or absent father, in the lonely emotionally polyglot dialogue with the voices of skepticism and self-doubt, and of joy at understanding that are all me, all of me.

And if the voices fail the writer, he or she makes the existentialist mark on paper, the initial inscription. Without fail, that sets the ghostly audiences into motion; they rise, are driven, make themselves out of the desperate necessity to tell a story to someone. It's not all so dark – if I think I understand, as I sometimes do, I rejoice too. In any case, I want to tell it to others, “go tell it on the mountain.” Not to the drawer, but to live people.

Let me talk about writing science, for scientists, for this I know best. In the next stage of my research (that is what the outside calls it – I call it teaching myself, teaching others) the audience expands to my research group. In the act of talking to them the depth of my understanding of the discovery deepens, takes a stronger hold on reality.

