Introduction

Postmodernism and Science

Modernism, whether considered as a Renaissance idea, an Enlightenment program, or a capitalist project, embodies within it the notion that a physical reality exists outside the human cranium and that this reality can be apprehended and understood by the human mind. In other words modernism has allowed the possibility of science and has even encouraged its ascendency. Postmodernism, on the other hand, has many components that deny the possibility of modernist science. These include the validity of pluralistic knowledge claims, the lack of a center and a periphery within a field of knowledge, the ability to "textualize" material, and the blurring of the distinction between the "knowing" subject and the "known" object. Could science exist under such conditions?

It could not. Indeed, if postmodernism were correct (something that would be very difficult to validate when there is no standard for assessing correctness), then science as it conceived of itself never really existed and is merely a value claim situated in the hegemonic attempt to proscribe a particular view of the world. This concept of science as a set of proscriptive value claims could be considered the "strong form" of the postmodern argument, and its acceptance would mean the end of science as we have come to understand it. Science could not exist if there were not the conviction that the external world exists in a particular mode that excludes its existing in other modes, and that it is possible for humans to discover what that mode is.

But even if science could not exist under the anarchy of postmodernism, might there be some elements of science that would become more robust under some postmodern conditions? This question forms the subject matter of the four essays that follow. My essay, "Resurrecting the Body," concerns the ability of science to resonate among three structures. One of these is the traditional account of an apersonal, aperspectival science, while the other two allow for postmodern interpretations. Moreover, I find that in contemporary biology the modernist notion of the individual self has been called into question by research programs concerning symbiosis and the immune system. The essay "Postmodernism and Immune Selfhood" by Alfred Tauber provides greater depth to the postmodern account of the immune system. He demonstrates that contemporary biological research has changed the concept of immunological "selfhood" from a strictly modernist view into a vision that has many parallels to postmodern views of contextual selfhood. The essay by Lily Kay, "Who Wrote the Book of Life?" takes the trope of the genetic code very seriously and deconstructs the language of the genes. She finds that such concepts as information, codes, and transcription enabled molecular
biology to abolish the differences among organisms and establish a state of exchange such that genes from one organism could be seen as equivalent to those of another. She claims that the standard histories of molecular biology neglect certain accounts to maintain “a scriptural representation of life” and thereby retain authority for projects of genetic engineering.

But biology (at least in the United States) is severely constrained not to be postmodern. It cannot give up its claims to approaching truths, so long as popular religion in America remains suspicious of biology’s grand narrative, evolution. Creationists argue that since evolution and creationism are both merely theories, they should be given equal time in the classroom. If all theories were to be given equal truth values and all knowledge was merely culturally situated, then the “equal time” claims of the creationists would have to be taken seriously. If, however, creationism and evolution are judged by the same rules of evidence (established by the scientists), then creationism is not seen as a valid theory having a continually tested set of expectations. So a postmodern biology is seen to be a dangerous enterprise. Nevertheless, numerous physicists have been writing as if they have relinquished the traditional truth claims of their discipline and have approached postmodernism through chaos theory or quantum mechanics. Cathryn Carson’s essay, “Who Wants a Postmodern Physics?” analyzes the parallels recently established between postmodern views of the world and those provided by physicists. She finds that without further research into the history of the physical investigations, the similarities do not extend very deeply.

The science criticized by postmodernists is often the positivist science of the last half of the nineteenth century and first half of the twentieth. The sciences in the last years of the twentieth century are not uniform in approach, nor are they innocent of feminism and other critiques. Some sciences have become pluralistic in their methods and in their acceptance of new approaches. Sciences no longer search for “The Truth,” but are content with provisional truths that are only as good as the latest experimental procedures, controls, and assumptions. Probably most scientists would admit that social factors play a role in directing scientific research, and some would agree that the interpretation of data is influenced by social norms. That the search for these provisional truths will always be informed by social parameters does not mean that the truths do not exist or that we should not seek them. The feminist critiques, in particular, have altered the languages of scientific discourse (especially in biology) and have at times focused interest on areas that otherwise would have received relatively scant attention. They have not changed the way that science is done, nor have they eliminated science’s “grand narratives”; however, they can claim to have deflected some of those metanarratives into different (and to a scientist perhaps more truthful and interesting) directions.

In much of academia, the sciences are portrayed as modernist while the humanities (and social sciences) are seen as having adopted postmodernist views. Not long ago, however, the sciences provided the models for the humanities (and, of course, for the social sciences). There was meaning to be discovered in poems, and values...
for philosophers to comprehend. To be “scientific” was to be in the forefront of one’s discipline, using the correct method to discover its truths. In many cases, the “scientific” method was a confused attempt at quantifying certain items and relationships and excluding other “softer” variables from study. This often reflected gender, race, or class relationships within the discipline (e.g., science was seen as firming up, “masculinizing” the field), and the strong postmodernist argument may be a reaction to (and apology for) this scientism. Paradigm shifts occur in the humanities as well as in the sciences.

This science/nonscience distinction appears to be one of those binary systems that postmodernism enjoys establishing and then demolishing. Science is made to appear as an undissolved mass floating in a solution of postmodernist culture. Everything is fluid and has porous boundaries except for that mass of undissolved science. Recently, an amphipathic agent, science studies, has been enlisted to attempt this dissolution. But even if science studies could dissolve science into postmodernist academia, is this situation really desired? It seems that postmodernists would almost demand that something modern remain, if only to support the pluralism of viewpoints. Liberalism excludes only one point of view (so-called dogmatism); thus the tu-quoque argument does not work. Otherwise, postmodernism would be as hegemonic and proscriptive as it accuses modernism of being. I suspect then that, to use the postmodernist slogan, we are talking not about truth but about power. Modernism, with science as its model, does get things done. Given the incredible power that science has achieved over the past five decades, is it any wonder that people fear this power and wish to lessen it? But the power is there. Postmodernism will not “disarm” science; but by denying the notion of “responsibility,” it could put its enormous power into the hands of those less restrained in their use of it.

So how much of science can be dissolved into postmodernism? Can postmodernism help us understand science, or (paradoxically) can postmodernism help science to understand the phenomena of nature? This collection of papers, prepared for the Boston Colloquium for the Philosophy of Science, confronts these questions and provides insights that are neither predictable nor expected. And if there is anything that does unite science and postmodernism, it is an appreciation of the seductiveness of the unexpected.

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