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Rhetoric in the GMO Debate

Arguments are made or broken on the rhetoric they employ. Even the most infeasible plan or policy, if sold to the right person, can become enacted. The same principle, that the “winner” of a debate is not necessarily the person who is most “correct”, but instead the person who is most persuasive, also holds true in the new debate over genetically modified foods. Instead of presenting various arguments of this Genetically Modified Organisms debate as my own, I would prefer to analyze how the arguments on both sides are constructed and presented rhetorically.

The most common method of manipulating rhetoric in this debate is the choice of specific phrases and the connotations behind them. Most intuitive to facilitating debate would be that both sides must agree on the terms that most accurately describe the process. ‘Genetically modified’ has obtained a strong negative connotation in the media and the public eye, from protests at the 1999 World Trade Organization in Seattle and large food companies subsequently refusing to use the foods in their products: “Heinz and Gerber removed GM ingredients from baby food. Europe and Japan suspended reviews of Bt corn. Japanese brewers said they would not use GM grain in their beer” (Pringle 135).

Proponents of the technology hope to alleviate these protests by creating their own vocabulary, with connotations of precision and scientific rigor. They prefer the term ‘genetic engineering’ over modification “because they want to project the idea of assembly-line precision” (Pringle 58). Unfortunately, producing genetically modified organisms simply doesn’t have this precision and predictability, regardless of the connotations of naming the process ‘engineering’: “In all genetic engineering trials, researchers have to be sure the technology has worked. Sometimes it fails; other times it damages the target cells” (Voiland 2). Even with his use of the term ‘engineering’, Voiland still recognizes the uncertainties of genetic modification, even if they run counter to the hoped connotations that proponents of GM present. Nina Fedoroff also acknowledges the uncertainties when describing the “gene gun” that was employed to modify the papaya in

response to an outbreak of disease in the Hawaiian ecosystem against the plant. She acknowledges that the gene gun is a “ ‘cowboy method’ of transforming a plant” (Fedoroff 138), by shooting genes into DNA and hoping that some stick and modify the genes of the plant permanently.

Another term used to describe the process is ‘biotechnology’, again employed by GM proponents in an attempt to counter worries over their products. Monsanto corporation, by far the largest producer of genetically modified seed, much prefers the term ‘biotechnology’ over genetically modified or even genetically engineered; they avoid these terms in press releases and other materials on their web site, and prefer ‘biotechnology’ instead (Monsanto). The purpose for this switch in language is both to skip the ‘genetically’ connotation altogether, and to emphasize that the new process is a technology. The way our society has organized itself, with its emphasis and values in prosperity, progress, and forward direction, puts a high level of importance on scientific development and the technology it produces to better our lives. So by closer linking their approach to agriculture with this cultural ideal of technology, Monsanto has gained ground in the debate, because in our society it is more difficult to argue against the spread of technology than for it.

It would seem that the vocabulary used to describe the process is more a function of a writer’s position on the subject than it is based on scientific methods. The term I have chosen to use is genetically modified, because it avoids the more obvious attempts at manipulative language of genetic engineering and biotechnology, though on some level both of these terms are accurate as well, and it most accurately describes what occurs in the process: the genes of the organism are modified. Apart from the debate over what the process is most accurately named, there also exists one of the effects of genetically modified foods on ecosystems, again greatly influenced by the rhetoric employed on both sides.

The source of one of detractors’ largest objections over genetically modified foods lies in the uncertainties of the new process. At its most base form, genetically modified organisms are simply organisms that have had their genes modified in some way by humans. But haven’t humans been modifying the genes of organisms for thousands of years? Proponents of GM argue that the processes of crossbreeding and artificial selection have been occurring for thousands of years, and

that GM is only the natural extension of such processes. The rhetorical strategy seems appealing, of making the new similar to the old, so as to reduce people's inhibitions against the technology. Modifying genes directly, instead of indirectly, provides the same benefits but on a more accelerated timetable than before, right?

It is true that the genes of our foods have been indirectly modified for centuries through these processes, but it fails to account for the increased intensity in which we have been modifying them. Where before, the flow of genes between organisms occurred only within a single species, and the pool of genes was much more standardized by this restriction, now genes have no boundaries. The tobacco plant, tomato, and petunia were the first organisms to receive such cross-species transformations (Fedoroff 131), and now iconic pictures of glowing tobacco plants and other such oddities highlight the new powers of genetic modification. With this new availability of crossing genes from different species or organisms, or even from plant to animal or vice versa, this new sort of genetic modification does prove to be much different from previous methods of agriculture. Rhetorically equating those with GM tries to appeal to opponents of the technology, in order to reduce barriers to its spread.

Another issue is the idea that increasing reliance on GM foods will lead to a monoculture, vulnerable to disease and creating a single point of failure in our food supply. Many activists against GM foods already lament increasingly large losses in diversity, such as the availability of different species of apple dropping by 85% from the turn of last century, and that by the year 2000, 73% of all lettuce grown in the United States was one variety: iceberg (Pawlick 26). "Traditionally, 10,000 wheat varieties were grown in China. These had been reduced to only 1,000 by the 1970s. Only 20 percent of Mexico's maize diversity survives today" (Shiva 80). This leads to the rhetorical conflict again, between biopollution, gene flow, and diversity. It seems that the lofty goal of environmentalism is to promote diversity, meaning a variety of species all having innate value. The irony here is that many of those most opposed to reducing biodiversity, and against GM, fail to see that GM actually combines genetic threads in ways that create species with new innate value. The Flavr Savr tomato and the NewLeaf potato are both filling the needs of some, or the laws of

economics would have destroyed them long ago. The rhetoric here is that, on one side, GM is a biopollution that, by introducing new species into an ecosystem, destroys its natural balance. But this inherently recognizes that GM is increasing biodiversity in that ecosystem! In this respect, biopollution and biodiversity and actually referring to the same end result: increasing the number of species in an ecosystem. You use biopollution if you are opposed to that particular new species, such as NewLeafs or Flavr Savrs, and biodiversity if you have determined a species to be beneficial, such as the Monarch Butterflies. Using the words 'biopollution' and 'biodiversity' don't have as much to do with the number of species in the ecosystem, but rather a person's stance on new species.

The word choice and phrases that both sides choose to use in the debate betray their positions on the subject. Engineering or modifying genes depends on how certain the process is thought to be, and pollution or diversity depends on your views of a new species. Rhetorical strategies are used to present each argument and persuade a reader to approach the debate from the writer's point of view. By analyzing the rhetoric, we can determine which side relies more on how they present their arguments, and which relies more on the arguments themselves, a very interesting distinction indeed.

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