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Literary Memetics: Hyper-Canon Formation

and the Literary Genome Project

The twentieth century bore witness to the rise and diversification of new theoretical critiques of art and literature, as well as heated debate over the form and composition of the literary canon. Movements such as Marxism, structuralism, and essentialism have worked with and against cultural phenomena such as feminism, GLBTIQ, African American studies, and separatist literary movements to explain and understand the literary canon. The resulting confusion has culminated in the twenty-first century with many literary movements left in a state of ideological uncertainty. Though every critical theory and each cultural segment provide certain insights about literature, the representative critics often seem content to simply bicker for prominence rather than to forge a unified approach to the literary canon. This infighting has resulted in demands for canon reformation while inadvertently perpetuating fragmentation.

Works such as David Richter's anthology *Falling Into Theory* attempt to present each of these viewpoints while divining an understanding of the future of literature. This continued dialogue succinctly explores diverse interpretations of literature yet fails to produce a solution on the issue of the literary canon. Reasons exist in support of one analytical system or another, but these

arguments are fast becoming relics of the past. As an example of the anachronistic nature of debates over canon reformation, notions of the canon prevalent in the twentieth century fail to account for changes in technology and literature. The rise of the Internet, for instance, has changed how people produce and consume literature, while at the same time the common understanding of literature fails to catch up. Digital technologies provide authors and artists with new tools and techniques to produce art. These technologies also offer critics and academics with new means of understanding and exploring literature and the literary canon. I argue that digital technologies, coupled with the science of memetics, offer a solution to the canon debate. By analyzing the Music Genome Project and its commercial manifestation *Pandora*, the potential exists to create a literary genome project that will produce a hyper-canon encompassing every work of literature. Every written work, even the noncanonical, can be analyzed and broken down into its constituent themes, references, and elements to produce an individual literary genome (more accurately a collection of memes and memeplexes). These literary genomes can then be collected into a vast, searchable database that will provide the capability to trace literary and historical concepts between and through individual pieces of literature. The ultimate product of this endeavor will do away with our antiquated notions of a master canon or minor canon, revealing conceptual trends that currently go undetected and allowing academics and researchers to track the spread and evolution of individual concepts over time and across arbitrary boundaries.

Memetics and Literature

Constructing a database of written works and their traits requires the identification of the individual units that each work contains. Imagining these units as similar to genes provides a useful analogy for conceptualizing the deconstruction of each piece of writing. Using the terms *gene* and *genome* outside of their traditional contexts does not sufficiently describe the true nature of the literary genome project. Genetics is a familiar and relatively understood concept, but memetics and the self-replicating unit of the meme more accurately describe the individual units that are found within a piece of art. *Merriam-Webster Online* defines a meme as "an idea, behavior, style, or usage that spreads from person to person within a culture." Essentially a meme can be as small as a word or as large as a belief system. In much the same way that genes spread through a population based on their "fitness," memes spread through the cultural and psychological landscape. For example, a catchy song contains several highly successful memes that make it stick in the hearer's memory. This phenomenon applies to literature as well. In chapter eleven of Richard Dawkins' *The Selfish Gene,* he theorizes the existence of the meme while simultaneously transmitting the meme for the concept of the meme via the book. Memes can be transmitted between people through basically any medium of communication, which gives them astounding resilience. Furthermore, memes are susceptible to mutation during transmission or when in contact with other memes. To a great extent memes, which are after all self-replicators, function much like genes do, just not in a biological

system. Since memes are the elements of the transmission of culture, their embedded status within literature should be evident.

Though the term *meme* refers to a discrete unit of information, it can also represent many other memes as well. This aspect is one of the major ways that memetics differs from genetics. For example, T.S. Eliot's poem "The Waste Land" contains a meme for the author, specifically, T.S. Eliot. This meme breaks down into further manifestations of the meme. "The Waste Land" has a *male* author, an *American* author, an *expatriate* author, a *white* author, and a *modernist* author, to name a few. Though each of these traits are individual memes, they coalesce into the memeplex of author.[1]

Susan Blackmore attempts to establish the smallest individual unit that can be defined as a meme in her 1999 book *The Meme Machine*. When confronting the issue of what constitutes a meme, she writes, "The first four notes of Beethoven's *Fifth* are a tremendously successful meme, replicating all by themselves in contexts in which Beethoven's works are quite unknown. So are they the meme, or the whole symphony?" (53). Blackmore concludes that unlike in the case of genes, a "replicator does not have to come neatly parceled up in ready-labeled units" (53). I argue that memes differ from genes in that they can be compounded and include numerous traits, as in the example of T.S. Eliot's authorship of "The Waste Land."

Memes—like genes—have alleles (competing versions of a single gene), though memetic alleles are harder to differentiate. For example, consider the memes for religion. A single source may

contain the memes for Christianity, Islam, Buddhism, and Taoism. These are all competing alleles for the meme of religion, though an individual and a book can carry one or all of them. Furthermore, the interaction of these memes can produce a completely new meme allele, as in the case of the melding of Judaism, Christianity, Islam, and Zoroastrianism into the Baha'i faith. The complexity of the meme as a replicator can be confusing and ambiguous, so for the sake of simplicity it may be easier to conceive of many specific memes, including their alleles, as aggregating into a memeplex. In this way Beethoven's *Fifth* can be a memeplex while the first four notes also represent an individual meme. Conceiving of memetics in this fashion broadens the ways in which self-replicators accumulate and interact, which enhances the opportunities for the application of memetics to literature.

Establishing a complete listing of all the memes contained within a work of literature equates to fully cataloging its genome. However, the word *genome* associates with genetics and not memetics. Memetics does not have an equivalent term for the overall body of memes that may comprise an individual person or object. The existence of such a term seemingly goes against some basic tenets of memetics in that a gene is a permanent part of an individual whereas a meme can be replaced by a more successful meme instantly rather than over generations. This distinction seemingly rules out the possibility for a static memetic genome. Though a person or communication medium may contain memeplexes, this term cannot stand for all the memes contained within a single source. For the sake of this application, a new word

must be coined to mean the equivalent of a memetic genome. In this case the word *menome* suffices. It employs a phonemic variation for the sake of pronunciation but clearly resembles the root word. *Menome* thus represents all the memes contained within a single source, whether it is a person or a book.

Cataloging the menome of a book or poem presents many options for interpretation. Literary critics may argue over whether a book is feminist or socialist, chauvinistic or postmodern. These definitions cease to really matter with the application of memetics. A book may contain memeplexes for feminism as well as socialism. Cataloging a work solely as one or another is no longer necessary nor sufficient. Nonetheless, accomplishing the act of cataloging everything about an individual work is daunting. Therefore, exploring an existing analogy, the Music Genome Project and *Pandora*, presents an opportunity to better understand how to apply memetics to literature.

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Pandora

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When I want to find new music, I turn to *Pandora* to discover new bands and songs that are similar to genres of music that I like. By simply entering a band or song name, *Pandora* searches the Music Genome Project database to identify other songs or bands that share a certain percentage of traits in common with the search term I use. Since very few songs share all their traits, *Pandora* plays music that is similar to my search criteria but different enough to probe the extents of my musical taste. For example, I create a new *Pandora* station based on the song "Sugar in the Sacrament" by the band Thursday. The first song that *Pandora*

plays is "The Sweetest Song" by The Wildhearts. *Pandora* tells me that this song was selected because, "[b]ased on what you've told us so far, we're playing this track because it features hard rock roots, punk influences, a subtle use of vocal harmony, repetitive melodic phrasing and minor key tonality." I decide I don't like this song. *Pandora* instantly loads a new song, "I'll Keep an Eye" by Griddle. This song is selected "because it features hard rock roots, punk influences, a subtle use of vocal counterpoint, a subtle use of vocal harmony and mixed minor & major key tonality." These two descriptions show how *Pandora* relies on certain elements that my seed song contains while broadening the horizons of its search to find new content for me to listen to. The genes, or focusing traits, of hard rock roots and punk influences are retained while more subtle elements are explored (Glaser et al. 8). I don't make a decision about "I'll Keep an Eye," so *Pandora* loads a new song, "The Process" by My American Heart. I decide I like this song, which affects what focusing traits *Pandora* will search for. *Pandora* now limits the different genes that it will search through. Since every gene is actually scaled between zero and five, *Pandora* can now focus on certain genes and then only return results that may be rated as three or higher (Glaser et al. 7). None of this information is available to the end user on the website, but the process itself is explained in the patent for *Pandora*'s technology.

According to their patent, "The Music Genome Project™ is a database of songs. Each song is described by a set of multiple characteristics, or 'genes'. . . that are collected into logical groups called 'chromosomes.' The set of chromosomes make up the

genome" (Glaser et al. 7). In the Music Genome Project, an individual song cannot have unique genes. Instead, each song has a preset number of them. The *Pandora* patent states that in "a preferred embodiment, rock and pop songs have 150 genes, rap songs have 350, and jazz songs have approximately 400" (Glaser et al. 7). Furthermore, each trait is rated on a scale of zero to five. The Music Genome Project does not truly employ a "genetic" structure to music; rather, they identify a master list of traits found within a certain type of music and then rate the extent that a song may embody each trait.

Clearly the implications and applications of the Music Genome Project and *Pandora* are expansive, but ultimately the question arises: why doesn't such a system and project exist for literature? Since the algorithms and technology exist for the cataloging and indexing of the world's music, why can't the same concept be applied to books? Why can't there be a literary genome project?

The Literary Genome (Menome) Project

The application of memetics to literature, and art in general, provides the foundation for the creation of the literary genome project.[2] A literary menome compiles all the memes and memeplexes within a work in a standardized way, developing an accessible resource. Unlike the Music Genome Project, which employs preset, valued categories to produce the genomes of individual songs, the literary genome project must utilize a more diffuse and flexible system to capture all the nuances of an individual work. More specifically, the Music Genome Project has

more in common with formalism than with the memetic approach of the literary genome project. The Music Genome Project does not directly take into account the idea content of the lyrics of a song or the mood of the musical movements. Rather, the Music Genome Project simply identifies the structural and genre elements of a song to categorize it. The ambition of the literary genome project is far more comprehensive than this. Every work of writing has definite traits that cannot be argued, such as author, publisher, title, etc. These structural elements differ from the more ambiguous memes that relate to culture, gender, or politics yet remain highly essential to the analysis of an individual work.

At first glance it may seem unnecessary for the literary genome project to encompass so much territory. Compiling and organizing such potentially unique menomes is an immense undertaking, but this high level of specificity results in an unrivaled capacity to categorize and analyze literature. One valuable technique for parsing the abundant information contained within the menomes of the literary genome project shares several of the objectives found within population genetics. According to *Merriam-Webster Online*, population genetics is "a branch of genetics concerned with gene frequencies and genotype frequencies in populations under equilibrium and nonequilibrium conditions considering especially randomness of mating, immigration, emigration, mutation, and selection." Spencer Wells, in the preface to his book *The Journey of Man: A Genetic Odyssey*, summarizes the purposes of population genetics when he writes, "[i]t is not the code itself that delivers the message, but rather the

differences we see when we compare DNA from two or more individuals. These differences are the historical language of the genes" (xiii).

With literary memetics, there is something to be learned from both what is the same in two or more works of literature and what is different. The memes and elements that hold constant through multiple works allow for the identification of meme-lines in literature over time. A simple example of this concept is the meme for *utopia*. Consider for the sake of argument that this meme starts with Thomas More's 1516 novel *Utopia*. Next we see this meme appear in Jonathan Swift's 1726 novel *Gulliver's Travels* followed by Edward Bellamy-s late-nineteenth-century novel *Looking Backward: 2000-1887*. Though this list is far from comprehensive, it plots the meme-line. The meme for utopia eventually gives rise to a mutation, the meme for dystopia. This meme-line embodies such works as George Orwell's *1984*, Aldous Huxley's *Brave New World* and Ray Bradbury's *Fahrenheit 451*. Utopia and dystopia adequately illustrate the concept of the meme-line as well as the mutation of a meme; in this case, utopia mutates into dystopia.

The database of the literary genome project potentially simplifies and enriches this kind of research. Despite the fact that the utopia/dystopia example above is extremely simplified and limited, it still demonstrates the potential for meme mutation and meme-line tracing through history. If a database with the information of millions of works existed, literary trends could be identified and visualized across both time and geographic space. Meme mutations could be tracked across languages and political

boundaries to better understand the rise and spread of ideas or trends. Furthermore, the connections between individual works could be qualified in ways similar to that of the Music Genome Project's limiting factors in an effort to enhance the database's ability to narrow searches. The analysis of the ideological and memetic content of literature could provide the basis for a new understanding of the humanities and art.

Is It Possible?

Imagining something as beneficial and intriguing as the literary genome project is easy, but creating such a dynamic and powerful database is another issue entirely. The technology exists to create a Web-based, searchable database complete with a graphic user interface to provide multidimensional renderings of connections between literary works, or meme-lines. These manifestations of the project are geared more toward academia and the curious layman. The harder aspect of the literary genome project is the creation of a *Pandora*-like commercial implementation of the database. Since a written work's menome is so much more complex than the musical genomes within the Music Genome Project, different algorithms and search parameters must be established to provide meaningful results to any query.

Though producing a website complete with a dynamic database, graphic user interface, and commercial implications is possible, filling the database is a much more difficult prospect. Since the field of literary memetics does not exist, no broad experience or standards regulate the creation of menomes. With little chance of this field suddenly rising to prominence within the

humanities, the literary genome project will likely—at least initially—rely on voluntary submissions. Designing the project as an open access system will encourage individuals from numerous fields and backgrounds to submit menomes. Identifying the various traits and memes within a work can be an exciting and rewarding process, though it will be of little use without standards. Furthermore, a regulatory organ must be established for the verification of menomes to ensure the integrity of the analysis. Perhaps in time a group of academics will come together to overview the submission process. Realistically, the creation of the literary genome project will start slow and develop organically. Imagining how the project will be realized is important but at this point perhaps unnecessary.

  Another important fact to remember is that the literary genomeproject is not a library. The database is only a collection of menomes and not the works themselves. That said, the literary genome project should be structured to interact with other online literary sources. Websites like *LibraryThing* and *Google Books* offer resources that can enhance the usability of the literary genome project. *LibraryThing* is a social networking site centered on individual users' libraries. The site has consequently cataloged over fifty million books through user submissions, though many books are duplicates with different covers or other minor variations. Nonetheless, *LibraryThing* and websites like it may provide a useful resource pool of volunteers eager to begin cataloging the menomes of their own collections. *Google Books* is yet another important resource that the literary genome project

can interact with. *Google* states that the purpose of the Google Books Library Project "is to work with publishers and libraries to create a comprehensive, searchable, virtual card catalog of all books in all languages that helps users discover new books and publishers discover new readers." *Google Books* either provides access to books online or provides links to resources that can provide the desired work, whether it is a retailer or a local library. Such a feature is an essential element of the information returned by the literary genome project.

The literary genome project and the Music Genome Project have an ideological similarity. Furthermore, the literary genome project goes beyond the structural elements that the Music Genome Project relies on and employs the application of memetics to reveal the abstract, aesthetic, contextual, and ideological elements of a written work. These data can be parsed through the Web-based applications of the literary genome project. Ideally the project will interact with other literary online resources to not only expose the memetic structures within literature but also to enhance access to the literature that an end user discovers through the literary genome project.

The Hyper-Canon

Many possible uses can be imagined for the data and resources of the literary genome project, but the most important consequences of its work have to do with canon reformation. Debate within the literary community has raged for years over the literary canon. Some sides want to see the disintegration of the master canon into a collection of minor canons that represent

special interests and perceived divisions (Gates 175). This proposal fails to acknowledge that every written work stands to symbolize aspects of the human condition that can be known by everybody, not just members of a particular group. In opposition to the minor canon camp are those who defend the traditional makeup of the existing master canon and its reliance on the writings of predominantly middle-class white men. They claim that literature should be considered as an individual work of art separate from the author, and that these works are canonical because they are great, not because they were written by white men (Bloom 225). These positions represent the extremes of the canon debate but they also serve to show that reform is necessary within the literary canon. English literature should be representative of the society that produced it, not mainly its privileged segments.

The ultimate objective of the application of memetics to literature is the means to reorganize and redefine the canon to make it as representative and egalitarian as possible. This objective relies on the use of modern technology (i.e., the internet, databases, etc.) to analyze the literary body. Through the tracing of meme-lines, new ways of connecting, grouping, and exploring great literature will begin to emerge. More importantly, the divisions that people cite as reason for the fracturing of the canon can be overcome when they are shown to be minor in the face of those qualities that most forms of literature share. One interesting result of these connections could be the resurrection of forgotten works as they are shown to be the ideological foundations of currently canonical pieces of literature. I refer to this product as

the hyper-canon. The hyper-canon is more like a pyramid than a list; it gives credit to the broad foundation of works that support the pieces that form the apex of human literary achievement. Only through the application of modern technology to literature are these objectives possible.

The establishment of a hyper-canon eliminates the need for minor canons because it integrates all of them. For example, the elements that one critic might say represent African American literature are in fact memeplexes and meme-lines present in a given collection of works. Those works share other memeplexes and meme-lines with non-African American writing and thus can be embraced and acknowledged as such. It is my belief that memetics will reveal traits shared by literature from around the world that will prove to be the embodiment of literature. Furthermore, the hyper-canon overcomes language and geopolitical boundaries in that memetic expressions within literature do not necessarily hinge on the language a piece is written in. Surely memes exist that are only present in the literature of one language or country, but the majority of literary memes will span across all divisions because they represent universal traits such as emotions, social bonds, and the limited actions that are possible between characters and environments within a story. These universal elements of the human experience become embodied in the apex of the pyramidal shape of the hyper-canon.

The Hyper-Canon in Use

Much as *Pandora* and the Music Genome Project have bridged the gap between the vast array of music and listeners, the hyper-

canon and the literary genome project strive to do the same between readers and literature. In a world where literally millions of books have been written and are available for reading, the average reader will only encounter a minute fraction of those works. This limitation occurs because of several factors, primarily modern advertising and the literary canons that are spread due to education. Contemporary resources such as *Amazon* and *Google Books* give readers greater access to a variety of literature; however, they do not fully overcome the gulf that exists between readers and the majority of existing literature. The deep analyses making up the literary genome project narrow this gulf considerably. Readers can be liberated from the confines of advertising and canons because they can search and browse literature in a wholly new way.

The impact of the literary genome project is not limited to the individual consumption of literature; the realm of education can potentially be heavily impacted by it as well. Educators will find themselves with the means to present concepts and ideas to students that currently do not exist. Furthermore, the literary genome project will help educators identify the literary resources that best support lesson plans. The benefits of the project abound not only for educators but for all the humanities. Social scientists will have a new tool for tracking events and ideas recorded in the world's literature. For example, the historian who wishes to discover new information about Stonehenge would be able to search for a related meme in the literary genome project database. This search would give the historian access to numerous works

that reference a Stonehenge meme. The information that the historian gathers from these newly revealed sources may lead to a revelation about the site that had previously gone unnoticed by the academic community. Another example is that of the archaeologist searching for clues to identify the location of a site in eighteenth-century Virginia. Memes contained in literature and written works from that time may guide the archaeologist to the desired location, something other resources may not always be able to do. With so much potential, numerous scientists and educators will find ways to make the literary genome project work for them in ways that are unimagined at present.

Needless to say, the potential contained within the meme of the literary genome project is immense. The analytical and entertainment applications for it make the need for its development clear. Exploring the realm of memes contained within the world's literature can be considered one of the most introspective activities possible. Art is often regarded as the ultimate expression of emotion and the human condition. The literary genome project strives to deconstruct written art into its constituent ideas and themes, something that has truly never been done on a large scale. Though the argument could be made that literary memetics does not provide a new critical treatment of literature, it is important to realize that it is not supposed to. Literary memetics does not strive to put an end to Marxism or feminism; for example; instead it strives to update the identities of these critiques and to deprioritize them by revealing them to be

one of many meme-lines within the literary body. Bridging the divides within society is a noble goal and has often been the objective of authors and artists. This point is best made in the words of E.M. Forster, who, in the epigraph to his book *Howard's End*, simply writes, "Only Connect."

<div align="center">Notes</div>

1. A *memeplex* is a collection of memes that tend to transmit together. This concept is based on the idea of the gene complex. *Merriam-Webster Online* defines a gene complex as "a group of genes of an individual or of a potentially interbreeding group that constitute an interacting functional unit."

2. In order to create an analogue to the Music Genome Project, I will continue to refer to my proposal as the literary genome project despite the fact that this concept is based on memetics and the identification of individual menomes.

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