

Public School Curriculum Controversies:  
The Cases of Afrocentrism and Creationism in the Late 20<sup>th</sup> Century United States\*

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## **Two Challenges: An Introduction**

In 1988, the District of Columbia public school system found itself perched on the edge of a controversy that would bedevil it for the next 10 years. Although the issue would ebb and flow as the decade wore on, one superintendent lost his job over the controversy, and a great deal of ink was spilled, and vitriol expressed, in the local media over the strengths and weaknesses of the proposed plan. This discussion was activated by a proposal to infuse “African-centered” materials and methods of instruction into the local public school curriculum. The people who advanced the proposal argued that the District’s curriculum was biased toward European knowledge and Western styles of teaching, and that this bias was harmful to the self-esteem and performance of African American school children. Proponents of Afrocentrism also complained that they were being denied a rightful voice in school policy. Community activists, Afrocentric scholars from across the nation, and parents of poorly educated children pushed the district to “go Afrocentric,” while the majority of the city’s resident media commentators, university faculty, and politicians pressured district leaders to reject the movement.

Charged with “race betrayal” by Afrocentrists if they did not incorporate Afrocentric materials into the curriculum, and with “spinelessness” by the opposing side if they did, district administrators faced decisions fraught with peril no matter which way they turned. Ultimately, the school administration decided to implement what I call “circumscribed Afrocentric reform” in the district, which was an effort to conciliate both sides that ended up satisfying no one. To this end, the district instituted a school-within-a-school, “African-centered” program that served a miniscule 120 children out of some 80,000 in the district. For this compromise solution, administrators received withering criticism in the district and the nation, with the *Washington Post* leading the charge. Opponents condemned the superintendent and his staff for caving in to the demands of a radical fringe movement, and proponents of Afrocentrism castigated the superintendent for limiting the program to such a small scale.

Another controversy over curriculum content that surfaced during this same general time took place in the state of California. Lasting from 1985 to 1989, this curriculum debate featured much of the same antagonistic rhetoric as the conflict over Afrocentrism in Washington, DC. In a debate that

concerned science teaching statewide, challengers in the state of California argued that science curricula were biased and discriminatory, and that they, the challengers, had been excluded from the process of determining the content of public school instruction. The system, it seemed to them, had come under the control of a monopoly interest, and it was time to wrest away power from this oppressive group. New curricula and materials had to replace the old dogmatic mode of instruction.

Although this sounds similar to the Afrocentric demands described above, the curricular content at the heart of the California debate was unlike the one DC activists were fighting for. In California, Christian conservatives initiated the debate, charging that secular humanism had militated against truth in science classrooms, and that something immediate, and something fundamental, must be done to return schools to their more honest, Christian roots. They argued that alongside the teaching of evolution of human origins in science classes should rightfully be taught *creation science*, a “scientifically-based” explanation of the Biblical account of creation, in which a divine being created the earth, human beings, and all other species.

Over the past several years, I have examined three cases of Afrocentric challenge made to public school curricula, like the Washington case, and have compared them to four cases of creationist challenge, like the California case. All seven of the challenges I studied occurred between 1980 and 2000.<sup>1</sup> Like many other Afrocentric battles, the challenge in Washington arose in one of the nation’s largest and poorest, predominantly African American school systems. Washington DC supporters of Afrocentrism demanded that public schools rewrite their social studies and history curricula to emphasize the contributions made to U.S. and world history by Africans and African Americans. One of its specific solutions was to reorient African American children toward their African past, and also to honor the accomplishments of ancient black Egyptian culture—which is said to have lent so much of its teachings to Greek and Roman civilization. It was a movement that embraced black nationalism, essentialism, and traditionalism—a form of conservatism that has long been one strain of African-American social and political thought.

Likewise, in many respects, the California creationist case was characteristic of other creationist

battles being waged in the country during this time period, in both the demography of its supporters and the claims they made. First, it was a challenge from the politically and socially conservative Right. Its proponents claimed that secular humanism and atheism—both of which, they argued, were based on a flawed evolutionary theory claimed as fact—had become established as a state religion in the public schools. One of the greatest abominations to morality, said creationists, is the teaching of evolution in science classrooms without also teaching “alternative theories” of life’s origins. For creationists, this teaching is not only biblically proscribed, but scientifically unproven, as well. Members of this group sought to loosen evolution’s “dogmatic” grip on the imaginations of their children by having “honest” scientific evidence presented in the classroom, which casts doubt on Darwinian theory.

Seemingly incomparable on a number of dimensions—in terms of their socio-political ideologies, race, region, religion, and specific pedagogical objectives—I will argue that these two challengers were actually similar, and thus ideal for comparison as sites of cultural conflict, in a number of crucial ways.

First, at the most fundamental level, both Afrocentrism and creationism offered solutions to perceived social and educational problems—they were reform efforts to fix schools.<sup>2</sup> Each of these challenging efforts criticized the public education system for imposing its views on pupils and for placing constraints on parents’ ability to transmit their belief systems to their children. Christian conservatives who supported creation science, for example, complained bitterly about secular humanists’ monopoly of the education system, which was so powerful, they argued, that children’s most profound beliefs were being trampled by administrators and teachers. Similarly, Afrocentrists charged that an omnipresent Eurocentric curriculum has been forced upon their children, forming an oppressive environment that flagrantly has misrepresented Africans and African Americans and de-emphasized historical racism.

Second, both challenges used the emotive force of their children’s welfare to stake their claims for curricular change. As authors such as Nicola Beisel, and I, elsewhere, have demonstrated, there may be no more compelling social project than trying to protect children from various sorts of insidious harms.<sup>3</sup> Invoking their children as the prime beneficiaries of their action, Afrocentrists and creationists were remarkably alike.

A third similarity between the two was that both challengers publicly insisted that their corrective to the education establishment's monopoly of the curriculum was to provide pluralism in the classroom, not censorship. Since the 1960s, creationists have argued that they were fighting not to limit teaching—by ejecting evolution from the classroom—but rather, to have more content added to the curriculum—by teaching evolution and creation science alongside one another or, in a later version of their argument, by “exposing the weaknesses” of Darwinian theory. Such a solution, said the activists, is inclusive of everyone's beliefs, Christian and humanist. In a similar tone, Afrocentrists claimed that they did not seek to replace a Eurocentric curriculum with an Afrocentric one, for that would only repeat the miseducation of students.<sup>4</sup> Rather, Afrocentric scholars proposed to correct the misrepresentation of Africa in world history by adding previously slighted materials about the continent and its people and by ridding the school system of only the materials that are biased and white-centered.<sup>5</sup> Both challengers represented their demands as inclusionary, not exclusionary.

Capping off this set of similarities was the fact that these challengers also faced considerable skepticism among a majority of educators in the school systems they battled. Given the unorthodox tenets of each of these curricular movements, many school system officials, dealing with their respective challenge, regarded these efforts to be politically risky, at best, and academically outrageous, at worst. While they invoked different cultural and institutional criteria to cast doubt on the two curriculum agendas, large numbers of education authorities were dismayed that they were being pressed to reform curricula along “non-scholarly” avenues: so that ancient black Egyptians could be presented as teachers to the Greeks, or so that the Bible could be used as the departure point for a scientific theory of origins.

In sum, although these two campaigns for curricular change were substantively different in their learning objectives, they also shared many common features. Afrocentrists and creationists felt disenfranchised from public schools, and they used remarkably similar rhetoric in their fights over curriculum. Both issued a critique of schools' content, and they demanded similar concessions: they claimed that students were discriminated against when they were forced to accept the teachings of an oppressive educational system, and they proposed their own scholarly correctives to this crisis. And when

each of the challenges presented its goals to education officials, a majority of those professionals was skittish about incorporating revisions into the curriculum.

### **Varied Process to Ultimate Ends**

So, what came to pass in these targeted school systems, given the similarities in challenger objectives and educators' reactions to those demands? What I have found in comparing these two challenges is that, following from their skepticism, school personnel delivered fundamentally the same *ultimate* fate to Afrocentrists and creationists: they fought to preserve their institution's core curricula in history and science. Aided sometimes by the courts and sometimes by public opinion, school staff eventually rebuffed both sets of challenges, so that little, if any, of either Afrocentrists' or creationists' initial curricular demands had serious lasting or widespread effects on students' classroom learning. Fighting to maintain the essence of their "technical core," school personnel ultimately staved off these demands for curricular reforms.

But there is more to the story. What makes these two challengers' similar ultimate outcomes so interesting is that their destinations were shaped by different routes: professional educators figured out ways to rebuke each challenge using a *different* repertoire of strategies. When confronted with Afrocentrists' demands, school officials generally treated their challengers more respectfully than they did creationists; they appeared to consider Afrocentric demands as legitimate matters to be deliberated; and they allowed Afrocentric proposals for revised curricula onto their official agendas (if not always into their official curricula). In two of my three cases, Afrocentrists were even able to make real headway into school district educational practices and to change the official history and social studies curricula taught there—at least temporarily. But I soon discovered that a school system's initial apparent respectfulness toward Afrocentric challengers should not be confused with its willingness to grant lasting accommodation. In each of the three Afrocentric cases, school systems eventually watered down whatever Afrocentric victory had been gained in the contested school system, delivering considerably less concrete change to Afrocentric activists than they had initially promised. I call this a process of gradual

dilution. While Afrocentrists may have won a few battles, they ultimately won no wars.

Nor did creationists win any lasting wars, although school system professionals used a different process from “dilution” to thwart their Christian conservative challengers. When confronted by creationists, educators came out with their fists swinging. There was no initial accommodation, which was then blunted by a watering down process. Professional educational leaders were simply unwilling to accommodate their creationist critics. Despite the fact that the Christian conservative reformers, too, were making claims of bias and discrimination, in all four of the creationist cases studied, the education establishment—by which I mean professional educators in positions of authority—lined up far more forcefully against their creationist challengers than their counterparts did against their Afrocentric challengers. With the backing of such organizations as the American Civil Liberties Union and the National Academy of Sciences, school system officials argued that anti-Darwinist, creationist curricula crossed the line that separated church from state, and they fought tooth-and-nail to defeat their creationist foes.

Now, it is true that despite such strong, public opposition from school authorities, creationists—in three of the locations I studied—were able to get themselves elected to school boards or legislative bodies with the support of committed voters; and that they sometimes could muster truly impressive political power to impose temporary creationism-friendly law in their school systems. But when creationists did this, education professionals—those trained in education schools, who hold credible educational credentials, and who felt that they should have the authority to make decisions in the system—bitterly opposed them. These official educators could wield institutional power, and they fought back mightily and publicly against creationists’ gains from the very beginning of the contests. They did this even when creationists had gained access to the inside of those systems—such as by being elected to serve on the school board. When they fought back (and they always did), professional educators’ *institutional* power trumped creationists’ *political* power. Creationists were unable to parlay their elective gains into positive ultimate outcomes for their side. In each occasion that a public school system temporarily “went creationist,” eventually some type of public backlash, whether by voters or by the courts—but always

encouraged by education professionals—reversed those gains. Time and again, creationists tasted victory, only to have school systems take it away from them painfully and publicly.

Like the Afrocentrists, then, creationists were unable to attain lasting, concerted change in the systems they challenged. Afrocentrists gained some concessions, but educators found ways to make their concessions temporary, and to soon dilute them—often by surreptitious, or behind-the-scenes, means. Creationists, meanwhile, also were sometimes able to seize political power in school systems, but they, too, were eventually defeated, although in the creationists' case, the defeat was trumpeted publicly, less covertly. In both cases, but by different routes, schools were able to effectively minimize their challengers.

### **Understanding Cultural Contention And Outcomes**

How are these differences in process—but similarities in ultimate outcomes—explained? For lack of space, I cannot do justice to this question, which would require focused attention on the cultural, political, and organizational factors that were present in each of the cases, which exerted influence on both the challenged and the challenger. In this paper I limit my attention to an analysis of the cultural dimensions of these challenges, and the responses they elicited from school systems. What did each challengers' cultural resources look like, and how and why did they “work” with their intended audience, the school systems? How did school systems decide they had to treat Afrocentrists with some sensitivity, while they could more publicly vilify creationists? In the following sections I will focus, first, on Afrocentrists and, then, on creationists.

#### *Afrocentrists' Cultural Resource #1: Resonance of Afrocentrists' “Problem” and “Solution”*

In all three of the Afrocentric cases—Atlanta, Washington, DC, and New York state—Afrocentrists used an extremely powerful weapon to press their claims against the school system: they argued that they were addressing a problem that was undeniable to all but the most conservative members of the education establishment, and they said that they were providing a solution to that problem which fit well with the



aims of a progressive education.<sup>6</sup> According to its advocates, Afrocentrism addressed a seemingly intransigent problem in American education: the educational and social plight of black children, who for decades had been trailing whites, and now Hispanics, in school achievement. Even if many educators found the solution of Afrocentrism to be dubious—with its “questionable” scholarly claims and its promise to increase black children’s self-esteem—those same educators regarded the *problem* of black children’s lower achievement to be real. It was impossible for educators to disavow the argument that something must be done about black children’s failure rates.

In sociological terms, Afrocentrists were using a frame—or a set of compelling images, statements, and symbols—that resonated with the education officials they were challenging. Resonance between challengers and audiences occurs when a movement’s frames strike a deep responsive chord among members of an audience and potentially influence their actions.<sup>7</sup> Challenge leaders explicitly strategize which frames to use in their mobilization efforts and, judging by the actions that Afrocentrists and their supporters were able to generate among administrators, one wonders if they could have selected a more effective set of symbols and metaphors on behalf of their agenda. For, in choosing to sear the image of poorly educated, unjustly failing African American children at the hands of the public schools, Afrocentrists used a frame that was highly compelling to school decision makers—to at least act symbolically in their favor.

Giving further heft to their cause, Afrocentrists argued that their solution to this problem of underachievement was based on the quintessentially American ideals of equality and liberty.<sup>8</sup> Equality for black children could not be achieved in this country if their ancestors were marginalized in the sidebars of textbooks, argued Afrocentrists; liberty would never belong to African Americans, as a people, if they could not compete academically. Because of the strength of this frame, with its roots in the historical battles that African Americans have fought against systematic racism in this country, Afrocentrists were able to present themselves as *people who had the right to protest discrimination*, a construction that drew on their forebears in the anti-slavery and Civil Rights movements.<sup>9</sup>

This framing of schools' historical bias arose in every one of the three cases I studied. A good example of this argument is demonstrated in an Atlanta administrator's description of the problem:

In the case of minorities, particularly a lot of blacks, our history has *never* been presented with the essence of truth that there should be, in terms of historical data...

This administrator continued by saying that she has seen what happens when people finally do learn something positive about their ancestors:

We have tapes of little children just blossoming as a result of finding out things about themselves that they did not previously know. And about their families and their background, and the true history. I've seen students' eyes just take a whole new turn in a more positive manner when they realize that, for example, in Georgia history that there were other things that presented a more positive picture than people in cotton fields.<sup>10</sup>

How could other educators ignore such claims, even if those claims were accompanied by the more "radical" program of Afrocentrism rather than by the more legitimate program of multiculturalism? For many of the education officials I interviewed, Afrocentrists' rhetoric about the problem of black children's education made proponents' demands tough to ignore. While there were critics in the press and universities who cried foul when front-line education officials treated their Afrocentric challengers with magnanimity and respect, it was difficult for school authorities, themselves, to refute these claims about the failure of black children and the role that a biased curriculum had played in this outcome. The level of enthusiasm among educators for a particularly *Afrocentric* type of reform may have varied, but even those most critical of the Afrocentric solution had to acknowledge that Afrocentrists were addressing a problem that they, too, found pressing.

Some educators in the three cases I studied agreed with both the *premise* that there was a profound problem in the schools that needed attention, and that a key part of the *solution* to that problem rested with Afrocentric education. Other establishment insiders, however, agreed with the definition of the problem, but parted paths over solutions. A key official in Washington DC early on rejected Afrocentrism as the appropriate correction to poor performance and low self-esteem in his district. He

argued that a decidedly multicultural curriculum should be incorporated in schools, instead. His stance was reiterated by one of his aides, who stated her own support for the problem Afrocentrists discussed, but not for the solution. Nevertheless, the district supported Afrocentrism as a solution, too, in one of its schools because of political pressure:

In this school system we want to have a curriculum that, from beginning to end, and content to content, infuses the contributions of our students' cultures into everything they learn... If you looked at our curriculum documents, you would eventually not get to see an *Africa-centered* curriculum, an *Hispanic* curriculum. But [instead] you would get to see a curriculum that has all these elements built—fully integrated—into all of its components. And that's the thrust of our curriculum renewal. *But*, at the same time having said that, the politics of the situation is that there is a significant and verbal enough component of our population to have us try and look at small situations...where we are going to focus on African-centered.<sup>11</sup>

It was this kind of community pressure—armed with the rhetoric of an age-old educational problem—that convinced DC's superintendent to continue lending support to his district's small African-Centered Learning Program.

Nathan Glazer, the sociologist at Harvard University and a member of a task force I studied in the New York case, also referred to “the problem” that Afrocentrists were addressing. School systems across the country, he argued, had to respond to the Afrocentric challenge because the problem it addressed was serious, even if, to many, the Afrocentric solution, *per se*, was unattractive. In these cases, educators retreated to symbolic reform:

Basically, the issue that arose was the sense of a black community that was upset, needing to, in some way, be mollified or reassured, something of that sort... There is a demand, a vague demand, that there should be change. [There is] a general responsiveness among the professionals in the educational community of “Yes, you are right, there should be.” And an inability to figure out what that change should be...

Because in the problem of social studies education—it's true, you can talk about other cultures and Asians and American Indians and Hispanics, but the issue is blacks. I mean, it always comes down to it. It's not only size [of the group], it's history. It's the whole complicated relationship. So, there is a reality there. If blacks were performing in schools, let's say, between the way Hispanics perform and the way whites perform, rather than below Hispanics, I doubt we'd have the same issue. It's just that on all tests and so on, there is this very difficult problem of very low levels of performance. So, something must be done. And that drives reform.

So, you have it there. A problem that drives the whole thing, with a response which is hardly adequate for dealing with it in one way or another, but one you can at least get your teeth into.<sup>12</sup>

While many educators would not render their dilemma exactly as Glazer has done here, and most would deny that they engaged in “mollification,” this description is apt. In all three cases that I studied, public school personnel regarded Afrocentric challengers' description of the problem as a reasonably accurate assessment of African American children's poor performance. Educators sometimes then gave strong support and sometimes only superficial support to the Afrocentric solution. But they offered some level of understanding of this Afrocentric claim.

### *Cultural Resource #2: Racial Discrimination*

Whether given expression in Washington by a leader named Abena Walker, in New York by the City College of New York's Leonard Jeffries, or by Afrocentric scholar Asa Hilliard's trainees in Atlanta, the problem that Afrocentrists described—African American students' disadvantages in the public schools—had a very real perpetrator. The first-line enemy responsible for the historical poor performance of black children was white racism. First, historically (in terms of *de facto* and official laws) and, now, pedagogically (in terms of what children learn in school), white bias and prejudice were the root causes of African American failure in this country's schools. From the founding of the nation, racist attitudes about

Africans' and African-Americans' contributions to world and American history shaped the content of textbooks and daily classroom lessons, and were fed as a steady diet to all children. Afrocentrists denounced whites for now being, and for always having been, biased against blacks, as well as resistant to change. As Abena Walker, the head of the Webb school in Washington, put it, "...the whole white power structure is against this kind of movement."<sup>13</sup>

This charge sometimes caused white education officials to be apprehensive: the potential for being accused of racism was palpable, and something to be countered with action. Thomas Sobol, the commissioner of schools in New York, clearly confronted this accusation; indeed, it was this allegation that led him to appoint a committee called the Task Force on Minorities, a group charged with studying the state's curricula for signs of bias:

I was appointed commissioner, and a lot of people in the black and Hispanic caucus in the legislature went off the wall because they thought they had been promised a black commissioner. And I clearly wasn't that. And furthermore, not only was I a white guy and middle-aged, but I was from Scarsdale yet, which was an upper middle class suburb. So what the hell did I know about educating their kids, and what was going on?

Now, if you've got a bunch of people yelling at you and not knowing you and not understanding you, what do you want to do? You want to sit down and talk to them, right? And you want them to tell you what's on their minds, and what's bothering them, and what the story is, and then you want to respond to them, and so on. And so I formed a task force for that purpose.<sup>14</sup>

The promise of being perceived as racist by a vocal constituency was at least one factor in New York that compelled this top white administrator to appoint the committee that, ultimately, would write a report that was widely read as Afrocentric.

But the charge of racial bias was not leveled at whites alone; Afrocentrists also aimed that rhetoric at black educators, though altered, in the form of "race betrayal" rather than "racism." When African-American administrators or teachers threatened to resist Afrocentrists' demands, they ran the risk

of being labeled as “sell-outs,” “assimilationists,” or members of the middle class attached to the status quo. They were sometimes even accused of not being “black enough.” In other words, added to the baseline enemy of white racism—which was a kind of first-order system to be battled against—Afrocentrists also held accountable African American officials whom they perceived to be beholden to that system. Abena Walker, founder and principal of the African Centered School in Washington, said:

I diplomatically say that part of the opposition to us was that people fear change...It’s human nature, I guess. [Asked which people]: People, period. I would say the people that were fighting against us...Some of the professors at Howard, Russell Adams, the “house Negro” at *The Post*, and he’s never even been here to visit our program...I’m talking about those people that publicly denounced us. I say that, first of all, people fear change. Second of all, I’d say those people in the system that denounced us have bought into the system, so anything that threatens their position, their salary, their status quo, is a threat.<sup>15</sup>

Added to the charge that comfortable black professionals opposed Afrocentric education as a means of protecting their own positions was the even more damning suggestion made by some of Afrocentrism’s supporters that African Americans who opposed Afrocentrism were not as racially or ideologically pure as supporters were. Although I did not directly hear supporters of Afrocentrism make this charge—aside from Abena Walker’s “house Negro” comment above—I did hear reports of such name-calling from those on the receiving end of this labeling. A New York State regent, Walter Cooper, who is African American, recalled that he had been accused of “betraying my race,” for not supporting what he perceived as the Afrocentric reform of New York’s “Curriculum of Inclusion.”

As these examples suggest, when African American school officials failed to back Afrocentric solutions, supporters of Afrocentrism sometimes expressed skepticism about those officials’ commitment to the education of African-American children and to the race, more generally. Judging the actions of unsupportive African American superintendents, administrators, and school board members to be traitorous, Afrocentrism’s advocates used the bludgeon of inauthentic race identity and commitment to try to persuade educators to act with them. No African American official with whom I talked acknowledged

the power of this rhetoric to have moved them toward an Afrocentric program. Nonetheless, it was a charge that Afrocentric challengers made in all three challenged schools systems, and it may have influenced the actions of some high-placed administrators.

*Cultural Resource #3: The Negotiability of the Social Sciences*

Afrocentrists benefited from a third cultural resource, which they may have used less strategically than the other two resources I describe here, but which also lent credence to their cause. In these disputes over the content taught to children in the public schools, we should recognize that Afrocentric challengers were taking issue with a discipline, or set of disciplines, that had become vulnerable to contestation in American education circles. Since the 1960s, social studies and history—the primary curricular subjects that Afrocentrists deemed Eurocentric—had attracted a great deal of attention from groups that considered themselves to be oppressed (African Americans, women, Native Americans, for example), and who thus pushed for substantial change in their representation in textbooks and other pedagogical materials. Following these battles, history and social studies have emerged as *the* subjects in the school curriculum whose content can be altered in the face of constituent demands, if and when social conditions require. Their “truths” have become more flexible, more negotiable than other disciplines’, such as math or science. For both political and intellectual reasons, educators and their representatives have embraced this greater contestability among the social sciences, and pedagogy in these disciplines has become more elastic; history can be made “more real,” for students, according to one of my respondents.<sup>16</sup>

During an interview, ex-commissioner of education in New York, Thomas Sobol, referred to the greater flexibility of history and social studies as an “unimpeachable” truth. In fact, this understanding of historical negotiability lays the groundwork for academic honesty and growth in the curriculum, as well as in students’ intellectual advancement, Sobol said:

Hey, look, life is complex. And it is possible to view almost any experience from more than one point of view. And part of educating kids is to get them to understand that there are different perspectives to be brought to bear on experience. And you know, to discriminate among them

and synthesize and whatever. And I take that to be an unimpeachable truth. I mean, you know, if somebody doesn't think that, well then, I can't really talk to them very much because they are in some different universe from me.<sup>17</sup>

History is contestable. Even children should know this. Among more progressive thinkers like Sobol, the intellectually and socially honest goal is not to protect the canon, but to open up these fields to more and greater knowledge, which can be gained through understanding different groups' perspectives on society and the world.

So, I find that Afrocentric challengers in Atlanta, Washington, DC, and New York crafted their arguments for greater African American inclusion using these three cultural resources: a “problem,” a “threat,” and the fact that the disciplines they challenged had long been considered to be “negotiable.” In all three Afrocentric cases, these claims resonated, to some greater or lesser degree, with educators' understandings about race, pedagogy, and social reality in American life.

What became of this resonance—was it helpful to the Afrocentric cause? The answer to this question is complicated, and involves the influence of other factors in school systems besides discourse. What I have found (and which I explain in greater depth in other work) is that, indeed, Afrocentrists did benefit from the fact that their cultural resources were powerful.<sup>18</sup> In each of the cases that I studied, school systems were forced, often in highly contentious environments, to do *something* about Afrocentrists' critique. “Something” sometimes existed as only symbolic, token action—such as in New York, where a committee was appointed to study bias in the curriculum, but which was then publicly refuted as biased against whites when it issued “incendiary” commentary. But in the other two cases, somewhat greater strides were made in district curricula—at least temporarily. In Atlanta, the superintendent and his administration supported and implemented wide scale professional development and materials in Afrocentric instruction; in Washington DC, the superintendent allowed a school-within-a-school to be established, with dedicated Afrocentric reform for 120 children in the district.



Two questions arise over the headway that Afrocentrists were able to make in each of these school systems. One question is: If Afrocentrists had access to the same rhetorical resources in each of the three districts, why would their outcomes vary? The answer to this question, far too detailed to answer fully here, is that the political and organizational structures of a school system—with their cleavages and/or alliances among staff, their political supporters and/or detractors in the community, their routines for establishing curricula and measuring performance—also influence the shape of change in a system. Challengers’ cultural resources are not the only factor determining outcomes.<sup>19</sup> The second question, having more to do with long-term outcomes, is a question over how concrete these changes actually were. For, even in Atlanta and Washington, DC, the changes that started out strongly have been seriously curbed over time. Even challenger victories that appeared to be anchored in institutional routines and norms have proved largely symbolic. School systems challenged by Afrocentrism figured out ways to dilute wide scale change through various means, including testing, teacher resistance, and deference to earlier multicultural revisions.

### **Creationists**

Creationists tried to tap into a similar set of rhetorical resources to use in their own battles with schools. When we look systematically at the four creationist cases, will we see comparable levels of resonance with their claims, and subsequent (even if also mostly temporary) support for the creationist critique? Unlike Afrocentrists’ access to cultural riches, I found creationists to have been bereft of culturally resonant frames.

#### *Cultural Constraint #1: “What Problem?”*

As we saw, Afrocentrists gained adherents, or at least played on educators’ vulnerabilities, when they argued about the problem of African American children’s educational failure. Creationists from all positions on the spectrum—from what I am calling the literalist scientific creationists to the intellectual corps of the movement—also argued about a serious problem to which creationism was the solution.

They claimed that teaching evolution exclusively in the public schools was damaging to children and contributed, ultimately, to the deterioration of society. John Tyndall, a conservative Christian elected to the Vista school board from 1992-1994, described the problem like this:

Ultimately, I think there is a philosophy...of socialism that is coming through our educational system. That, I think, we are successfully educating a generation that will vote in socialism...I think we are creating kids to become dependent on the system. The lip service is out there that we want them to be “independent” but, in actual fact, I think we are putting them back in a dependency situation. A dependency on the government, the state, for direction in their lives. And taking away from the family unit, which is where the direction should come from.<sup>20</sup>

Helping to advance this general political agenda for socialism, according to Tyndall, is the teaching of evolution. In the absence of any instruction challenging the idea of natural selection, or suggesting that the universe may have been divinely created, children are losing their faith in authority—*all* authority: religious leaders’, elders’, and, especially, parents’. When children lose their respect for their parents’ and other elders’ guidance, children and young adults are at the mercy of secular institutions, and irreparable damage is done—all at the hands of a “theory” that has never been proven.

A variation on this expression of the problem was presented to me by John Wiester, the chairman of the science education commission of the American Scientific Affiliation (ASA), the organization of the intellectual, or elite, anti-Darwinists. Wiester painted a picture of the confusion and difficulty encountered by observant Christian parents and their children when evolution is taught in public schools.

Look at the poor mom, okay? You’re in a religious home. A theistic home. Kid comes home and says, “Mom, today we were taught that we were created by evolution, and evolution is an unsupervised, undirected, without-plan-or-purpose thing. And it sounds like we’re just accidents. I thought we were created by a loving God. You’ve always told me that I was made in the image and likeness of God, and that I ought to be responsible to Him.”

That's a major conflict, okay [laughs]? And it's a *religious* conflict. The statement that evolution is “without plan or purpose”; and is an “unsupervised process”; and that “it created you”...It's pure ideology! And we need to get that out of the science classroom.<sup>21</sup>

Both Wiester's and Tyndall's complaints about the oppressive presence of evolutionary teaching in the public schools—instruction that points children away from truth—sounds similar to Afrocentrists' complaints about the harmful indoctrination that African American children have suffered in schools over the past century. According to both accounts, in the place of a balanced curriculum that clearly lays out the contributions of different perspectives on scientific knowledge or on history (in the cases of creationist and Afrocentric scholars, respectively), there has been, instead, the wholesale disregard in American classrooms for the scholarly contributions made by establishment outsiders. Schools have systematically obfuscated verifiable truths from pupils, while simultaneously perpetrating misleading falsities dressed up as fact.

In the three Afrocentric cases, we saw that school officials supported, at least to some extent, Afrocentrists' contention that there was a problem of this type in schools' historical treatment of African and African Americans' contributions, and that this treatment has had dire consequences for African American children. Did the same type of acknowledgement occur among educators in their responses to creationists?

The answer is no. When creationist challengers confronted any one of the four school systems, the education staff of those systems did not acknowledge the validity of creationists' claims of exclusion. Although several education officials and their allies in academic science reported that they felt *badly* about creationists' belief that schools were in crisis, these same educators were unwilling to acknowledge that Christians had been damaged by the teaching of evolution. Kevin Padian, a paleontologist at the University of California at Berkeley who served as a member of the science curriculum committee for California's science framework, described how he was both cognizant of creationists' belief that harm had been done to their children, but forthright in battling them when the chips were down, lending no support in their claims:

I, personally, really have to feel sad sometimes. I mean, what is the world like for them? They are consistently facing a secularism that is “threatening,” “godless,” “misguided,” “warped,” and undermining everything that they do, everything that they believe in, everything that they are trying to teach their children. It’s a very wrenching position for somebody to be put into on a daily basis. Every time they turn on the television, open the newspaper, a book, a comic book, see a movie...they feel very much more strongly than most people about what’s going on.

Asked what responsibility educators have to respond to creationists, given this sense of disenfranchisement, Padian responded:

I hope that part of what we were doing [in California] was saying to people, “You know, you don’t *have* to believe us. All we ask is that you let us explain to you what the world is like to people who comprise the vast majority in the world, regardless of race, religion, national origin, creed, or anything like that.” I know scientists in my field who are Jews, Presbyterians, elders in the Presbyterian church, bishops in the Mormon church, Catholic priests. I mean, active scientists who are Catholic priests. People who are Hindus, Buddhists. They all work around the world in different countries, and they all work on evolution. They have no problem with evolution as a paradigm. They all see the same facts of nature. They all draw the same inferences.

And to see people [creationists] who are not even versed in this tell us that it is not possible—“you can’t do this, you can’t know this”—and to tell all these different kinds of people, “You can’t believe this...” I mean, that, to me, is the height of shutting the world out. Which is okay if you want to shut the world out...But to tell the *rest* of the world that they can’t put this in front of their *own* children with public funds or at the public level: that is a selfishness that is not part of twentieth century systems.<sup>22</sup>

A second adversary to the creationist movement, Barbara Donovan of the Vista school board, sympathized with creationists’ sense of injury but, at the same time, she dismissed Christian conservatives’ demands for change in the science classroom:

The Radical Right has some points about public education that are true. Not everything is as it seems: We, in this district, [for example], are great proponents of parental involvement. But the reality of it is that parents who want to be involved are not always welcomed in with open arms. They are looked at as annoyances because they get in the way of how people are doing things. That's one of the cries of the Radical Right: that they are not involved enough, or that they are not wanted enough. And I am not saying that I think that is wrong. I think they have a valid point there. Even though I had a philosophical difference with the members of the Radical Right, I could respect what they were going through.

The only problem I had was the forum that they were trying to use...The people who are really Radical Right are not just people who are Christians and have a certain moral concept that they abide by. The real hardcore Radical Right people: it's a political agenda. They use religion like we would use "motherhood." It's a ruse. It's a façade.

Their religious beliefs, I have no problem with. I've never had a problem, nor has anybody that I have worked with on the recall [election in Vista], had a problem with them being Christians. I'd say 98.9 percent of this community is Christian. It's a very tiny, tiny, tiny minority who are not. As I say, the only thing I didn't like was the use of the public schools as the forum. I mean, that's not where you express religion! The public school is the venue that our country has decided will be the one for our children to grow up in—each one—not having to deal with persecution because they are not a particular religion; that everyone can have their religion. But the public school is not the place where you would do it.<sup>23</sup>

In this quote we see board member Barbara Donovan nodding at creationists' sense of alienation from a system they think is harmful, but we also see her rejecting the notion that their isolation has been the result of inappropriate instruction in the schools. The "Radical Right" in her school district was composed of political opportunists, she claimed, who could not be allowed to get a foothold in the public school system: not on the issue of creationism, not on any other issue that was part of their political agenda. Despite her sympathy, then, for their feelings of social isolation and educational danger, this

community activist would not acknowledge that creationists had a legitimate “problem” that the school system should address. Creationists received far less understanding than Afrocentrists did in their struggles.

Donovan’s quote gives us insight into a corollary disadvantage suffered by creationists, and another reason why the claims of this challenge did not resonate as well with educators as the Afrocentric problem did. Donovan constructed the creationist challenge as one undertaken by members of the “Radical Right,” a term Donovan chose carefully, she reported. Elsewhere in our interview, Donovan explicitly stated that she refused to call this group either the “Religious Right” or “Christian conservatives” (the terms creationists generally use to refer to themselves) because each of these labels is too “mainstream.” She rejected the idea that their project had a religious component to it at all, saying that the Radical Right was purely a political organization. In choosing her language so mindfully, this Vista citizen used all the resources in her power to delegitimize her opponents. To the degree that defenders of evolution, like Donovan, could construe their opponents as the “far right,” they owed them nothing, since groups on the “radical fringe” are understood to deserve no concessions in the public square. They have little right to even demand political attention because they exist so far out on the far reaches of the spectrum, according to this argument.<sup>24</sup>

Certainly, creationists recognized the power of this rhetorical turn, and several of my interviewees drew attention to this treatment. At one point in our interview, John Tyndall of Vista, California, complained bitterly about his opponents’ use of the label, “extreme right,” to tarnish his image among voters. He understood that this label was a political weapon in his adversaries’ arsenal, even when those opponents “knew better” than to associate his activities with a larger political movement. Phillip Johnson, a professor of law at the University of California at Berkeley, and a leader in elite creationist circles, sounded the same theme when he argued that educators strategically used the label “creationist” to denote all those with whom they disagreed, lumping in the most scientific of theistic evolutionists with the most literalist of scientific creationists to discredit them all as “religious fanatics.”<sup>25</sup>

Donovan and Padian are representative of how school systems and their consultants responded to creationists' claims that the system had failed to educate their children well. Unlike administrators who ended up compromising with Afrocentrists because those educators, too, were concerned about the problem of African American children's performance, professional educators and their supporters were willing to offer no concessions. This was true even when the creationists' sense of alarm elicited some sympathy among their opponents. The creationists' deficit was that they did not present a problem that motivated education officials to act on their behalf. Instead, they seemed to educators to be parochial and intolerant and, therefore, illegitimate.

*Cultural Constraint #2: "Who's Biased?"*

Afrocentrists sometimes were able to push school systems into action when they called otherwise reluctant educators "racist" or "race traitors" (as witnessed in New York and Washington, DC). Just like Afrocentrists, creationist challengers charged that their adversaries discriminated against them: that secularists, atheists, and arrogant bureaucrats were forcing them out of any say at all in the school system.

One description of this bias was presented to me by Phillip Johnson of the University of California at Berkeley, who spoke of the arrogance and discrimination that he and others in the creationist movement had suffered at the hands of the public school and scientific communities:

You know, it's really offensive when the texts say we're not going to say anything about "religion," and [then they say] "Now we are going to tell you that you were created by this purposeless material, mechanical process, and that's all there is." You know? So I say that the educators outright lie on that topic.

And they also are covering up, or suppressing, the problems with the [Darwinist] theory. The effort of the education [system] is to instill belief. That's really what it's all about... You see, because they realize that if people outside that community of belief get a picture of the facts, then it's going to make them into doubters. Because people who do not want to believe are going to have their disbelief reinforced by that. So, what we are getting is a tremendous propaganda

barrage which is really aimed not at educating, but at instilling belief. And that is what I am opposing.<sup>26</sup>

State Senator Bill Keith, the Balanced Treatment Act's champion in the Louisiana legislature, succinctly stated his criticism of the schools' bias when he said, "The question here is whether students will be given a choice or will be given only one model of the origin of man. That's censorship."<sup>27</sup>

Echoing this same theme of First Amendment abridgements nearly 20 years later, a Kansas creationism activist named Celtie Johnson and her husband put homemade fliers on cars at malls, with such phrases as "The theory of evolution is just a theory, yet our public schools' texts do not mention the significant amount of scientific evidence against it. Why the censorship?"<sup>28</sup> In summing up these feelings of discrimination, John Wiester of the American Scientific Affiliation said:

That's what makes me very unhappy here, that politics and this polemical propaganda immediately moves into it. But that also has got to tell you something. What are the Darwinists scared of? Why do they have to do this?

Asked, "What *are* they scared of?" Wiester responded:

Because I think they know. In their heart of hearts, I think they know what they are doing.

[Asked "What?" Wiester said]: Propaganda. They have got their *own* religion going. And they view theists—by that I include Jews, Muslims, and Christians—as "deluded." And they need to be "straightened out." They need to be—to use a euphemistic word—"educated."<sup>29</sup>

Propagandists? Liars? Abridgers of constitutional rights? Would educators be pushed into action by these arguments of injustice? Again, the answer is no. Educators shrugged off accusations that they were engaged in indoctrination and insisted, instead, that it was the Christian conservatives, not they, who were intolerant. Eugenie Scott, of the National Center for Science Education, an organization located in Berkeley, California, committed to opposing creationist efforts in schools, said:

[Sarcastically] Oh yeah, evolution is a big religion. Even Phillip Johnson gets into that, and he should know better. It's very amusing to me that people will think that evolution is a religion because if it *is* a religion, it certainly is an awfully uninspiring one [laughs]. It has no places of



worship. It has no creed. It has no liturgy. It has no professionals who administer solace to believers. I mean, it's pretty difficult to say that this is a religion.

Now, this is not to say that there are not individuals who have taken science—and even have taken evolution within science—and used this as a stimulus for developing a philosophy which is non-supernatural, anti-supernatural. I have a difficulty calling that a religion. Because, as an anthropologist, the word religion to me requires some sort of interaction with the supernatural, or recognition of the supernatural, anyway. And if you have a belief system which denies the supernatural: it's kind of tough to call that a religion. So, I prefer to call that a philosophy, or a worldview, if you will. Now, this is not to say that there are not people who have made worldviews out of science and out of religion. Johnson talks about this a lot in his book. He calls it naturalism, or materialism. And those people exist. But, you know, if you wanted to, you could make a philosophy out of photosynthesis. That doesn't mean we stop teaching it. And this is a major flaw on the part of the people who are criticizing it.<sup>30</sup>

A second strategy for dealing with the creationists' call for "fair," "nondiscriminatory" treatment was to acknowledge the absolute legitimacy of teaching creationism in the public schools—just not in science classes. Eugenie Scott said this on the subject:

Oh, I think creationism should be taught! I will now pause for dramatic effect and clarify that.

I think we are not only—and this is a little sound bite I came up with the other day—we are not only *scientifically illiterate*, we are also *theologically illiterate* in this country. I think it would be of positive value to have kids in this country and in this state to learn more about religion. In all of its forms. I think that we *should* have comparative religion courses taught, where different views would be presented. The biblical literalist view could be presented. The Catholic view could be presented. The mainline Protestant view could be presented... There are a lot of different ways that just Christians and Jews look at creation, much less the difference between the Hopi and the Navajo, right? Much less between the Brazilian rain tribe Indians, much less the ancient Norse. I mean, there's a lot of different stuff going on here. I think it

would be very useful for students to understand the role of mythology. Mythology is more important than science in this society any day. Science just helps us get through the day; mythology is what makes life real...And I think it would be very worthwhile for students to learn about this.

Now, that's different from saying that students should be taught—*falsely*—that there is scientific evidence to support a biblical literalist view. *Bzzzt . . . wrong* [laughs] . . . *tilt!* [using game show and pinball signals for illegal plays].<sup>31</sup>

Elites in the creationist circles, like Phillip Johnson, responded to expressions of derision like Scott's, above, by adopting an even more sophisticated argument about ideological oppression than just censorship. In a rather lengthy quote, we can see Johnson entering into contemporary academic debates—about authority and hegemony—to argue that he and his associates have been subjected to academic despotism at the hands of the very people who theorize so rhapsodically about “resistance.” Michel Foucault may have argued about the will to power of societal elites, but it is academics like Foucault, himself, and others who support radical politics, according to Johnson, who should apply the terms of the debate to themselves. In his 1996 interview with me, Johnson said:

I've learned a lot. I'm no postmodernist, as you know, no follower of Foucault...but I've learned a lot from being intimately familiar with that debate in academia. Of how people read texts as filtered through their cultural situation. And, boy, is that true of science educators and elite reporters!

[Asked if Foucault's arguments about authoritarian discourses resonated with him]: Oh, yeah, that's what I mean when I say I've learned. But you see, what I find ridiculous about the postmodernists is that they apply it to all the wrong situations. I mean, Foucault, himself, was a pampered intellectual, laden with honors. I mean, he's part of the oppressor class, from my point of view, who does this sort of thing.

Did you read about this *Social Text* hoax?...The writers in *Social Text* use these ideas of empowerment and resisting authority in such a narrow, tendentious, political agenda, when it is

really much more broadly applicable to *themselves*. So, yes, you are right: I read that stuff with a great deal of interest. I just apply it differently.

And that's one of the things that is very funny about my intellectual method. Because while [my] conclusions are considered outlandish in the academic world—you know, “natural selection can't really create, and all that”—the message it generates, though, is dead-bang mainstream academia these days. You know, [I'm] looking for the *hidden assumptions*, the *power relationships*...it's a very fashionable method, it's just that nobody ever dreamed that it would be applied to this particular sacred cow, [evolution]...

This is a fascinating adoption of rhetoric to talk about the oppression creationists feel that they face in the public sphere, and to be sure, it is an elite argument that most people on the frontlines of the creationist challenge had no exposure to. But despite its aims at convincing education insiders of the persecution faced by creationists, the wider academic community (both in school systems and in universities that were involved in these four cases) rejected Christian conservatives' claims of bias. The creationists' discrimination charge (unlike the Afrocentrists') landed with a dull thud—that is, when it was not being openly mocked by academics, scientists, the media, and public school educators. Education officials in the four creationist cases I studied apparently did not suffer from the threat of being “not Christian enough” as compared with African-American administrators and teachers being held to be “not black enough” in their school systems, and white administrators getting charged with being “not racially sensitive enough.”

### *Cultural Constraint #3: The Non-Negotiability of Science*

I argue that creationists suffered from a third cultural handicap that Afrocentrists did not. Whereas Afrocentrists were challenging concepts taught in history and social studies—two disciplines that are seen to be reasonably contestable—creationists were challenging *science*, a discipline that is considered far more objective. As suggested earlier, history and the rest of the social sciences are now understood to be more flexible than scientific truths.

Notwithstanding theoretical movements of the past couple decades that question science's privileged position,<sup>32</sup> Americans—from lay citizens to trained scientific experts—are generally impressed with the integrity of the scientific endeavor. According to polling data from the General Social Survey, an annual poll taken by the National Opinion Research Center, since the 1970s, American adults have consistently reported higher levels of confidence in the scientific community as an institution than in any other institution besides medicine (also a science related field, it should be noted).<sup>33</sup> I would like to suggest that this relative appreciation for science and the scientific community has had a strong impact on recent creationist challenges. First, it has led creationists to engage in what they consider to be scientific discourse, rather than a pure religion-based discourse; second, Americans' strong belief in science has fortified schools' defense of "legitimate" scientific curricula.

Scientific Discourse within Creationist Movements. Supporters of creationism now understand the power that the idea of science has in teachers' and lay citizens' minds, and since the 1960s they have attempted to align their goals with those scientific frames. Again, John Tyndall provided a good example of science's regard when he talked about the specifically scientific balance (and not religious) that he sought in Vista classrooms:

I never looked to propose another model of origins into the classroom. I don't have any problem with accepting that in California, evolution has a monopoly on origins theory in the classroom. I can accept that. Let's just do *science* in that theory, then. Let's not propose another model out there, but let's do a *scientific theory*, or let's do *scientific testing* on this model. Let's let children—students—look at the evidence by which people are saying that this is accepted scientific fact. Let them look at the evidence and let them make their own decision in a critical-thinking way and determine whether or not they believe evolution has or has not happened. If they conclude that evolution has happened, that's fine with me. If they conclude that evolution has not happened, they are in a bind in California because there is no alternative model in science classes. [But] I'm willing to leave it there...That's the California system. That's science

teaching in America today. It does not develop the critical thinking skills in science that other countries would do.<sup>34</sup>

Teaching alternatives to evolution—teaching how to question evolution’s “facts”—is good for science, according to this advocate.

Science’s Ability to Withstand Contestation. Part of the scientific community’s effort in keeping science protected from what they perceived as a different epistemological basis for truth claims was to make it very clear what counts as science and what does not. Scientists were particularly concerned with this boundary-building when science was seen to be under attack from outside forces, like religious belief, although of course in the quote above, John Tyndall is clearly stating that he is willing to abide by science’s rules. In the following discussion, Kevin Padian, again, gives a remarkably clear account of the grounds on which religion must not be confused with science. As one reads the account, it is worthwhile to think about whether foes of Afrocentrism had the resources to generate as convincing a case for rejecting Afrocentric claims as foes of creationism had for turning back creationist claims:

Everything in science is testable. But nothing in religion is testable. And if that isn’t the simplest thing right away, I don’t know what is. I can visualize the world in which evolution can be modified, rejected. But it must be replaced by something that uses natural mechanisms to explain observed phenomena. No one can say that about the immaculate conception! If you look at the end of Phil [Johnson]’s book on naturalism, he says you can throw out all this philosophy, and all you need to know is this phrase. And he quotes from the Bible the part about Jesus dying for your sins.

Well, there it is! Phil is a creationist. Once you get the legalistic and the rhetoric and the misrepresentation of science and all the wordplay [out of the way]..., this is what he believes, and that is Step One of his entire argument.

But we all knew that... You have to understand that Phil has never studied science. He has never taken a course. I have offered repeatedly to let him come and look at our specimens:

“Come by and I’ll show you why we know what we know in science.” He refuses. And he won’t submit his ideas to peer-reviewed journals. He insists on publishing in conservative presses like *Regnery-Gateway*. Well, scholarship in our field, as you know, is peer-reviewed work...

...It’s really funny because these people [creationists] are constantly claiming [that scientists] are really closed-minded and not listening to anybody else. Excuse me, science is open-minded, but it’s not empty-headed. We go on the basis of hundreds of years of built-up theories, hypotheses, inferences, facts, observations, or whatever you want to call them. There is a body of work in science, and the business is to test what we think we know and to falsify it if we can. So, we are always challenging what we do. *But we just don’t challenge it on grounds that are not scientific* [my emphasis].<sup>35</sup>

With aggressive defenses like these, the scientific community intended to be taken seriously when it warned of intrusions on facts. That community’s relatively high esteem made life difficult for creationists.

#### *Cultural Constraint #4: Legal Precedent*

Finally, creationists in Louisiana, Vista, the state of California, and Kansas faced an obstacle in their debates with educators that Afrocentrists never encountered in their challenges to school curricula: the argument that their efforts were not only intellectually questionable, but patently illegal as well. Such a reputation proved impossible to escape, and it represented the last, debilitating cultural component of creationists’ defeats. In fact, the impact of the *legal precedent* counterclaim on the creationist movement may have been so devastating that it could be said to form a kind of first-order strike against creationist challenges—culturally, politically, and structurally. Even if creationists had been able to line up other rhetorical resources in their corner, legal precedent was probably powerful enough to have obviated their might.

The modern era of anti-creationist activity in the courts began in 1968, when the Supreme Court ruled in *Epperson v. Arkansas* that anti-evolution laws violated the First Amendment. This case drew on

earlier decisions, including the 1963 ruling in *Abington v. Schempp*, regarding prayer and the separation of church and state, which deemed unconstitutional any practices promoted by public institutions that did not have “a secular legislative purpose and a primary effect that neither advances nor inhibits religion.” Decisions following the precedent-setting *Epperson* case continued through 1987, when the *Edwards v. Aguillard* decision stated that the creationist Balanced Treatment law passed in Louisiana intended to advance religious beliefs.

In response, creationists have imported more “science” into their arguments and less overt “religion,” as mentioned in the section above. When they have done so, creationists have argued against the Court’s interpretation of their projects as abridgements to the Constitution’s establishment clause. Their refrain has been that they simply want a chance to present the “whole picture” of what is known in science about origins, and that Darwinian evolution is but “one theory” on the topic. Challengers argued that Darwinists and humanists have arrogantly grabbed control of science education and have been unwilling to reveal bona fide scientific evidence that contradicts evolutionary dogma.

Educators, their supporters in the academy, the American Civil Liberties Union, and popularly known scientists like Stephen Jay Gould counter-argued using both a science-based discourse and legal assertions. Eugenie Scott, of the National Center for Science Education, was clear about her disdain for the creationist project both in its legal and scientific claims. Asked why she and other scientists rejected creationism, she said:

Number one, by analysis of scientists and teachers and courts, creationism is clearly a sectarian religious view. This is the view that God created everything all at one time, which is not the view of all religions, by any stretch of the imagination. It is a religious view, no matter what. So, advocating this point of view is unconstitutional. And there is a difference between teaching *about* a point of view in a comparative sense, and *advocating* it. And what creation science is, is advocacy. They are saying not “some people believe this,” they are saying, “this happened; and we have scientific evidence to support that this happened.” That is the claim that they are

making. So that's advocacy. And that is unconstitutional. The public schools need to remain neutral toward religion.

The second reason that scientists complain about the teaching of creation science is that *it's not science...* The consensus view of science is that evolution happened. We don't argue about that. We argue about how it happened: how important is natural selection vs. other mechanisms... We argue a whole lot about that. And that's fun [laughs]! That's what makes it a science, right? But, we don't question whether evolution took place any more than we question whether the earth goes around the sun, or the sun goes around the earth. So to a scientist, to have some of these equal-time laws come up saying, "We're going to give the scientific evidence for evolution, and then we are going to be fair and give the scientific evidence for special creation," just generates a big, "Huh?" Because to us it's like, "We're going to give the scientific evidence for heliocentrism and the scientific evidence for geocentrism." Sorry, nobody really takes geocentrism seriously. Why are you wasting the kids' time? I mean, I can find you some wonderful scientific arguments as to why the earth is the center of the universe. This is wonderful stuff, but, I mean, it's all bogus. And it's all wrong. And you know, we shouldn't be giving kids a bunch of wrong stuff.<sup>36</sup>

As we can see in this quote, scientific creationism has received little different reaction from science organizations, First Amendment organizations like the ACLU, or the courts than did prior campaigns for creationism, which were based on stronger religious arguments. Nor has Intelligent Design, the latest movement in the creationist struggle (most visibly evident in the Kansas state case), fared well. Even though creationist leaders from each of these camps have tried to adapt their rhetoric to the courts' ever stricter First Amendment interpretations, according to critics like Eugenie Scott, these adaptations have been merely variations on a theme. When creationists called attention to the *scientific* aspects of their efforts, or to the idea that they were seeking *balance* in the curriculum (rather than the older call for excluding evolution), critics interpreted these new arguments as efforts aimed toward the same end: to minimize evolutionary instruction in the curriculum.



The legal discourse, which was used to counter creationist claims, hinted at concrete action, too. The ACLU and People for the American Way were clear that they would sue any school district that recognized creationism in any form in its science classes. Many financially strapped systems—whether at the state or district level—were persuaded by the threat and withdrew their own “anti-Darwin” proposals after court decisions reiterated their unconstitutionality. This kind of state and local system retraction occurred immediately following both the Supreme Court action concerning Louisiana’s Balanced Treatment law and the recall of the two board members in Vista, California.

The other challengers in this study, the Afrocentrists, didn’t face a legal hurdle. While Afrocentrists, like creationists, were forced to defend themselves against accusations of scholarly sloppiness and other intellectual deficits, proponents of African-centered curriculum never had to defend themselves against the charge that their efforts were illegal. Afrocentrists fended off charges of misdirected goals and of “playing the race card,” but they did not have to argue over the lawfulness of their effort. Preposterous, outrageous, wrong: indeed, Afrocentrists were called all of these at various times. But unlawful and unconstitutional: no. The complete absence of such a counter-attack available to their opponents must clearly go into the assets column for Afrocentrists, as compared to creationists.

### *Consequences of a Constrained Challenge*

On each of these four cultural dimensions, creationists bore serious disadvantages. When creationists tried to change curricula at the institutional level in these locales—that is, at the level of official curriculum rather than in individual schools or classrooms—education officials turned them away.

And yet, despite these cultural handicaps, in three of the four cases I studied, creationists were able to breach temporarily the boundaries of curriculum decision-making, when they or their supporters got elected to governing bodies. Faced with the very public opposition of education staff members in their states or districts, in Vista, Louisiana and Kansas, creationism’s advocates went straight to voters for referenda on their proposals, and they sometimes won. Voted onto school boards and into state

legislatures, creationists occasionally were able to assume political power and enact their creationist-friendly policies.

Nonetheless, those victories were short-lived, halted by the courts, voters, or professional educators—and sometimes all three. Able to ascend to *political* power in three of the four school systems in the study, creationists were unable to make their policies stick, or to get professional educators to *institutionalize* their revisions. One of the most important observations I made in this study is that different sets of powerful actors in school systems possess different types of authority in central educational decision-making: there is a difference between *elective* power in schools and *professional bureaucratic* authority there. It was less elected school board members and legislators who held ultimate decision-making power in these struggles. Rather, professional educators—those who occupied the permanent, salaried, deeply institutionalized positions in all four school systems—were the power holders with the final say on curriculum. Creationists in the four cases I studied were always unable to convert their political positions into institutional power, and they were therefore always unable to have lasting impact on the governing bodies to which they were elected. When all was said and done, institutional power was able to reassert itself in all cases, and the creationist challenge was stopped in its tracks.

The way it looks now for creationists is that the only victories that have “stuck” at the statewide- or district-wide level are the inserts that now appear in science textbooks in two southern states. As I discuss in the full-length version of this study, in 1995, the Alabama Board of Education ordered its state’s school personnel to paste a disclaimer onto the front page of all biology textbooks stating that evolution is a “controversial” theory that “some” scientists believe but that, since no one was there to observe it, “should be considered as theory, not fact.”<sup>37</sup> In 1999, Oklahoma state education officials ordered the inclusion of the same statement in its state’s science textbooks, using word-for-word the Alabama disclaimer.<sup>38</sup>

But what do the Alabama and Oklahoma victories really represent, especially when placed in the context of creationists’ devastating defeats in Louisiana, the state of California, Vista, and the state of Kansas? Does this textbook front matter have any real impact on how students learn science in those

states—as much as, say, providing side-by-side instruction on evolution and creation, or deleting the concept of evolution from statewide tests? Do sentences that insist on science’s observability and falsifiability actually lead students to doubt evolutionary processes? Can the inclusion of textbook disclaimers, or of scientific jargon in framework glossaries, really achieve creationists’ objectives?

Without measures for students’ understandings of science in Alabama and Oklahoma, it is hard to say for certain. But I can make some observations about what I think these paths represent for the creationist movement. Left with bitter disappointment over the failure of creationists’ major reform efforts, John Wiester of the American Scientific Affiliation, in my 1996 interview with him, promoted the Alabama and Oklahoma textbook inserts as *bona fide* victories. Meanwhile, the ACLU and other pro-evolution advocates regarded the inserts as the first steps down a slippery slope toward the teaching of creationism. I wonder how sanguine or worried, respectively, these groups really should be about the future. Even if we are witnessing anew creationists’ long-term strategy of adapting the rhetoric and demands of their battle to the legal realities of the day, what I think we are also witnessing is creationists’ willingness to ratchet down their demands to any level necessary in order to achieve a “win.” They, too, are looking for “symbolic victories,” just like Afrocentrists, and they are willing to take them where they can.

Having been rejected when they have stated their demands forthrightly, creationists are now keeping their curriculum challenges ambiguous, resorting to the technicalities of their preferred “empirical, not theoretical” scientific method to cast doubt on evolution. In Kansas, for example, the anti-evolution board members agreed to strike all references to a creator from the framework in order to achieve compromise, and neither “creationism” nor “creation” appeared in the framework’s Glossary. Replacing the demand for creationist instruction were what I would consider to be vague semantics about scientific concepts and methodology. Definitions of testability, falsification, and verifiability were provided, but God was out, as was any explicit mention of designed and supervised creation.<sup>39</sup> And yet, creationists still considered the new framework a resounding victory. They did, anyway, until voters

across the state voted out of office all but one of the framework's proponents (of those who were up for re-election), and evolution was eventually restored as a concept to be tested on statewide tests.

Desperate to end the days of evolution's "hegemonic" grip on public school students, but faced with defeat in all grand attempts, creationists have decided to fight for progressively less explicit "creationist" content in the public schools as they proceed with their cause.

Should professional educators and their supporters, meanwhile, be concerned when creationists win any concessions, even if those victories are based on the obtuse concept of falsifiability, for example"? Although I agree with Molleen Matsumura, a spokesperson at the anti-creationist National Center for Science Education, that any policy aimed at "de-emphasizing evolution" is code for creationism, and that creationists are keen to build on any foothold in any systems they can find, I am not convinced that these victories represent creationist success that can be further built upon, realistically. It is not clear to me that students in the classroom are a keen enough audience to pick up on the code that is written into these statements of empirical evidence and verifiability, to divine the importance of the creationist points being made. These small changes—even if they were to be adapted in a more permanent way—hardly seem to be in the same ballpark as telling African American students in history class, for example, that their ancestors were kings and queens in Egypt, or that America has a dark history of oppressing its black citizens. The kinds of concessions that conservative Kansas school board members won temporarily, and that John Wiester and Phillip Johnson are arguing for, and even that the Alabama and Oklahoma science textbook inserts represent: all of these have to be understood as highly diluted outcomes that have emerged from the greatly reduced demands that creationists are now making. They are symbolic victories, at most, rather than real victories. Those fighting for the legitimacy of creationism have expressed satisfaction at making *any* inroads in the curriculum, even those that clearly are miles away from their ultimate objective—the discussion of a creator in science classrooms. Besides the fact that such diluted demands exasperate the ACLU and scientists, and evoke visions of slippery slopes, it is difficult to see how the victories that emerged out of these demands could seriously threaten the teaching of evolution in schools.

Now, this is not to suggest that the scientific, legal, and educational communities in this country are illogical if they think that evolutionary teaching requires stubborn defense and periodic reinforcement. And their victories over creationists are not only ceremonial or a foregone conclusion. In 1998, for example, the National Academy of Sciences determined that teachers in many parts of the country continue to face pressure from parents and other conservative citizens to scale back the teaching of evolutionary theory.<sup>40</sup> Across the country, a number of school boards still order their personnel to give equal time to scientific creationism and, teachers challenge court decisions prohibiting them from using Intelligent Design arguments in biology classes.<sup>41</sup> On a related note, according to an article in the *Los Angeles Times*, surveys in Texas, Ohio, and Kansas have shown that 25 percent of biology teachers in these three states ascribe to the creationist account of human origins, rather than evolution.<sup>42</sup> And, when the People for American Way (PAW) conducted a national poll concerning creationism and evolution in 1999 (following the Kansas school board action), the organization found that 29 percent of Americans think that creationism should be taught as “scientific theory” in science courses, while an additional 29 percent think that creationism should be taught alongside evolution in science classes as a “belief” about origins.<sup>43</sup> Given that a major barrier to creationism over the past two decades has been judicial, and that the election of President George W. Bush may very well change the complexion of the court in the coming years, the level of support that PAW found among the electorate may encourage a potentially more conservative judiciary to assist creationism’s path.

What I want to emphasize, though, is that educators—in all meaningful respects in the large meaningful cases—have found a variety of different strategies for turning back the creationist proposals advanced in their school systems. They have used crushing oppositional rhetoric, and they have eventually mobilized voters, consistently negative federal courts, and organizational procedures to negate creationist content, even in those cases where creationists gained electoral power. Even while creationists’ substantive demands have diminished over the years—adapting to cultural and political changes on the social, cultural, and political landscape—school systems’ counterclaims have remained

aggressive, and professional educators on the bureaucratic inside of school systems have beaten back their Christian conservative foes.

### **Consequential Challenges?**

What does all of this matter? Should we care if creationists have made their demands progressively more opaque in search of a victory? That Afrocentrists were, generally, more effective than creationists in their efforts to claim legitimacy for their ideas and to get those ideas on educators' agenda—at least initially—while creationists' arguments fell on relatively deaf ears? That Afrocentrists and creationists have traveled different routes to similar ultimate fates in these seven school systems? The question I am raising is this: even if we grant that studying Afrocentrism and creationism might be interesting in an ethnographic sense, can the outcomes of their challenges teach us anything about social processes that sociologists care about in a more general sense? Can they tell us something important about feelings of alienation among individuals in challenger movements; about contentious challenges in public schools; about the dynamics of open conflict in large institutions, generally; or even about everyday life in late twentieth century America? Or were the Afrocentric and creationist challenges just two fringe curricular reform efforts, among many, that occurred on the margins of American pedagogical life that reveal little newsworthy about our lives in large institutions or about sociological theory?

I believe that these challenges did matter, and that exploring marginal challenges such as Afrocentrism and creationism, and the outcomes they achieved in schools, can reveal a great deal not only about the racial or religious frustration that some groups experience in contemporary America, but also about the dynamics surrounding challenge activities in the United States, and the ways that organizations like school systems respond to challenges from their different constituencies. The main thrust of the argument is that these school systems managed to absorb protest, to quell institutional change, when either creationists or Afrocentrists were on the frontlines. It was not that Afrocentrists won stunning victory in case after case while creationists suffered humbling defeat; or, conversely, that creationists achieved success while Afrocentrists were sent away by school systems with no gains. There is no single

“success metric” that can account for the outcomes realized in these two different challenges. But by looking at the two challenges in depth—both in comparison to each other, and individually, at each of the seven cases (as I do in depth in the book)—we can see why and how outcomes developed in the schools as they did. In general, Afrocentrists were better able to get American educators to consider their requests and treat their complaints as valid, which illustrates that some cultural discourses about bias have greater power to resonate with American understandings (at least American *educators*’ understandings), while others are not so endowed. Creationists, meanwhile, often took advantage of voter disinterest in their communities, and collected enough ballots on election day to win majorities on school boards. These events indicate that different challengers identify different points of weakness in the systems they are challenging, and seek to exploit the opportunities that they have available to them. Afrocentrists realized their relative power came from cultural arguments; creationists realized that, lacking such resources (despite mighty efforts), they should mobilize politically and attempt elective power—drawing on Christian Coalition strategies at the time.

At a more abstract level, studying events such as these seven challenges might prepare us to make better predictions of when challengers will be able to push embattled institutions to change their ways of doing things and, alternately, when these institutions will be able to stay their course, dispensing, one way or another, with their adversaries. It has been argued that we now live in a world where movement-like contention has become far more frequent than it was just 30 years ago, and that the kinds of struggles that Afrocentrists and creationists were waging from 1980 to 2000 have become the modal form of contentious politics in Western democracies.<sup>44</sup> Unlike the reified image of social movements that forms the backbone of mainstream social movements theory—as large, political, and disruptive as the Civil Rights, pro-life, or environmental movements, for example—the kinds of struggles that have become far more common in Western societies in the past few decades are generally local rather than national movements; they take place within institutions rather than “in the streets”; and they target institutional power rather than what is ordinarily considered to be “political” power. Analyzing creationism and Afrocentrism using a social movements lens acknowledges a willingness to think more broadly about

what we mean by the term “movements.” When we do so, when we take the time to study little respected, marginalized challenges as “movements,” then we are able to consider issues that occupy the highest order of theorizing in the sociological discipline.

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<sup>1</sup> The Afrocentric challenges took place in Washington, DC; New York state; and Atlanta. The creationist challenges took place in the state of California; the state of Louisiana; the state of Kansas; and in Vista, California. For more information on these cases, please see *Contentious Curricula: Afrocentrism and Creationism in American Public Schools* (Princeton University Press, 2002).

<sup>2</sup> David Tyack and Larry Cuban, *Tinkering Toward Utopia*, Cambridge, MA: Harvard University Press, 1995, p.4.

<sup>3</sup> See Nicola Beisel for a description of the anti-vice movements made on behalf of students in the 19<sup>th</sup> century (*Imperiled Innocents: Anthony Comstock and Family Reproduction in Victorian America*. Princeton, NJ: Princeton University Press, 1997). See, also, work that I have done previously (Amy Binder “Constructing Racial Rhetoric: Media Depictions of Harm in Heavy Metal and Rap Music,” *American Sociological Review*, 58:753-67, 1993) comparing the mass media’s warnings of rap’s and heavy metal’s harm to children. Scott Davies also draws attention to the strength of child-centered rhetoric in curricular reform efforts in “From Moral Duty to Cultural Rights: A Case Study of Political Framing in Education,” *Sociology of Education* 71:1-23.

<sup>4</sup> Both Molefi Asante (“Multiculturalism: An Exchange,” *The American Scholar* 60:267-76, 1991) and Bayo Oyeade (“African Studies and the Afrocentric Paradigm: A Critique,” *Journal of Black Studies* 21:233-8, 1990) make this point.

<sup>5</sup> Asa Hilliard, an Afrocentric scholar at Georgia State University, made this argument, as cited in G. Putka “Curricula of Color: Course Work Stressing Blacks’ Role Has Critics but Appears Effective,” *Wall Street Journal*, July 1, 1991). Alan Singer also writes about Afrocentrism’s objectives in “Multiculturalism and Afrocentricity: How They Influence Teaching U.S. History,” *Social Education* 57:283-286, 1993.

<sup>6</sup> Scott Davies has written about the “master frame” of progressivism in the public education arena in his paper “The Changing Meaning of Progressive Pedagogy: Justifying School Reform in Three Eras,” untitled manuscript, Department of Sociology, McMasters University.

<sup>7</sup> William Gamson and Andre Modigliani, “Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach,” *American Journal of Sociology*, 1989; David Snow and Robert Benford, “Master Frames and Cycles of Protest” in *Frontiers in Social Movement Theory*, eds., Aldon Morris and Carol McClurg Mueller. New Haven, CT: Yale University Press, 1992.

<sup>8</sup> In *We Are All Multiculturalists Now*. Cambridge, MA: Harvard University Press, 1997, Nathan Glazer writes that all of us seem to be “ranged along a spectrum of greater or lesser enthusiasm or acceptance of the new reality” of multiculturalism, even multiculturalism’s critics. “Those who truly stand against it, the true advocates and prophets of assimilationism, are so miniscule in American public and intellectual life that they can barely be discerned in public discussion” (p.97). This is an obvious argument for the power of the Afrocentrists’ rhetoric that “something must be done” along more multicultural lines.

<sup>9</sup> It also drew on the frame of Progressivism. As Scott Davies has written persuasively in “The Changing Meaning of Progressive Pedagogy” (unpublished manuscript, McMasters University), the “master frame” of progressive pedagogy pervades the public education arena, such that challengers of many different stripes now argue that their reform falls under the Progressivist label. Afrocentrists used the theme of progressivism to tap into educators’ underlying assumptions about teaching children content that is



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meaningful to them—not just teaching by rote; treating them like unique individuals, not just undifferentiated *tabula rasa*. Progressives since John Dewey, Davies argues, have “championed their pedagogy as necessary for keeping pace with an ever-changing society, while claiming that traditionalists, lacking developmental sensitivity, have been outmoded by new social realities. Afrocentric champions picked up on this rhetoric, presenting their solution to the problem of black children’s miseducation as sensitive, humanistic, caring.

<sup>10</sup> Interview with Mae Kendall, former Director of Program Planning and Curriculum Development in the Atlanta Public School System, 1995.

<sup>11</sup> Interview with Betty Topps, Executive Assistant to the Superintendent, District of Columbia Public Schools. 1995. Interview by author, 21 August, Washington, DC, 1995.

<sup>12</sup> Interview with Nathan Glazer, Professor at the School of Education at Harvard University and Former Member of the New York State Social Studies Syllabus Review and Development Committee, 1995.

<sup>13</sup> Interview with Abena Walker, Founder and Principal of the African-Centered School at Webb Elementary School, District of Columbia Public School District, 1995.

<sup>14</sup> Interview with Thomas Sobol, Former Commissioner of Education for the State of New York and currently Professor of Education, Teachers’ College, Columbia University, 1995.

<sup>15</sup> Interview with Abena Walker, 1995.

<sup>16</sup> Interview with Hazel Dukes, former director of the New York chapter of the NAACP, 1995.

<sup>17</sup> Interview with Thomas Sobol, 1995.

<sup>18</sup> See Binder, *Contentious Curricula*, and Binder, “Why Do Some Curricular Challenges Work While Others Do Not? The Case of Three Afrocentric Challenges,” *Sociology of Education* (2000): 73:69-91.

<sup>19</sup> I found at least six organizational and political factors to be important in ultimate outcomes: (1) the homogeneity/heterogeneity of the school system; (2) whether the system was local or state; (3) the recency of previous curriculum reform; (4) the specific means of testing in the system; (5) the degree of inside support the system received for the reform; and (6) advocacy by the media.

<sup>20</sup> Interview with John Tyndall, Former School Board Member of Vista Unified School District and Director of Accounting, Institute for Creation Research, 1996.

<sup>21</sup> Interview with John Wiester, Chairman of the Science Education Commission, American Scientific Affiliation, 1996.

<sup>22</sup> Interview with Kevin Padian, Associate Professor of Integrative Biology, University of California at Berkeley, 1996.

<sup>23</sup> Interview with Barbara Donavan, Community Member and Member of the Board of Education, Vista Unified School District, 1996.

<sup>24</sup> James Davison Hunter (*Culture Wars*, 1991, p.47) argues this point in a similar vein, “By labeling the opposition an extremist faction that is marginal to the mainstream of American life, each side struggles to monopolize the symbols of legitimacy. This is seen most clearly in the effort of each side to depict themselves as defenders of the institutions and traditions of American life while depicting the opposition as the foes.”

<sup>25</sup> Interview with Phillip Johnson, Professor at the Boalt School of Law, University of California at Berkeley, 1996.

<sup>26</sup> Interview with Phillip Johnson, 1996.

<sup>27</sup> Sen. Bill Keith, quoted in “Evolution Battle Revving Up Again,” *New Orleans Time Picayune*, December 17, 1980, Section 1, p.30.

<sup>28</sup> This information was found in *Kansas City Star*, “Woman’s Creationism Crusade Shakes Up Public Education,” November 27, 1999, p.A1.

<sup>29</sup> Interview with John Wiester, 1996.

<sup>30</sup> Interview with Eugenie Scott, 1996.

<sup>31</sup> Interview with Eugenie Scott, 1996.

<sup>32</sup> See Steve Woolgar (*Science: The Very Idea*. London: Tavistock Publications, 1988) for an example of the scientific enterprise under a constructivist lens.

<sup>33</sup> In 1998, for example—a date I selected because that year’s survey also included a related question about the *trust* people have for science—respondents were told “I am going to name some institutions in this country. As far as people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence in them?” For the scientific community, 43.0 percent of the respondents reported “a great deal of confidence” (while only 8.5 percent reported “hardly any”) compared to 45.0 percent who reported a great deal of confidence for medicine (8.9 percent hardly any), 27.2 percent for education (16.7 percent hardly any), 27.8 percent for organized religion (19.4 percent hardly any), 26.3 percent for banks and financial institutions (16.4 percent hardly any), 14.4 percent in the executive branch of federal government (36.4 percent hardly any), 10.9 percent for Congress (31.0 percent hardly any), and 9.5 percent for the press (43.4 percent hardly any).<sup>33</sup> Meanwhile, when asked that same year whether “we trust too much in science and not enough in religious faith,” only 31.2 percent of respondents agreed or strongly agreed with the statement, while 68.8 percent answered that they “neither agreed nor disagreed,” “disagreed,” or “strongly disagreed.” These data can be found on <http://csa.berkeley.edu:7502/cgi-bin/12hsda3>.

<sup>34</sup> Interview with John Tyndall, 1996.

<sup>35</sup> Interview with Kevin Padian, 1996.

<sup>36</sup> Interview with Eugenie Scott, 1996.

<sup>37</sup> See Norris Anderson, *Education or Indoctrination? Analysis of Textbooks in Alabama*. Colorado Springs, CO: Access Research Network, 1995.

<sup>38</sup> “Creationist Captain Sees Battle ‘Hotting Up,’” *New York Times*, December 1, 1999, p.A15..

<sup>39</sup> The framework’s entry for “falsification” is a good example of creationists’ obtuse arguments for an intelligent designer (Kansas Curricular Standards for Science Education, [http://www.ksbe.state.ks.us/outcomes/science\\_12799.html](http://www.ksbe.state.ks.us/outcomes/science_12799.html), 1999).

- To be falsifiable a theory must be testable, by others, in such a way that, if it is false, the tests can show that it is false. Repeatability is an inadequate criterion and is supplemented with falsification. The reason for falsifiability may not be intuitively obvious. It is fine to make statements like “this theory is backed by a great body of experiments and observations,” but often overlooked is the fact that such claims are meaningless. Experiments and observations do not verify theories, they must be evaluated by human reason to determine the degree of verification they provide.
- As a result of the weakness of repeatability as a sole criteria for the validity of scientific explanations, Karl Popper, the famous 20<sup>th</sup> century British Philosopher of Science, and countless others, have insisted that, to be called a “test” of a theory, the test must be designed in such a way that, if the test fails, the theory can be considered false! This criterion is reasonable. How can you call an experiment a “test” of a theory if failure of the test has no meaning? In the United States, falsifiability in science can even be considered “the law of the land,” because of the decision of a Federal Judge (Overton) in a famous trial.
- A concomitant criteria, as stated by Popper, Overton, and others, is that the theory itself must be “falsifiable,” i.e., it must be possible to design a test that will fail if the theory itself is false. This is a very difficult position to establish, but that is the nature of good science. Unfortunately lost in all this discussion is what used to be taught in most science colleges: experimental design. The key here is that “testing” a theory and “falsification” are more associated with the attributes of the test and its interpretation than they are with the theory itself. Another point is that experimental design is critical to theory verification. Critical analysis of the weaknesses (known or potential) of experimental tests of hypotheses, is critical to any ability to make informed decisions based on science education. Therefore, sound science teaching must include the logic of experimental design and evaluation.

<sup>40</sup> In response, the National Academy of Sciences published a guidebook to encourage teachers to remain committed to good science, and to provide teachers with answers for refuting skeptics (*Teaching about Evolution and the Nature of Science*, <http://www4.nationalacademies.org/news.nsf/fc340309c47a1e43852567460067595e/1a28e557587bcec48525677400635527?OpenDocument>, 1998).

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<sup>41</sup> For information on the Minnesota case, see “Teacher Awaits Appeal on Evolution Education,” *Minneapolis Star Tribune*, August 14, 2000, p.A1.

<sup>42</sup> John Richard Schrock, a professor at Emporia State University in Kansas, and a member of the Kansas Science Education Standards Writing Committee, cites five surveys of biology teachers, in an article called “Evolution Returns to Kansas Schools,” in the *Los Angeles Times* 2/15/01, p.A5. Information on Schrock’s service on the Kansas Standards committee can be found at <http://www.kcfs.org/scidraft5.html>.

<sup>43</sup> The People for the American Way found the following results in a 1,500 person, randomly selected national poll conducted in 1999 (<http://www.pfaw.org/issues/education/creationism-poll.pdf>) :

- 20 percent of Americans think that evolution should be taught in public schools without any creationism mentioned at all
- 17 percent of Americans think that only evolution should be taught in science class, but that religious explanations of origins (creationism) can be discussed in another class outside of science
- 29 percent of Americans say that creationism can be discussed in science class, but discussed as a “belief,” not as a scientific theory (while evolution should be taught as a “scientific theory” in science class)
- 13 percent of Americans think that both evolution and creationism should be taught as “scientific theories” in science class
- 16 percent of Americans think that only creationism should be taught in science classes, with no mention of evolution
- 5 percent are not sure

<sup>44</sup> For more information on the social movement society concept, see David S. Meyer and Sidney Tarrow’s, who edited a volume called *A Movement Society: Contentious Politics for a New Century*, New York: Rowman and Littlefield Publishers, Inc., 1998.