The Statistical War on Equality: Visions of American Virtuosity in *The Bell Curve*

**Stephanie Houston Grey.** Assistant Professor of Rhetoric and Culture  
Department of Communications Studies. Louisiana State University, E-mail: shgphd1@yahoo.com

This article was originally published in the *Quarterly Journal of Speech*, 1999, 85(3): 303-329. Reprinted with permission of the editor.

This essay uses Richard Herrnstein and Charles Murray's *The Bell Curve* to examine the sedimented history of probability in America. By creating a moral cartography for the nation, the model reinforces ethnic hierarchy and difference. Three socio-graphic dynamics define this spatial rhetoric. The first creates an idealized middle to valorize sameness and normalcy, creating a universal standard of judgement. The second uses variable formation and standard deviation to manufacture the basis for difference and ranking. The third relies upon a temporal subjectivity to reinforce ethnic competition through specific progressive trajectories. The essay concludes with suggestions for a counter discourse that resists the probabilistic mandate.

**Keywords:** *The Bell Curve*, race, social science, rhetoric of inquiry, American progress ethic

The distance between science and politics is often shorter than might be imagined. During the past two centuries America's social and political terrain has increasingly linked, even conflated, scientific methodologies with ethical practices. Driving this interpenetration of science and virtue is a model of social management where expertise, stemming primarily from the professionalized sciences, played a growing role in business and government.1 This trend can be traced to the turn of the century where the successful measurement of the natural world led to the conclusion that the behavioral patterns of a community were as predictable as migrating geese. For Dorothy Ross, the mixture of natural science and history in American consciousness as described by thinkers such as William Sumner, was key to the development of the social sciences in the Gilded Age.2 These new methodologies were thought to enable the smooth transition from one regime to the next by providing a blueprint for public policy that projected future social needs and political behavior. The ability to influence and constitute seemingly nonpartisan political narratives lent credibility to the process of social quantification and facilitated its widespread implementation. Donald Levine describes this technocratic culture, reliant on sociological precepts, as one of "enlightened social control" where statistical measures facilitated the management of post-World War I society.3 This philosophy of behavioral prediction quickly spread to the institutional level. Writing in 1921, Thorstein Veblen argued that industrial mass production had become the primary mode of social and psychological organization in American culture, assigning individuals work according to their scientifically determined dispositions.4 By locating people within socio-political cartographies to maximize productivity, the social sciences endorsed methodologies that naturalized roles and defined modern identity.
The extension of technocratic practices throughout government and business was paralleled by similar developments in the educational system. Since public schools were the primary means for socialization on a national scale, prerequisite skills and values for entry into the workforce had to be transmitted accurately. Statistical tools were developed to quickly and inexpensively determine how effectively educational institutions engaged this task.5 Distinct from France, Germany, and even Great Britain, American came to rely on procedures such as the Simon-Binet intelligence test to measure the innate talents of given individuals through standardized formats to predict their future successes and failures.6 During the first World War when similar tests were applied to the military, social psychologists Robert Yerkes and Carl Brigham speculated that individuals of certain ethnicities scored lower on such measures due to diminished intellectual capacities.7 These eugenicist conclusions were justified by institutional systems that required an expedient means to type and organize individuals. The process of tracking, the use of achievement tests to cluster students by ability and streamline their choice of adult occupation, came to fruition at this time and has remained, although controversial, a cornerstone in American education.9 In defense of these practices, Henry Goddard would write that it is not so much a "question of the absolute numbers of persons of high and low intelligence as it is whether each grade of intelligence is assigned a part in the whole organization that is within its capacity."10 While Patrick Ryan recalls that it was this rejection of democratic individualism that led to the initial dismissals of the technocratic project in the 1930s, IQ and other achievement tests continue to function as extremely effective organizational tools.11 Despite these criticisms, the quantification of the polity remains intrinsic to America’s cultural topography, defining a wide range of practices from the measurement of job productivity to determining appropriate census procedures.12 Disciplines such as economics, psychology, sociology, and political science orchestrate perceptions of the social order by classifying and arranging clusters of individuals along axes that measure performance and desirability. As the public is constituted through social scientific categories that are subsequently revealed in graphic form to craft a visual aesthetic, an ethical standard for the nation is created and reinforced, defining American identity as the product of a mechanistic moral order.

To best understand the cartography that has propelled the social sciences demands examining them as discursively and historically bound phenomena. Throughout the past decade rhetorical scholars have begun to question and expose the assumptions that drive epistemic discourse—an effort sometimes termed the "rhetoric of inquiry."13 Utilizing the principles of the linguistic turn as a springboard, the sciences are now being examined as socially situated activities that rhetorically legitimate communities. Richard Rorty writes that the "only essence in which science is exemplary is that it is a model of human solidarity."14 In other words, the power of social science lies in its capacity to establish consensus within collectivities rather than in an ability to expose material reality. As many scholars have pointed out, the specialization of scientific vocabularies and methodologies is one of the primary means through which epistemic and lay communities are traditionally demarcated.15 John Dewey critiqued this burgeoning technical class for drawing upon the resources of the "great community" while socially and linguistically partitioning itself from the mainstream to legitimate these new techniques.16 The encryption of population descriptions in obscure vocabularies enhanced by highly specialized, objective methodologies supports the mission of social science to become the foil of prejudice and popular myths.17 The landmark case of Brown v. The Board of Education is one such example where social psychology profoundly influenced
contemporary understandings of race in America by directing attention away from genetics and towards socio-economic deprivation.18 Such critical moments are, however, eventually undercut by the use of these technical methodologies to comment upon social processes as they fail to acknowledge the imbrication of social science within popular ideologies. Max Horkheimer suggests that the abstract nature of mathematics deflects critique through extraction from the political realm in a manner similar to high art when he writes that the application of numbers "is not to be regarded as an appendix, as merely what comes after thought, but enters into theory at every point and is inseparable from it."19 To view statistics as divorced from action means the effacement of their inherent rhetoricity, permitting an illusory split between form and content-between the symbolic and the material-a cleaving that renders society a knowable, predictable, and thus controllable system.

A significant and controversial moment in the history of the social sciences which illustrates this dilemma occurred in 1995 with the publication of Richard Herrnstein and Charles Murray’s best seller The Bell Curve: Intelligence and Class Structure in American Life. Advancing the claim that intelligence, as determined by standardized IQ tests, predicts professional success, personal virtue, and social desirability, these authors have become lightning rods throughout both the academic and popular communities.20 Positioning their work in opposition to affirmative action policies that, from their perspective, promote mediocrity, the authors argue for a scientifically verified, natural, and hierarchical relationship between the races which liberal politics unwisely disturbs.21 While some authors have applauded Herrnstein and Murray’s perceived honesty about racial disparities in intellect, these claims also inspire a deluge of critiques, making The Bell Curve perhaps the most vilified book of this decade.22 The most passionate of these criticisms hold that Herrnstein and Murray are racists who attempt to revive the long debunked science of eugenics which posits African-American genetic inferiority.23 One critic likens the text to social scientific “pornography,” arguing that its decidedly extreme, racist arguments laced with statistics are paramount to epistemic obscenity.24 Others, more cynically, dismiss the book as a marketing phenomenon that purposefully punches the right ideological buttons to stir controversy, selling almost three-quarters of a million copies to date.25 The majority of critics, including some who partially support the author’s assertions about race, question the validity of the scientific sources and methods that they employ. The fact that the majority of Herrnstein and Murray’s data are generated out of studies sponsored by the extremist Pioneer Fund and the eugenics journal Mankind Review as well as their celebration of academic pariahs such as Arthur Jensen, casts suspicion on the purity of their research.26 In addition, the authors’ advocacy of IQ test validity also raises doubt as many commentators point to profound disagreements over the proper manner in which to conceptualize intelligence.27 Still more critics argue that the science employed exposes its own flaws through low reliability numbers.28 Others raise concerns about the conclusions, correlations, and interpretations of the data: Are the authors measuring the genetic capacity they sometimes suggest they do, or does their research simply reflect current socioeconomic disparities in education?29 Universally, critics express a distaste for blending politics, specifically the author’s desire to abolish the "welfare state," with social scientific practices that are ideally divorced from such polemics.30 It appears that most of these critiques share one impulse-to recapture the methodologies that these authors have polluted with their misguided racial politics.

Such a prolific response suggests an interesting question. Why, given the widespread condemnation of The Bell Curve and similar eugenicist programs, do such claims continue to
surface generation after generation? Part of the reason may rest in the fact that while critics condemn the bad science, overt racism, and partisan politics generated by Herrnstein and Murray, the underlying methodology that consolidates their agenda still remains in place, implicating a much broader, more deeply imbedded discourse. Absent from this debate is the possibility that certain assumptions which underlie statistical practice may promote moral imperatives that fuel these controversies, an indictment relevant not only to the authors’ conclusions, but, more profoundly, to the entire social scientific community. It is important to note that while probability theory originated in Europe, the bell curve model has found its greatest resonance in the United States where it became the standard of description for social processes. While initially employed to analyze student performance, the use of this statistical model mushroomed—especially during the past two decades where it now describes cycles of business, athletic performance, and a host of other individual traits and social dynamics.31 This increase signals an extension of the technocratic project beyond expert institutional settings, blending scientific methodologies with popular culture. For Jurgen Habermas, the social sciences, while reliant on the careful extraction of reason from mass culture, also create a generalized subjectivity where knower (the individual) and known (the community’s normative social structures) become fused.32 Put another way, simply arguing that science and politics should be divorced strengthens their marriage by ignoring the interpenetration of the subjective and objective realms. Thus the implied ego which defines Western culture reinforces the objectivity of probability while deflecting attention from its political nature, a dynamic subsequently augmented by the process of visual representation.33

The statistical depiction of society has played an especially profound role in the constitution of modern identity through newspaper and journal articles. The early study of graphing, popularized around 1910 by Robert Peddles, examined abstract visual representations as a means to describe society to a reading public. Bar charts, pie diagrams, and line graphs illustrated social trends and group comparisons so that individuals could quickly learn to locate themselves within society’s spatialized parameters.34 In his analysis of cartography and subjectivity, Edward Soja writes that “just as space, time, and matter delineate and encompass the essential qualities of the physical world, spatiality, temporality, and social being can be seen as the abstract dimensions which comprise all facets of human existence.”35 The production of identity is thus intimately linked to the development and mapping of societal topographies from which shared realities emerge. Much like the ocular nature of print facilitated the modernist impulse, visual charting enhanced the normalization of identity described by Habermas by fixing the social ego in direct visual relationship to objectified social structures.36 Interestingly, this visual disposition fueled many of Dewey’s concerns with contemporary epistemic culture. One commentator writes that Dewey found spectatorial knowledge problematic because it pursues “the certain, accurate perception of what is considered to be already given, and diminishes our sense that we can and do make a practical difference to the world ... through the very process whereby we come to understand and know the world.”37 In much the same way that technocratic culture reduced the individual to a cog in the machine, visual representations such as the bell curve model enhance standardized perceptions of society. Unlike the typical canvas where a specific individual is depicted in a local context, the bell curve relies on the universalizing force of abstraction. Purely geometric renderings do not directly represent discreet objects in the material world, but illustrate ideal forms that implicate identity in seemingly apolitical spatial dynamics. In their discussion of “whiteness” as a strategic rhetoric, Robert Krizek and Thomas Nakayama argue
that being white often means remaining ethnically invisible as a way to reinforce centrality and normalcy. In the bell curve whiteness is not only represented, but the graph's visual dynamics also create a moral ontology that clearly demarcates and ranks ethnic groups along spatial and temporal axes. Removing the subject from the curve to create an ideal, normalized observer while also relocating this spectator within the curve's simplistic, spatiotemporal contours, identity is rendered both an object of study and a subjective experience. Bearing witness to this representation of society, the location of one's self within the curve's ethical topography becomes an epistemic rather than a creative process.

To elucidate this cartography the present study examines three “socio-graphic” dynamics that characterize the moral underpinnings of the bell curve model within contemporary social science. The first of these dynamics relies on a process of visual abstraction, implicating the observer in an idealized middle constituted through statistical procedures. Linking gravitational mathematics to middle-class presumptions of equality, the authors elaborate a process whereby a universalizing average reinforces normalcy, stability, and tradition by distributing society around a spatially projected mean. The second section explores the model's exclusionary impulse. While the homogeneity reflected in the first dynamic might seem antithetical to hierarchy, concepts such as variable formation and standard deviation distribute ethnic groups around a universal mean to segment society into populations of greater and lesser social desirability, making racial differences and current class disparities appear natural. Perhaps the most important dynamic of the bell curve model is evidenced in the last section. Here a spatio-temporal motion supports the illusion of social mobility through the application of linear dynamics to ideologies of merit. Using these visual expressions as moral imperatives, the authors advocate an anti-

equalitarian future where the elimination of African American competition defuses impending class warfare, a narrative that emerges directly from the social scientific mandate for prediction. The work of Herrnstein and Murray is not so much a perversion of the "liberal" sciences by conservative ideologues, but a logical result of the broader mandates for social control found within these statistical methodologies. Bringing a perspective informed by the "new historicism" to rhetorical studies I explore the manner in which certain ideological forms, while circulating through a culture, emerge within a particular text carrying layers of historical sedimentation. After defining the social sciences for nearly two centuries, the bell curve model has become what Frank Ankersmit would call a "visual statement," a rhetorical phenomenon that uses the process of depiction to condense historical narratives into a singular, graphic representation. Significant discursive moments, such as the publication of Herrnstein and Murray’s The Bell Curve, allows the visual assumptions of the social sciences to be extracted and carefully interrogated for their mandates of normalcy, hierarchy, and merit.

Normalization of the moral order

Since the eighteenth century, probability has been used to predict relationships between objects and events. The social sciences soon appropriated this procedure from the physical sciences to enhance descriptions of society, embracing the normal curve as a geometric phenomenon applicable to all human populations. Henri Lefebvre notes that "euclidean space is defined by its isotopy (or homogeneity), a property which guarantees its social and political utility." In other words, the presentation of a two-dimensional plane illustrates a finite system where graphic points are located in interdependent relationships. The bell curve adheres to early theories of gravitation which asserted that the movements...
of objects could be predicted by the universal relationship between mass and attraction. In this context, the average functions as a gravitational epicenter around which points will cluster. The application of the median to the cultural realm can be traced back to Aristotle's classical theory of the polls where the embrace of standardized traits created a common, rational citizenry that circumvented political extremes. The moral average, therefore, has deep roots in western culture with the bell curve representing one of its latest incarnations. Herrnstein and Murray echo this philosophy when they write that it "makes sense that most things will be arranged in bell-shaped curves. Extremes tend to be rarer than the average. If that sounds like a tautology, it is only because bell curves are so common." Relying on the assumption that the average is simply the manifestation of a natural law, the bell curve's sociographic cartography embeds the practice of virtue within a universalizing abstraction. The following discussion traces the conceptual development of the mean in the social sciences, clarifying the moral implications of normalcy epitomized in the work of Herrnstein and Murray.

To best understand the popularity of the bell curve model in America requires an examination of its ancestry in statistical methods of probability. While a complete account would be impractical here, a brief review helps to clarify how this visual abstraction gained material force. The social sciences emerged, in part, from the field of astronomy. In the spirit of the Newtonian revolution that posited the universe as a complex machine, astronomers began using new forms of mathematics to predict inner-stellar phenomena such as planetary rotation and the appearance of comets. The existent paradigm, supported by Pierre Laplace, held that calculations of probability could determine relationships among objects or events hidden from view. Yet, without the incorporation of some special knowledge regarding the likelihood that a cosmic event would take place, its occurrence could only be thought of as equal in possibility to any other occurrence. Carl Friedrich Gauss would invigorate the mathematics of Laplace with his theory of least squares and calculation of standard error, causing a revolutionary shift in probability theory. In this system, events could be mathematically predicted when exhaustive observation was impossible using the calculation of an average to correlate cosmic events based upon stable, universal laws such as gravity. This development in probability enabled the reduction of the universe to a finite collection of elements, bringing into relief the probable rather than the possible outcomes in any equation. By charting occurrences in correlation with express situations, the modeling of the physical world as a closed system projected the likelihood of specific cause and effect relationships. Insofar as randomness was controlled or eliminated by this theory, chance was deemphasized as a significant factor in explaining natural phenomena. Celestial events were no longer left in the hands of an unpredictable God, but could be foreshadowed in much the same way that a mechanical watch would repeat its movements. It was precisely this predictive power that made mathematical probability so attractive to post-enlightenment thinking.

The gradual replacement of the Laplacian model with Guassian regression analysis not only lent credibility to mathematics, but heralded the popularity of the scientific study of society. Once statistics were recognized by the British Association of the Advancement of Science in 1832, methodologies of probability would quickly spread throughout both academic and popular discourse. The universal significance of probability for the social sciences, tellingly designated moral sciences at this time, became evident when ideal averages were applied to human populations. Similar to the correlation between invisible forces such as gravity and physical occurrences, scientists began to use certain traits and capabilities to define entire societies. Adolphe
Quetelet, the most notable of these empiricists, claimed the ability to predict accurately events such as birthrate, Scottish soldiers' chest size, and criminal behavior using the probabilistic methods popularized by astronomers. Lorenz Kruger suggests that perhaps the most important outgrowth of Quetelet's work was his integration of statistical averages with social scientific theory. Ian Hacking goes a step further to point out that this theoretical average described by Gauss became a "real quantity" within Quetelet's work despite the fact that he was dealing with contingent social phenomena. The rotation around an average was viewed as a universal force as real as any empirically valid law of physics. This translation from the heavens to society allowed the application of normal distribution to human populations, thereby encouraging the construction of the people as an objective collection of properties that could be measured, predicted, and, most importantly, represented. In their examination of social cartographies, Steve Pile and Nigel Thrift write that "refractions of the body's location within the map of subjectivity are momentarily displayed, fixed, and codified within the authorized map of meaning and power through the transaction of vision." Knowledge of both external and internal states is acquired through the graphic depiction of psychological dispositions (or points on the graph) within larger social dynamics. The statistical formation of subjectivity in the bell curve trains the individual to objectify him or herself within the social order by fostering identification with these clusters of interiors that are subsequently defined probabilistically.

Rather than acknowledging the rhetorical nature of IQ Herrnstein and Murray illustrate the social scientific impulse to blend the abstract and the empirical by using visual anecdotes to describe their methods. This is accomplished by representing physical properties in simplified spatial relationships. The authors employ the classic illustration of height to concretely evidence the law of averages by asking the reader to imagine looking down on a series of cards along the floor of a high school gymnasium beginning with 60 inches on the left and proceeding to 80 inches on the right in one inch increments. After each student lines up single file behind the card designating their height, a perfect bell curve is revealed: "Looking at your high school classmates standing around in a mob, you can tell very little about their height. Looking at those same classmates arranged into a frequency distribution, you can tell a lot, quickly and memorably." It is not accidental that height is used as the primary means to link probability to material reality. While bodies exist in "real" space they also, when clustered, objectively represent a system of ordering within a population. Locating the short to exceptionally short individuals within the bell's left tail, and the tall to exceptionally tall individuals at the far right, the middle, the authors go on to suggest, is home to the majority who are of average or unexceptional height. The arrangement of physical bodies in the normal distribution pattern asserts the efficacy of the bell curve as a material reality as well as training the social subject to look for naturally occurring averages in human clusters.

The next stage of this process extends the visceral characteristics of normal distribution into the abstraction of intelligence—a point illustrated in Figure One. This perfect bell curve reflects frequencies in IQ scores that are calibrated to reveal a standard for the nation. While early theories of probability held zero as the conceptual median, the score of 100 was developed to express the average IQ since it was difficult to explain test rankings with half of the population producing a negative score. Broad and tall in the middle and tapering at both sides, the bell curve model evidences common sense understandings about intelligence where most individuals cluster in the middle, displaying average intelligence, while a few linger at the margins being exceptionally dull or bright. The resultant wide expanse in the middle of the
curve promotes the belief that a majority of individuals share similar intellectual talents, endorsing an ethic of sameness or community. While appearing to offer an objective description of the aggregate in American social structure, Herrnstein and Murray are, in fact, creating an imagined population by asserting a probabilistic tendency based on a visual abstraction. Michael Stern reminds us that "the first intelligence testers assumed that responses to their questionnaires would follow a 'normal' distribution in the form of a bell curve; if they didn't, the questions were changed until they did. Nothing in the way standardized intelligence tests are produced has altered since."59 Simply put, if the average IQ score of the nation was to rise from 100 to 110, this quantitative increase in intelligence would be recalibrated back to 100, maintaining the functional logic of the average. For normal curves to work there must be an artificially maintained median that represents the majority—an ideal point of moderation from which deviance or exceptionalism can be measured. In much the same way that rhetorical scholars such as Michael McGee and Maurice Charland have suggested that the "people" are best understood as a textual invitation, the visual representation of normal distribution interpellates a subject that understands its relationship to others in terms of spatial averages.60 This statistical gravitation around the middle creates the illusion that a collection of common traits bind the citizenry in an a priori community.

As I have suggested, the relationship between probability and politics became especially powerful in twentieth-century America where statisticians came to influence public policy under the rubric of social engineering. The social sciences enhanced their influence by creating a vision of the social world which was easily represented day after day in newspapers, journals, and magazines. In his treatise on the rise of nationalism and its relationship to print culture, Benedict Anderson writes that the sense of community created by newspapers and novels promoted "deep, horizontal comradeship" despite profound inequalities in class during the turn of the century.61 The existence of this ideal, middle America would continue to take root throughout the course of this century, binding people together under the rubric of the middle-class citizen. As this notion became popular at the turn of the century, the causes of economic status and mobility were increasingly viewed as moral and behavioral issues rather than questions of lineage or pedigree. Stuart Blumin writes that nineteenth-century America's middle-class was "most likely to express awareness of its common attitudes and beliefs as a denial of the significance of class."62 Indeed, status was interpreted as being the result of the rational choices made by particular individuals, a conception that differs significantly from the rigidity of European caste systems that relied on long traditions of royalty, nobility, and gentry to determine social rank.63 In a country where the mythology of the average citizen remains so pervasive, the bell curve reflects the assumption that there is a standard range of traits that a majority of people share, a belief rooted in the mythologies of self-determination and individual capacity. As a result numerous polls calculate the number of individuals in America who currently identify as middle-class to be as high as ninety percent.64 The idea that people with an income of twenty-thousand dollars a year consider themselves to be in the same class as those making a quarter million dollars a year, and vise versa, seems curious until a careful examination of normalcy is undertaken where fairness itself becomes a quantifiable force within society. It is in this venue that the social sciences become explicitly moral endeavors. While this connection between science and ethics might seem counter-intuitive, it is important to recall that the probabilistic average is by definition a standard against which alternatives can be corrected. Linking the rise of rationality to the middle class, Habermas writes that since their inception the social sciences have
developed and applied "instruments with the sole purpose of discovering reliable general rules of social behavior."65 It was not a particular income level that bound the rational individuals of the bourgeois class, but a shared perception of what constituted rational and therefore appropriate behaviors in a civil society.

One of the dominant genres of moral reasoning in American culture appropriated by the social sciences is the application of normalcy to socio-economic structure. With so many Americans ostensibly sharing middle-class status, the ethical nature of the common citizen can be epistemologically reinforced using probability. Perhaps the most perplexing issue within contemporary social science is precisely how researchers can operationalize values.66 By correcting variables back to an imaginary mean, the standardization of certain moral patterns can be reinforced. Herrnstein and Murray exhibit this mandate by applying normal distribution to human virtue. An obvious example of this is the authors' elaboration of the Middle-Class Values Index. The MVI employs questionnaires that propose to measure moral fitness, suggesting that the average to the slightly above average white population that comprises the majority of the nation "forms the spine of the typical American Community, filling the seats at the PTA meeting and the pews at church, organizing the Rotary club fund-raiser, coaching the little league team, or circulating a petition to put a stop light at a dangerous intersection-and shoveling sidewalks and returning lost wallets."67 Correction back to the mean becomes shorthand for the valorization of "common" beliefs that, when absent from certain segments of the population, becomes the basis for denying them economic resources. The moral implications of the normal curve is evidenced in Robert Lawler's discussion of divine geometry where he notes that the vaulted ceilings on many cathedrals with balanced slopes on either side, a form quite similar to the bell curve, is representative of what many theologians, and now statisticians, refer to as the "golden mean."68 The apex represents humanity's quest for salvation and the spiritual organization through which the religious community binds itself. The statistical gravitation of points around a median in the bell curve seems to mirror this romantic vision of society by universally correcting difference against this common, if not spiritual, standard. Knowledge and morality are thus spatially linked, fostering an ideal vision of both society and the citizen.

![Figure 1](image.png)

The normal curve of intelligence for Hernstein and Murray.
Since Quetelet’s translation of Gaussian theory into the social realm, policies have been driven by the fiction of the "common man" or the "average citizen." While embracing standardized political norms to expedite policy decisions that reinforce social stability, the middle also serves as a referential point from which authority can be exercised. By linking the median to universal morals often defined by middle-class whites, the principle of gravitation suggests that this clustering reflects a natural state. Celeste Condit’s theory of “concordance,” where groups who hold oppositional views may blend agendas to strengthen their political efficacy, provides an example of the way in which this spatial impulse is translated into social theory. In her theory competing perspectives are averaged or normalized to facilitate collective action, promoting a morally stable environment by constructing extremes as unnatural deviations that produce conflict.69 In a critique of Condit, Dana Cloud cautions against such laissez faire politics as they allow the oppositional force of minority positions to be absorbed into an imaginary, hegemonic accord.70 Cloud recognizes the inherently partisan nature of spatial dynamics such as "concordance" and their power to legitimate the interests of one group over those of another through the illusion of universal accommodation. While the average appears to represent a neutral agenda or a middle-way amalgam of competing social forces, this is perhaps the most disturbing aspect of the statistical procedures which support the bell curve model. The potential to justify any opposition as deviant and subsequent policies as the natural outcomes of a fair democratic process undermines the possibilities for social change. Normal distribution not only fosters community through visual interpellation, but also functions to segment society in a hierarchical fashion, constituting the epistemic basis for ethnic ranking.

**Locating Social Deviations**

While using statistical norms to create a sense of unity, the social sciences also define the boundaries through which group differences are delineated. The bell curve's geographical demarcation of society is built on the procedures of variable formation and standard deviation that cluster individuals into discreet social categories located to the left and right of the mean. While the curve fosters identification by adhering to the logic of normalcy, it also directs the spectator to locate otherness in statistically demarcated zones defined by competing sets of values. These differing social categories are then ranked according to immutable traits that define their relative desirability. This emergent hierarchy is justified by a spatial arrangement of variable clusters that mark difference along a proportional graph, implying universal standards of measurement. Recall that in his Nichomachean Ethics Aristotle argues that "the just is a species of the proportionate (proportion being not a property only of the kind of number which consists of abstract units, but a number in general) proportion being the equality of ratios."71 The projection of equal quantities along either side of the model’s mean indicates a certain measure of justice or fairness in accord with the natural laws of balance. In addition to the maintenance of the universal average, this finite system demands the ranking of all individuals against the same standard, disavowing culturally relativistic frameworks. Hierarchy thus becomes the primary means for conceptualizing identity within a technocratic culture that places tremendous value on reducing social complexity in favor of greater efficiency. Probability draws on the mechanistic ordering system of the Newtonian universe to transfer the organizing principles of physics into the political and cultural realms to create a closed social system. This section examines the assumption that each individual or group has a fixed place in an interrelated system, and
illustrates how ethnic differences are statistically and visually created to naturalize identity.

As previously discussed, the social sciences supported the proliferation of standardized tests as objective tools for measuring human capacities on a mass scale. In turn-of-the-century Fordist and Taylorist philosophies, where individuals were viewed as quantifiable materials for arrangement in the industrial complex, the ethic of efficiency emerged as one of the primary justifications for statistically determining social hierarchies. This organizational structure persists in contemporary political discourse where public policy makers employ "resource management” techniques to administer national agendas such as employment and housing. Yet this statistically enhanced mandate for efficiency has had a more profound impact on American society than simply providing standards for the distribution of economic resources and assessment of job performance. Bradley Rudin notes that early worker development programs were designed, in theory, to increase efficiency, but actually dealt more with moral uplift and obedience—a strategy developed to deter employees from succumbing to the labor unrest of the period. The smoothly running, stable organization became, and remains, virtuous. This form of probability facilitates what Hikka Summa has termed the “automatic society” where human action is viewed as a predictable system built on rules of appropriate social conduct rather than independent political intervention by locating the individual in preexistent organizational patterns. Empirical quantification, therefore, promotes institutional efficiency, social cohesion, and obedience to normative structures by creating a subject that is constituted within interdependent, automated patterns.

This mandate for social stability is built on the subsequent group delineation and stratification inherent in probability. Tracing its roots to the mechanistic metaphors of the Eighteenth century, astronomers came to describe the universe as a self-regulating, efficient system. This template was transposed, assumptions intact, by sociologists such as Emile Durkheim and Herbert Spencer into the realm of human organization to animate the metaphor of the grand social organism. In much the same way that the body is composed of interdependent organs, society, through this lens, was thought to be the sum of its individual typologies that perform specific, interdependent tasks to assure the proper functioning of the whole. This proposition for a fixed interrelation between social categories remains a common assumption in modern social science. The development of the variable in statistical discourse allows researchers to study relationships between an individual’s qualities and their social placement, IQ and race being two examples. Not surprisingly, many critical theorists who study ethnicity such as David Goldberg question this process of "categorization,” arguing that it is a formal strategy for cultivating and marking racial differences within a community. Standard deviation, a statistical measure that averages the differences above or below the median to create a quantitative unit marking significant divergence from the middle, is another process which enhances the distinctions offered by variable construction. While presenting a visual system marked by balanced ratios the bell curve model distinguishes groups and then presents them in a visual continuum to be numerically ranked. As disciplines such as sociology become integral to the description and production of identity, their methods of probability create models of the aggregate that hierarchically determine social locations, a process that impedes human agency.

To fully appreciate the scope of these political limitations that define the social sciences requires an examination of Herrnstein and Murray’s visual reinforcement of hierarchical differences. Following the logic of standard deviation, they suggest that certain ethnic groups deviate from the mean in a
manner that can be statistically defined. An examination of Figure Two illustrates a nearly perfect bell curve that marks the distribution of intelligence throughout the Anglo-American and African-American populations. With the majority of individuals depicted just right of center and possessing above average intelligence, the white community is clearly presented as the standard to which other races are to be contrasted. Presented as a small population on the left end of the curve, black Americans are, in Herrnstein and Murray’s terms, one “standard deviation” below that of white Americans. Once African-American ethnicity is operationalized into a variable, identity can be neatly measured within a closed spatial dynamic. The procedure of standard deviation grants the statistical significance to identify the existence of these differences. This is visually reinforced in the curve where the left and right tails distinguish groups from the median to reveal numerically deficient and elevated ratios respectively. As the Aristotelian precepts of balance define this visual continuum, internal statistical dynamics reinforce differences to distance certain social groups from the mainstream. The logic of racial demarcation in America is thus intimately intertwined with the reductive capacities of the technocratic project. For example, the numerical majority that the white population currently enjoys insures it will not be ranked a deviation above or below the standard set by another group. Within these statistically defined systems, categories are generated to identify movements away from the gravitational epicenter that can then be interpreted as ethical violations. Identity, rather than a creative individual process, is determined by epistemic methods that define group experience in terms of their variance from mainstream, universal standards.

The Bell Curve codifies and exposes the methodologies of modern social science that externalize individual interiors, in this case intellectual capacities, within broad organizational patterns. Peter Reill argues that revisioning human social reality within these statistical terms reduces the whole of human history to a collection of hypostatized systems. Viewing the social order through organic screens committed to mechanistic principles promotes the notion that physical characteristics may in some way indicate psychological dispositions. Eugenics, a discipline that gained popularity during the early twentieth century, combined the principles of Social Darwinism with scientific methodology to facilitate legal policies for regulating the sexual reproduction of the poor based upon their scientifically determined intellectual and moral inferiority. This movement traces its roots to Europe and the study of psychometrics where Francis Galton, its most notorious practitioner, garnered fame by assessing intelligence through the measurement of skull size. These studies of ethnicity descended from the practice of examining the skulls of criminals for the physical signs of malformation to explain their deviant behaviors. As a result a lengthy and heated debate ensued within disciplines such as sociology and anthropology over the extent to which intellectual capacity and other traits were better correlated to biology or social experience. Yet even as the vocabulary of physical race was increasingly replaced with more culturally sensitive notions such as ethnicity in the 1920’s and 1930’s, physicalist assumptions were transported into these theories to preserve the essentialist basis for ethnic identity. The organic metaphor employed by sociologists thus facilitated the transference of this “ethno-physics” into the social realm. Probability reduces ethnic groups to operationalized variables that are equally applicable to either biological or cultural identity. Indeed Collette Guillaumin questions the entire Enlightenment project, urging that the measurement of human beings inherently restricts social mobility by marking ethnic differences in fixed ranking systems. Once located in a probabilistic system, correlations are
drawn to individual traits that explain the hierarchical positions between the variables to reenforce the immutable nature of social inequality.

The interpenetration of the physical and cultural realms reveals a social hierarchy informed by universalizing statistical ranking systems. Herrnstein and Murray illustrate the ability of social science to bring material force to political claims, moving between the two realms with surprising ease. They initially assert that "some ethnic groups differ genetically for sure, otherwise they would not have differing skin colors or hair texture or muscle mass." Rather than view Galton as an intellectual miscue of a racist era, they laud him for recognizing "that he needed a precise, quantitative measure of the mental qualities he was trying to analyze, and thus he was led to put in formal terms what people had taken for granted." They go on to explain that psychometrics has proven itself to the larger academic community by producing heuristically valuable descriptions of human behavior and generating principles on which contemporary social science relies (in spite of many researchers protests to the contrary). Yet even as they are pilloried for these claims, Herrnstein and Murray also conform to more contemporary constructivist positions on race when they write that we "may call them ethnic groups instead of races if we wish-we too are more comfortable with the term ethnic because of the blurred lines." This elision of the biological and the social is perhaps the most resonant legacy of the social sciences since the language of variable formation makes it difficult to discuss racial difference in non-essentialist terms. The very process of correlating certain groups with measurable traits establishes external validity through the assumption that statistical procedures such as standard deviation depict fixed relationships in material reality. Herrnstein and Murray are not simply using methodologies practiced by an isolated fringe group, but reveal a pattern of thought endemic to western epistemology. To simply transfer the origin of social differences from the biological to the cultural is meaningless unless the frameworks of measurement, stratification, and objectification inherent in probability are themselves rearticulated.

Understanding how this "ethno-physics" functions as a coercive force necessitates a discussion of its implication for the ethical topography of the nation. The organic metaphor subsumes political agency by naturalizing the superstructure of human existence using the calculation of internal traits as an organizing
principle. The notion that social values can be indexed or measured through the codification of events such as marriage, birth rates, and disease is an outgrowth of the moral sciences. Since normal curves are calculated around a common standard, universal principles define each point in the visual system. Herrnstein and Murray are thus quite comfortable linking moral interiors to social categories, writing that everyone has a "moral compass, but some of these compasses are more susceptible to magnetic storms than others."92 This natural theology is fueled by statistical abstractions that develop material force through the spatial distribution of virtue throughout the community. While bell curves are used ostensibly to identify correlations between ethnicity and intelligence, Herrnstein and Murray subsequently connect these graphic entities to the capacity a group might possess for anti-social behavior. The moral degeneration necessary to enact a crime, for the authors, is a natural outgrowth of lower African-American intellectual ranking. The bell curve model directs social scientists to assume cause and effect relationships between traits, behaviors, and status, relying on strategies of demarcation such as standard deviation. The "moral compass" is thus a reasonable if not logical conclusion to draw from the visual continuum where these behaviors are so clearly and objectively illustrated. Individual virtue, from this standpoint, becomes a spatial metaphysic for a society seeking an encompassing means to define and effectively manage identity.

Through its externalization of individual traits, The Bell Curve reveals the extent to which probability, when applied to humans, reduces society to an interrelated system of social typologies. The book jacket depicts a standard bell curve model much like Figure One where a rainbow exemplifies the naturalization of ethnic demarcation and ranking. Seeing one's self depicted as a variable reinforces the conflation of subject and object by locating the ideal observer within the abstract cartography of ethnic distinction. In this spectrum where colors are delineated horizontally, the location of each group in its unique and natural space reveals a harmonious community. Following the mandate of efficiency, social science reduces human complexity to a hierarchical abstraction fueled by the conflation of the biological and social. Michael Omi and Howard Winant argue that when a single factor such as biology or economics is used to define and delimit racial identity, complexity is sacrificed for stability.93 Proponents of liberalism such as Berkeley sociologist Todd Gitlin illustrate this ubiquitous desire for social order when eschewing the complicated and conflicted terrain of multicultural politics in the hopes of creating a more effective political party.94 With the emergence of the bell curve model it seems that the social sciences regress into determinant models of identity that revive the debate over the causes of behavioral differences in ethnic groups. Radically conservative imitator of The Bell Curve, Dinesh D'Souza writes that "innate differences raise the prospect of a multicultural society characterized not by a benign equality, but rather by a natural hierarchy of groups: whites or Asians concentrated at the top, Hispanics in the middle, and blacks at the bottom."95 Thus we see that statistics often embody the vicissitude of the times in which they exist. One may therefore easily speak of cultural differences while maintaining the underlying grammar of biological determinism or ethnic stereotypes. By defining ethnic groups along a universal continuum, they cannot be viewed as works in progress or as possessing any power to articulate their own counter logic, but instead as discrete entities who will live by their predetermined natures within specific strata to promote "harmony." Attempts to provide more fluid definitions are thus quickly thwarted.96 This political commitment is supported by probability through the reduction of race to a variable that can then be spatially located in relationship to a natural average, providing the epistemic justification for defining African-American difference in terms of
Progress and the temporal dynamic

Subjectivity, like physical objects that exhibit relative motion, can be understood as both a spatial entity and a temporal dynamic. As I have illustrated, the statistical average builds community while variable formation and standard deviation foster hierarchy. This spatial rhetoric is accompanied by a visual temporality that promises success for those represented under the curve. While the subject appears to progress through time, individual possibilities are limited when reintegrated within this fixed social system. In a discussion of the relationship between secular and sacred knowledge, Robert Romanyshyn suggests that scientific thought "negotiated the shift from the sacred, symbolic, vertically layered world to the secular, empirical, horizontally explained one."97 This new understanding turned the upward path of spiritual enlightenment on its side, influencing historians to represent cultural events which appear in time as occurring in a natural, linear progression toward some transcendent goal. Similarly, probability creates a teleological cartography that validates specific progressivist trajectories. This ethical advancement proceeds in much the same manner as an enthymeme, conceptualizing individual and societal progress along a horizontal axis much like a succession of propositions. Herrnstein and Murray illustrate the questionable value of this temporal mandate by projecting an ideal future where individual achievement can only be assured through the maintenance of natural competition between the races. This moral contest is fueled by the statistical assumption that these groups exist in a closed system, and must therefore battle for limited resources. The authors follow these statistical precepts to suggest that if artificial political interventions allow African-Americans to ascend into the middle or upper echelon, the white population will (un)naturally regress. Merit then emerges as the managerial force behind the American success ethic to monitor the appropriate advancement of any individual or group—a practice that functions to preserve the status quo. This traditional understanding of American society is facilitated by the representation of the bell curve as a visual imperative that resists egalitarian principles and combats any embrace of moral complexity.

Using moral desirability to justify social status constitutes a traditional cornerstone in American class consciousness. The belief that good habits such as hard work or cleanliness will naturally lead to success not only legitimates current hierarchies, but also provides a sense of hope for those who wish to ascend the social ladder. Dallett Hemphill traces the importance of manners to the middle-class of the nineteenth century who developed an acute awareness of the role that moral behavior played in the acquisition of property, a shift that eventually facilitated the myth of the self-made man.98 The belief that all people have the opportunity to better themselves, and that it is their natural tendency to do so, is perhaps the most fundamental ideology in modern society. As David Wagner notes, the early debates over moderation and self-advancement have persisted into the 1990s where a "new temperance movement" has once again wedded notions of rectitude to social status. As a result high birth rates and incidents of drug addiction in minority populations are often seen as the result of moral failings rather than economic degradation.99 The promise of upward mobility for those who possess the proper ethical constitution is crucial to inspiring a future marked by success and personal fulfillment. Max Weber condenses these observations by suggesting that wealth, when equated with hard work, is seen as a sign of personal virtue within the American spiritual ethos.100 This coupling of success with religious transcendence supports the conclusion that economic progress is a key indicator of divine endorsement. The new temperance identified by Wagner is therefore an
extension of Puritan ethics into modern politics, a blending that confirms the visible signs of status as effective indicators of internal moral constitution.

The connection between economic success and moral behavior was systematized within the modern industrial culture of the twentieth century through the practices of meritocracy, a calculus of reward and punishment that allowed for the management of social progress. Merit would not only provide models for gauging productivity, it also functioned as an ethical motivator that drove society forward. Sacvan Bercovitch recalls that Puritan America believed in a narrative that substituted teleology for hierarchy: "It discarded the Old World ideal of status for a New World vision of the future. Its function was to create a climate of anxiety that helped release the relentless progressivist energies required for the success of the venture." Systems of merit captured this progressivist energy by first defining individual capacities, and then proposing appropriate goals. Although this management endeavored to enable a form of social progress in which all individuals could participate, these trajectories were easily absorbed into a culture organized by moral development and monetary hierarchy. The conception of merit as "just deserts" was originally defined by Adam Smith as a type of compensation for one's social value within the community, writing that to reward is to "recompense, to remunerate, to return good for good received." His logic was predicated on the assumption that all people are born in a state of relative equality with the rational exercise of moral choice becoming a precursor for their social success, a notion that can be traced to the work of John Locke. Matthew Kramer explicates Locke's theory of the social order when writing that "everyone would be entitled to enforce natural laws and to participate in collective measures for enforcing such laws [as] their collective interpretation and enforcement would produce conditions of intellectual, social, and economic equality." Since success was guided by natural forces similar to gravity, individuals were afforded the same opportunities to exercise their natural potential. Merit functioned to both systematize the standards for judging desirability as well as compelling the citizen to follow moral trajectories in their climb up the social ladder. This ethical epistemology blended reflection and action as the subject was constructed as both spectator and participant.

Probability embodies both the desire for achievement and the capacity to succeed in epistemic cartographies of the public. Understanding the manifestation of the meritocratic impulse within the bell curve model requires a closer discussion of temporal subjectivity in visual space. As I have suggested, the graphing of human populations has been one of the mainstays of popular social scientific literature in America during this century. The bell curve model, although not commonly employed to illustrate time, is particularly well suited to constituting progressive visions of society since the act of reading participates in a spatio-temporal dynamic characteristic to western society. This is most simply illustrated in the recollection that when one reads in English, as in other Romance languages, the eye is drawn from left to right in a linear fashion. While the words exist in space the process of reading implies a temporal movement toward a goal. Debates within graphing theory after the turn of the century reflect an awareness of this tendency, drawing attention to the inability of pie and bar charts to show movement through time and connect the present to the future. Linear techniques capitalized on the temporal abilities of motion to remedy this inadequacy. Through these devices changes in phenomena such as the stock market could be concisely illustrated to a general audience. This blending of temporality and visual space is linked to American progress by David Harvey who writes that conceptualizing the future "entails the conquest of space, the tearing down of all spatial barriers, and the ultimate annihilation of space.
through time." Following the central tenants of western epistemology, the normal distribution illustrates linear dynamics that penetrate through the specific positions depicted on the graph to forecast future locations. The implied observer is not only located within the graph, but also sees this location as a temporal event constituted within a progressive visual dynamic. It is important to recall that the bell curve has been historically linked to IQ and academic achievement in the minds of the public for approximately seventy years prior to the publication of Herrnstein and Murray's work. By measuring and ranking intellectual interiors and then visually projecting them along a temporal axis, the progress narrative in the American meritocracy is experienced as a natural imperative.

This imbrication of science and society revealed in the culmination of Herrnstein and Murray's political philosophy is critical to understanding their myth of social transcendence. The curve's rightward spatio-temporal dynamic presents statistical data in a way that permits the co-existence of the beliefs that social mobility is universally available through natural competition and that social desirability is a result of fixed moral and biological attributes. Figure Three, a bell curve indicating the relationship between wealth and professional status, draws attention to the innate capacities for social success. Following the logic of Figure One and Figure Two, the "low intelligence" blue and pink collar professions are presented in the left sector. As the eye is drawn to the right, the auditor finds high IQ's, prestigious careers, and wealth. This visual dynamic reinforces what Owen McLeod calls a market value wage ethic where each individual is paid according to their intrinsic monetary worth or service to society. While presenting a snapshot of current distributions in pay, society is also understood as an event that flows into a gradual, perfectible future. In western visual aesthetics, Meyer Schapiro recalls that the flow from the left (the locale of contamination) to the right (the locale of perfection) has traditionally represented moral progress. Moving beyond one's current social position is necessary for fulfilling the success narrative endorsed by the bell curve's linear dynamic. More specifically, as individuals look to extract themselves from the lower status left side of the curve, description of their current social placement merges with theories of merit to designate future possibilities. With failure characterized as the result of moral inability rather than economic deprivation, virtue, success, and whiteness become the telos toward which each member of the community should strive. The advantaged social position of the cognitive elite is justified by their inherent moral superiority, a status that is depicted as the logical outcome of intelligence.

Only the truly deserving are predicted to succeed in the meritocracy, solidifying their position in the social hierarchy in accord with the precepts of natural law and the Newtonian universe. The standard deviations to the left and right of the curve's middle not only reveal social status, but also foreshadow the constrictive force of the closed system. The design of probability demands that any rearrangement of those under the curve requires the counter movement of others to preserve the balance with the statistical universe. When applied to the study of society, any shifting of social categories has the potential to change the overall order of the nation, thus posing a threat to social progress. Herrnstein and Murray exploit this tension within probabilistic distribution to argue that African-Americans should be limited to their appropriate place in the work order to safeguard the natural balance. Recall Figure Two where the African-American side of the curve, reflecting low IQ, appears to pull the overall average of the nation down, weakening the social order. The ideological implications of this moral vision in America is described by R. Shankar Nair who writes that middle class anger is "directed not upward [at the rich] but downward towards the poor." In a system
where one group’s gain is another’s loss, the desire to repress perceived competition from below becomes necessary. This denigration of the "underclass" is fueled by the authors’ warning that the progress of America is threatened by an egalitarian counter future. The most infamous portion of The Bell Curve—the apocryphal endpoint toward which liberal policies are prodding the country—anticipates a class war where the predominantly white cognitive elite will do "whatever is necessary to preserve the mansions on the hills from the menace of the slums below."110 The accumulation of wealth and prestigious careers in the hands of the elite illustrated in Figure Three is justified by the dictums of the meritocracy. Following the logic of the average, when a group rises through the social hierarchy the wealth and status of the others under the curve decreases—a movement that can be contrasted to a conventional race where one’s advancement only displaces those who are surpassed by a single ranking increment. This facilitates the argument that unnatural competition from African-Americans destabilizes the probabilistic system, slowing the upward progress of the majority in the middle. According to the precepts of merit, if incompetent minorities acquire high status jobs their poor performance will create social instability. The bell curve reinforces simplistic social hierarchies by rejecting equality based upon the visual justification that any system that relativizes difference promotes a strong counter movement from right to left. Much like a swirling rotor the federally sponsored advancement of African-Americans draws them to the top while the natural forces of merit return them to the bottom. The solution for the authors is a return to the culture of efficiency. Each individual here accepts quietly their allotted place upon the social ladder for the good of the country to avert the apocalypse of racial bifurcation where the cognitive elites withdraw their resources from the middle-class due to the unfair requests of ethnic minorities. The best that the average African-American can hope for is to play their custodial role. Probability subverts political conflict and activism by linking resistance to the social order with mediocrity.

In a meritocratic society, the active practice of equality is viewed as an artificial manipulation. Herrnstein and Murray illustrate that the resonance of the bell curve goes beyond the rejection of liberal policies such as the "welfare state" to embrace an ethical telos for the nation marked by moral simplicity. They conclude that the "ideology of equality has stunted the range of moral dialogue to triviality in a society where the conversations, the lessons taught in public schools, the kinds of screenplays or newspaper feature stories that people choose to write-the
moral ascendancy of equality has made it difficult to use concepts such as virtue, excellence, beauty and-above all truth."111 Equality, here, becomes associated with a type of cultural relativism that hinders not only the pursuit of the moral life, but also the subsequent management of human behavior. Promoting a teleological culture of efficiency, the authors suggest that "compared to 1900 or even 1950, America in the 1990s is getting more productivity out of its stock of human capital, and this presumably translates into more jobs, gains in GNP, and other effects that produce more wealth for the society at large."112 The ability to link the promotion of those with high IQs to overall societal success facilitates their argument that the equalitarian spirit is a hindrance to moral development on a national level. Due to their indelible limitations, the advancement of African-Americans, for the authors, can only impede the proper invigoration of American society. The discourse of ethnicity is, in one sense, eclipsed by that of morality to justify the existence of racial hierarchy. In their monograph on the evolving notion of race in American culture, Celeste Condit and John Lucaites suggest that within debates over affirmative action "equality" was placed in direct conflict with merit, a tension which they conclude can be best remedied by rearticulating equality in adherence to the current meritocratic order.113 Yet, Condit and Lucaites overlook the manner in which the linear progress narrative that drives meritocracy fuels social and racial inequity by conceptualizing African-American progress as mathematically regressive. While their proposal might alleviate social conflict, it would also compromise the redeeming value of equality in American culture by reducing it to the mechanized system of thought that fuels ethnic hierarchy. The cognitive elite would continue to enjoy the fruits of a system which suffers no intervention where everyone accepts their allotted place without question or complaint. To violate this moral order would mean rejecting the projections of social progress defined within the probabilistic cartography.

Critical Implications

The cartography of the bell curve has profound implications for science and politics in America's technocratic culture. As Sandra Harding reminds us these spheres are so "intertwined from the start that values and agendas important to social policy pass--unobstructed by any merely methodologic controls-right through the scientific process to emerge intact in the results of research as implicit and explicit policy recommendations."114 Using visual techniques which normalize subjectivity, the bell curve implicates the spectator as both subject and object, masking political commitments in an epistemic vocabulary. For Patricia Cline Cohen, this scientific culture inspired by statistical practices resembles the salon society described by Habermas. She writes that the "proponents of statistics argued that a comprehensive knowledge of general social facts could be the new foundation of politics" to square "the recognized reality of social heterogeneity with that older norm of all-embracing common-good."115 The mandate for normalcy spawned by the creation of the average, while providing the illusion of doing the greatest good for the greatest number, endorses highly specialized political interests that enhance group demarcation and hierarchy. Donna Hughes supports this conclusion, arguing that scientific methodologies often play a profound role in the preservation of power relationships where the process of identifying and describing "normal" phenomena can be seen as an attempt to exclude otherness by defining it as abnormal.116 In the bell curve, the use of variable formation and standard deviation function to cull groups from a constructed standard within an aggregate population. The identification of difference, most often exhibited in the form of a minority population, is a statistical inevitability.
Sociologist Peter Blau illustrates the impact of these conceptual restrictions when he theorizes that social hierarchy is driven by individuals locked within an competitive environment defined by limited resources where one group’s progress causes another’s deterioration. While his reasoning may resonate with the aesthetics of symmetry, it also imposes a rigid social order that explicitly supports ethnic contest. This objectification of motive can be seen, in the Burkeian sense, as a reduction of action to motion. Unfortunately, when the spatio-temporal dynamic of the bell curve promotes progressive futures to stabilize the social order, individual agency is reduced. The scenic forces of normalcy are so encompassing that African-Americans are firmly ensconced in a rigid moral hierarchy that limits any possibility for self-definition.

It is incumbent upon projects implicated in identity to challenge the predictive obligations inherent in statistical probability. The social sciences participate in the stabilization of society by alleviating anxieties through prediction, offering the future as a safe, probable outcome. This process, often called risk management, reestablishes the social order at times of crisis by providing rituals that allow individuals to control their universe. When strategies such as the avoidance of smoking move from the physical realm into the social arena, the management of identity is a natural outgrowth. R.C. Lewontin, Steven Rose, and Leon J. Kamin argue that such statistical methods become "a tool for a conformist society that, for all its professed concern with individuals, is in reality mainly concerned to match them against others and to attempt to adjust them to conformity." The simplification of the social order necessitated by the probabilistic system facilitates strategies which demarcate and contain difference against a common standard. Given the complexity posed by equality, the adoption of the bell curve seemingly deflects the negative outcomes that a society based on incalculable differences presents. Herrnstein and Murray are quite aware of the moral implications of human diversity, writing that the "complicated, sophisticated operationalizations of fairness, justice, and right and wrong" are too difficult, and ethically inferior to the "simple, black-and-white versions" offered by the bell curve model. Their assertion that the calculus underlying egalitarian social policy "fails to come to grips with human variation" assumes an insurmountable human complexity which impedes the overall progress of the nation. Prediction becomes a means for enforcing obedience by asserting that the violations of the probabilistic system will cause social degradation.

Any reformulation of contemporary social science demands a transformation of the future from a probability into a possibility. In 1892 Karl Pearson presented a provocative essay entitled "Laws of Chance: Being the Elements of a Theory of Probability in Relation to Thought and Conduct." His monograph revealed that the dictates of orthodox probability are violated in complex gaming events such as roulette, offering the conclusion that blending theories of equal probability with morality led the public down the corrupted path of relativism. When the potential outcomes of any event are impossible to project, a return to the moral order can stem cultural anxieties. Amal Bannerjee recalls that allowing the notion of chance to supplant necessity as the endpoint in conceptions of history obscures the desire for prediction promised by probability. This realization raises a question over the extent to which chance could be appropriated as a means for reconceptualizing models of human development within the technocratic hierarchy. Many organizational researchers suggest, for example, that equalitarian values are anathema to profit because they complicate social systems with competing visions of the future. Still, and important way to address this concern is available in theories that reformulate mechanistic epistemologies as open, changing
systems. In a discussion of chance in Darwin’s theory of human development, Michael Stevens and John Giles note that his original interpretations of evolution posited organic systems as infinite in complexity and, as a result, did not restrict humanity to any particular conclusion.126 Chance is, in this sense, inherently non-hierarchical because it presupposes no set outcome and provides opportunity rather than limiting possibilities. Refiguring equality in this fashion permits a more fluid cartography to emerge where the allocation of resources and political power is not restricted by linear epistemologies. Risk could provide yet another starting point for reconceptualizing statistical measures, allowing equality to play a greater role by challenging predetermined scripts. Indeed, the forces of entropy are seldom addressed in an effective fashion within the social sciences.127 For example, despite significant evidence against its predictive significance, the Graduate Records Exam is used by many graduate programs to reduce the likelihood of accepting candidates who might prove themselves incompetent.128 What cultural rituals such as the GRE provide are not direct representations of intellectual capacities, but the efficient functioning of academic institutions. An awareness of the subtle role that technocratic politics play in American culture is therefore essential to understanding how the community and the individual are reconfigured through these probabilistic dynamics. Rather than embracing the statistical processes of risk reduction such as the bell curve model, ways for communicating the complexity of human social life should be developed. Such counter-visions contain the possibility for reconceptualizing equality as a politically viable and productive strategy. The recent suspension of affirmative action policies by the University of California, a political move that many scholars have linked with the publication of The Bell Curve, illustrates its important role in political debates regarding race. Section 3 of the policy adopted in July of 1995 states that the University of California "shall not use race, religion, sex, color, ethnicity, or national origin as a criteria for admission to the University or to any program of study." 129 While it is not the purpose of this paper to resolve the complicated terrain of affirmative action, it is important to note that current policies have been formed by deeply imbedded assumptions which emanate directly from the social sciences. Cornel West comments that it is the traditional desire of American progressives to redress social inequity by promoting "redistributive measures that enhance the standard of living and quality of life of the have-nots and have-too-littles."130 This liberal attempt to address hierarchy through the redistribution of wealth is often seen, however, as either an attempt to legislate identity where everyone is homogenized, or as a program designed to withhold reward from the truly deserving.131 Much of this dilemma might be solved if individuals were empowered by an open system where they neither objectify themselves or self-identify as deficient. Rather than fixing groups is some lateral superstructure, equality must integrate political critique and action by disrupting the restriction placed on identity by social epistemologies. Since advancement is always artificially defined, the natural status of merit must be reduced to overt rhetoricity, a task that equalitarian critique is well-suited for performing. The reformulation of affirmative action policies demands a careful analysis of the current articulations of these philosophies to insure that discrimination is not perpetuated through statistical precepts. One must therefore remain aware that objective visions of the community are easily shaped by probabilistic fictions that imply fixed policy options.

While Herrnstein and Murray are still under fire within the academy because of their embrace of racist politics and misuse of scientific data, to simply pronounce them bigots severely underestimates the deeply embedded nature of
certain social scientific practices. They summarize this point when they write that "to some extent, we are not even really projecting but reporting. The main difference between the position of the cognitive elite that we portray here and the one that exists today is to some extent nothing more than the distinction between tacit and explicit." Noting that their seemingly radical philosophy stems directly from "common sense" as well as social scientific methodology, the authors are quite aware that the bell curve model is not an aberration, but a culmination of two centuries of social quantification. Still, it would be short-sighted to ignore the attention that disciplines such as sociology have drawn to group disparities in wealth. Many within the social scientific community, such as Randall Collins, have begun to argue that valuable insight can be obtained through the recognition that social science is a culturally and ideologically implicated process. Sociological models do not emerge in a vacuum, but actively shape the moral and aesthetic assumptions which define the community. I do not advocate for the wholesale rejection of the social sciences as this would be not only impossible, but an inappropriate project. I, suggest instead that researchers proceed with an understanding of the historical implications of certain methodologies and their full rhetorical impact on the formation of identity. Perhaps these observations might lead to a healthy reinvigoration where the epistemic impulse to impose ranking systems is replaced by social descriptions that enhance human complexity. The examination of the social sciences must continue to heighten awareness of the methodological implications of quantification to open the stultifying grasp of probability, fostering more creative and more humane depictions of society.

References

12. This increase in social quantification over the past fifty years has been attributed in part to new computing technologies. See F. Thomas Juster and Roberta Balstad Miller, "Technological Change and Social Scientific Research," Society 21 (1984): 90-91.


25. See for example Ellen Willis, “The Median is the Message,” The Bell Curve Debates, 44-52.


33. A methodology might be thought to possess aesthetic "forms" that are subsumed in epistemologies such as social science. For a theoretical discussion of this general relationship see Steve Whiston and John Poulakis, "Nietzsche and the Aesthetics of Rhetoric," Quarterly journal of Speech 79 (1993): 131-49.


36. See Martin Jay, "Ideology and Occularcentrism: Is there Anything Behind the Mirror's Tain?" Intellectuals and Politics: Social Theory in a Changing World, ed. Charles Lambert (New York: Sage, 1991) 72. The relationship between vision and knowledge has a complex history. With the publication of his Optiks, Rene Descartes began to acknowledge the power of visual representation in epistemological endeavors, but remained suspicious of its capacity to access inherent truth, postulating instead an interiorization of knowledge where any thought represented as an external symbolic act distanced the individual from themselves. This suspicion of print persists in the work of Walter Ong who theorizes that the transition from oral to print culture placed the means of knowledge production in an external realm. Print, being something that is possessed and looked at rather than spoken, gave rise to a sense of alienation produced by objectification. See Rene Descartes, Discourse on Method, Optics, Geometry and Meterology, trans. Paul J. Oslcamp (Indianapolis: Bobbs-Merrill, 1965); and Walter Ong, Orality and Literacy: The Technologizing of the Word (New York: Routledge, 1982) 78-86.


39. See Charles W. Anderson, "The Human Sciences and the Liberal Polity in Rhetorical Relationship," The Rhetoric of the Human Sciences, 341-62. The scientific impulse in the early American context can be exemplified by fields such as sociology. This "liberal" science was at its best an attempt to put objectivity to work solving social problems although eugenics is one of its more questionable products. For a discussion of the relationship between the social sciences and social equity see Frank Lowenberg, "Toward a Sociological Perspective on Social Welfare Strategies," Social Science and Social Welfare, ed John Romanyshyn (New York: CSWE, 1974) 43-69.


44. Herrnstein and Murray 557.


47. In this statistical process called normal distribution spatial points are connected in a linear relationship to one another that provide meaning to the cluster. As the "space" between cases is defined and then collapsed, establishing a stronger visual link between them, cause and effect relationships can be posed to explain their mutual attraction thus reinforcing the Newtonian notion of the closed system. Equally critical to probability was the calculation of standard error, the difference between the measured event and the formula attempting to capture the set of relationships which determine the event. The inclusion of this element, designed to manage the significance or weight of any error, enabled the scientist to make predictions beyond the single case by projecting a pattern of occurrence. For a more specific technical discussions see Peter Kennedy, A Guide to Econometrics (Cambridge: MIT, 1985) 11-13; and Robert S. Pindyck and Daniel Rubinfeld, Econometric Models and Economic Forecasts (New York: McGraw-Hill, 1991) 27-29.


50. Mary Poovey, "Figures of Arithmetic, Figures of Speech: The Discourse of Statistics in the 1830s," Questions of Evidence: Proof Practice, and Persuasion Across Disciplines, ed. James Chandler, Arnold Davidson, and Harry Harootunian (Chicago: U of Chicago P, 1991) 401-21. Poovey notes that while the application of probability theory to society was very controversial, it was at this time that the emergent discipline began to garner wide-spread attention.


53. In the aberrant case where no detectable mean could be identified or deviation was too pronounced, events were determined to be unrelated or to have no material correlation. Thus the measure of least squares becomes a statistical corrective for social entropy. This is driven by the commitment to prediction that makes norming a necessity and remains the cornerstone of the western sciences. By first collapsing a series of measurements into an average, then squaring the resultant deviation, the method of least squares allowed connections between events to be brought into finer relief. The process of visual charting is critical to representing these trends in human populations.


55. Herrnstein and Murray 553-55.

56. Herrnstein and Murray 554.

57. Herrnstein and Murray 121.

58. See Spring 144; and Marcel Newts, Probability (Boston: Allyn and Bacon, 1973) 174.

59. Michael Stem, "Dystopian Fable," The Bell Curve Debates 117.

63. Dror Wahrman, Imagining the Middle Class: The Political Representation of Class in Britain, c. 1780-1840 (Cambridge: Cambridge UP, 1995) 373.
65. Habermas 21.
67. Herrnstein and Murray 264.
75. Summa 137.
80. Herrnstein and Murray 44.
82. Herrnstein and Murray 251.
84. Gould relates an instructive exchange between Charles Darwin and Galton. After seeing how Galton had twisted his theories, Darwin would write to him saying "you have made a convert of an opponent in one sense, for I have always maintained that, excepting fools, men did not differ so much in intellect, only in zeal and hard work." Galton, apparently missing the thinly veiled insult, replied that "the rejoinder that might be made to his remark about hard work, is that character, including the aptitude for work, is heritable like every other faculty." Galton's reply illustrates that no matter how subjective a trait might seem, psychometrics claim the ability to quantify it. Stephen Jay Gould, The Mismeasure of Man (1981; New York: Norton, 1996) 109.
87. Guillaumin 62.
89. Herrnstein and Murray 2.
90. Herrnstein and Murray 297.
91. Herrnstein and Murray 234.
92. Herrnstein and Murray 508.
93. Michael Omi and Howard Winant, Racial Formation in the United States: From the 1960's to the 1990's (New York: Roudedge, 1994) 3-4. See also David Theo Goldberg, Racist Culture:
95. D’Souza 78-82.
96. Indeed one of the earliest uses of the term sociology can be found in defenses of slavery where the primary justification for maintaining this system was that clear social rankings allowed for a safe and well-ordered, Southern society. See Henry Hughes, “A Treatise on Sociology,” Slavery Defended: The Views of the Old South, ed. Eric L. McKitrick (New York: Prentice, 1973) 51-56. Published in 1854, this tract is the first American document to use “sociology” in its title, and argues for the feudal organization of American society.
106. Herrnstein and Murray 100.
110. Herrnstein and Murray 523.
111. Herrnstein and Murray 534.
112. Herrnstein and Murray 512.
121. Herrnstein and Murray 542-44.
122. Herrnstein and Murray 539.
127. See Jan Faber and Henk Koppelaar, "Chaos Theory and Social Science: A Methodological


132. Herrnstein and Murray 526.


Stephanie Houston Grey (Ph.D., Indiana University) is an assistant professor of rhetoric and culture at Louisiana State University. Her research explores the relationship between epistemology and aesthetics in expert and popular cultures, and the impact of these forms on vulnerable populations.
RESUMEN

Este artículo utiliza el libro de Richard Herrnstein y Charles Murray, *The Bell Curve (La Curva Normal)*, para examinar la historia sedimentada de los conceptos de probabilidad en los Estados Unidos de América. Este libro crea una cartografía moral para la nación que resulta en un modelo que refuerza las jerarquías y las diferencias étnicas. Tres dinámicas socio-gráficas definen su retórica espacial. La primera se fundamenta en la creación de un centro idealizado para valorar la similitud y la normalidad, lo cual crea a su vez un estándar universal de juicio. La segunda utiliza la formación de variables y la desviación estándar para manufacturar las bases de las diferencias y los rankings. La tercera se fundamenta en una subjetividad temporal que refuerza la competencia étnica a través de trayectorias étnicas progresivas. El artículo concluye proveyendo sugerencias para la elaboración de un contra-discurso que resista los mandatos probabilísticos.

This article is published under the Creative Commons license: Attribution-Noncommercial-Share Alike 3.0 Puerto Rico.