A Red Moon over the Mall: The *Sputnik* Panic and Domestic America

Ryan Boyle

What happened after the fourth of October, 1957, was nothing short of a total crisis of confidence in the American way of life. The Union of Soviet Socialist Republics had just initiated the space age by launching the first manmade satellite, named *Sputnik* or "fellow traveler" and Americans suddenly had to adjust to the notion that Russia was not a backwards nation but a technological equal. The launch of *Sputnik* and the ensuing panic had vast consequences on American postwar culture. Most histories of the Cold War treat the *Sputnik* launch as a relatively minor event—surely not as important as the Berlin Air Lift or the Cuban Missile Crisis—and in tracing its effects the focus is often on the very obvious—the heightened international tension of the Cold War, the foreign policy response from President Dwight Eisenhower and his administration, and the resulting nuclear arms buildup. In most people's minds *Sputnik* is more important for the political and military responses it occasioned than for the actual event itself. Although the launch was of little strategic importance, its full symbolic effect on the Cold War is almost unrivaled, eclipsed only by the moon landing a decade later and, of course, the fall of the Berlin Wall in 1989.

However, along with these official responses, the launch and its symbolism unleashed vast and often unheralded effects on the domestic front due to the society-wide crisis mentality it engendered. It changed the very mind-set with which Americans viewed communism and the Cold War. In more concrete terms, it also allowed for the reorganization and reevaluation of the American educational system and established an alliance between government and university research. Perhaps even more importantly, it fractured, or at least exposed the cracks of, the Cold War consensus and perceived complacency of the 1950s. *Sputnik* not only offered a political opportunity for the Democratic Party but allowed for a serious and critical nationwide discussion of American postwar culture for the first time, publicizing the basic critiques that would gain enormous currency a decade later in the late 1960s.

Sputnik was launched as part of the International Geophysical Year, a world-wide program of scientific exchange and experimentation that lasted from July 1, 1957, to December 31, 1958 (Brzezinski 92–93). The IGY offered the perfect way for the Soviet Union to make a bold statement while deflecting criticism that *Sputnik* was either a propaganda event or a military project. The launch was internationally hailed as a bold scientific achievement, despite the satellite's lack of significant scientific instruments or utility (Sherry 214). In fact, the United States had been planning to launch its own *Vanguard* satellite as part of the IGY, but Eisenhower had given it low priority despite the administration's previous

Ryan Boyle received his master's in history from the University of Florida in 2006. He currently resides in Chicago, IL.

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knowledge of Russia's plans (Killian xvii). As White House Press Secretary James C. Hagerty explained to the press corps a day after the launch, "We never thought of our program as one which was in a race with the Soviets" ("Senators Attack Missile Fund Cut" 1).

Part of the reason for the low priority was because the armed forces ironically did not think a satellite had much military potential at the time (Furnas 23). Eisenhower was a little smarter, recognizing the potential to create an orbital replacement for the U-2 spy plane. By separating the IGY project from the military missile programs, he hoped, much like the Russians, to deflect any potential international criticism of a satellite launch. The US satellite project, dubbed *Vanguard*, was confining to a weakly-funded civilian program with plans to launch in December of 1957 (Divine 1–5). By that time, a Soviet satellite would have already been circling the world, and the United States, for two months. Also, a comparison of the two satellites did not sit well with the American people: *Sputnik* was a 22-inch sphere weighing 184 pounds, traveling at a speed of 18,000 miles per hour in an orbit 550 miles above the Earth; in contrast *Vanguard* was the size of a grapefruit: only six-inches and 3.5 pounds (Divine xiii). More importantly, it was still on the ground.

On October 4, 1957, the very same scientists who were hard at work on *Vanguard* were taken completely by surprise. Attending a reception given by the Russian IGY scientists at the Soviet embassy in Washington, they were the first Americans to hear the news of *Sputnik* as it was broadcast by Moscow radio. The American scientists, stunned by the unexpected launch, quickly congratulated their Russian counterparts, though there was also a certain anxiety present. Dr. John Hagan, the man in charge of *Vanguard*, knew the comparable US effort would not be ready for another two months, at the earliest (Divine xiii). American scientists, supposedly the best in the world, had been outpaced by the Russians, up till then viewed as a technologically backwards people (Zieger, "The Evolving Cold War" 10). Part of the problem was that in publicizing *Vanguard* and the IGY, the government had led the American people to believe that they would be the first in space ("Power a Voice From Outer Space" 73). For instance, in early 1956, *National Geographic* published a story detailing the construction of *Vanguard*. In May, a book called *Discover the Stars* was published with pictures of *Vanguard* on the cover and plans inside that hobbyists could use to build their own models of the satellite (Degroot 54). A team of astronomical observers was also publicly established with the mission of tracking *Vanguard* after its launch. Instead, this so-called "Operation Moonwatch" focused their equipment on trying to track *Sputnik*—which they never could (Divine xiii).

Reaction to the Russian launch was immediate. Historian Robert Zieger describes the scene: "Editorials, news broadcasts, and public speeches reflected a sense of vulnerability and defenselessness previously unknown in American public discourse" (Zieger, "Uncle Sam Wants You" 86). Op-ed pieces appeared in all of the country's major publications with titles like "Soviet Satellite Sends US Into a Tizzy" (*Life*) and "Are We Americans Going Soft?" (*New York Times*). Bartenders cheekily concocted *Sputnik* cocktails with a vodka base to sooth their customer's rattled nerves (Furnas 24). Even toy manufacturers got into the game before the end of the month. According to *The New York Times,* space sales at Macy's went up 1000% in a single week and the retailer moved immediately to capitalize on the craze. *Time* reported that "Rushed to the store by cargo planes and taxicabs, some 10,000 satellite balloons, ray guns, and missile trackers were crammed into a new display area manned by perspiring salesmen in space suits and helmets: Pervading all was a real live recording of the Red *Sputnik*'s throaty beep" ("Into Orbit" 50–51). The Danish press picked up on the toy story, sarcastically proclaiming that the United States was the first nation "with *Sputnik* for kids" ("Danes Toy with US Sphere," 16).

Congressmen—who had been uninformed by the administration of the impending Russian launch—were sought out by the major publications to give their startled reactions. Democratic Senator Henry Jackson of Washington State called

upon the president to proclaim a national "week of shame and danger" (Clowse 8). Even friends of the Eisenhower administration and members of the president's own party offered stinging responses—Senator Styles Bridges of New Hampshire, a Republican member of the Armed Services Committee, issued a statement quoted in *The New York Times* that called "for an immediate revision of national psychology and diplomatic approach . . . The time has clearly come to be less concerned with the depth of the pile on the new broadloom rug or the height of the tail-fin on a new car and to be more prepared to shed blood, sweat, and tears if this country and the free world are to survive" ("Senators Attack . . ." 43). Americans were shocked to read that Ford Motor Company had spent $250 million to develop a new car while only $110 million had been devoted to an American satellite (Dale 122). Comparisons abounded in the national press that *Sputnik* was equivalent to Pearl Harbor, Lexington, or Ft. Sumter (Sherry 299).

Because of the nature of the Cold War, anxieties and fear had to be diverted into other fields outside actual conflict, particularly in areas of science, technology, athletics, and economics. Most areas of society became proxies for a war too terrible to ever engage in. With *Sputnik*, Americans felt they had been delivered a harsh blow in this symbolic "battle of civilizations" (Clowse 24). For the editors of *Life* magazine, the solution was American industriousness, "our side needs not only more missiles, but more of everything from political courage and scientific genius . . . to goods and services and poems and ideas . . . The top resolution for 1958 on every American's list should be to get in there and work" ("'58 Priority" 16).

Unfortunately, Eisenhower's calm reaction to the news of the Soviet launch failed to calm anyone else (D'Antonio 44–45). It only incited more panic and criticism of the administration as he failed to understand the full implications, or even the existence, of the proxy war of symbols that was beginning to take the place of the very real war he was trying to avoid. The morning of the *Sputnik* launch he had left to play golf for the weekend at Gettysburg (Dickson 22). While the rest of the nation was in a panic, the president did not even bother to convene a press conference until that Wednesday, a full five days after the launch, where he calmly defended US efforts to launch *Vanguard* and his decision to separate the program from the military. The press began to accuse Eisenhower of underestimating the situation and he himself later admitted that he was surprised by the intensity of the public concern and should have responded more actively (Clowse 10–11). Combined with a political showdown over desegregation at Little Rock Central High School in Arkansas and a growing recession, the country went into full-blown crisis mode (Clowse 5).

The president's subdued reaction to *Sputnik* was not a unique event but was largely in keeping with his "hidden hand" style of governing. Developed during his years of military service, the style included delegation of authority and the inclusion of strong individual personalities within his Cabinet. This allowed Eisenhower to appear to remain outside the games of Washington politics by having his advisors and officials articulate and represent specific policies, giving the president distance from unpopular decisions. His presumed folksiness and grammatical mistakes further reinforced the notion that he was an average, apolitical American. The "hidden hand" was the same sort of ruse Eisenhower had used when he separated the satellite program from the military to cover his plans for a military spy satellite. None other than Richard Nixon, a man with no end of cunning himself, proclaimed Eisenhower to be "a far more complex and devious man than most people realized" (Boyle 19–20). By appearing unworried about *Sputnik* he hoped to reassure the public that there was, in fact, nothing to worry about. This time though, he was the *only one* who was not worried. *Newsweek* proclaimed the satellite "a defeat in three fields: In pure science, in practical know-how, and in psychological Cold War" ("Into Space" 37).

Events were simply moving too fast for the president: a month later came another triumph for the Soviet Union when it launched *Sputnik II* on November 3, 1957. If the first *Sputnik* had made

Vanguard seem small then *Sputnik II* positively dwarfed it: the satellite was a six-foot wide by 13-foot high cone that weighed 1121 pounds and carried the first living thing into orbit, the space-dog Laika (Degroot 80). The sheer size of the satellite worsened the crisis in America: the 500,000 pounds of thrust needed to launch *Sputnik II* was more than enough to power an ICBM. *Life* commented that "getting their heavy satellite up meant that Russia has developed a more powerful rocket than any the US has yet fired and substantiated Soviet claims of success with an intercontinental ballistic missile" (Furnas 24). After all, an enemy that could fire a satellite all the way up into space, the reasoning went, could probably hit US cities here on Earth. The very heavens themselves could be the launching pad for a surprise Soviet attack (Mandelbaum 218). Laika's presence signaled that the Russians were already at least planning manned space flights. International opinion of the Russians as a technologically inferior people was instantly reversed. As Zieger explains,

> Whereas Americans had attributed earlier Soviet technological achievements to espionage or exploitation of captured German scientists, now the rumor circulated that American scientists and engineers were so far behind their Soviet counterparts that when they did get their hands on Russian aerospace research they often could not understand it.
>
> (Zieger, "The Paradox of Plenty")

Things did not get any better a month later when *Vanguard* exploded on the launch pad (Divine 71). *The New York Times* proclaimed that "the psychological defeat which followed [the explosion] was in some ways as humiliating as that which followed Pearl Harbor ... The technological prestige of the United States, already undermined ... was given a self-inflected body-blow. In Paris cafes, German beer gardens and Arabian bazaars, the US satellite program became the brunt of pointed quips" ("*Vanguard* Failure a Blow" E3). Soviet Premier Nikita Khrushchev boasted, "Our satellites are circling the earth waiting for American satellites to join them and form a commonwealth of *sputniks*" (Divine 43). A menacing-looking picture of Nikita Khrushchev holding *Sputnik* as a scepter and wearing a golden Moscow like a crown was soon featured on *Time* magazine's cover. He was their Man of the Year for 1957 (*Time* January 6, 1958).

The launch of *Sputnik* and the military fears it summoned mark the beginning of what Michael Mandelbaum in *The Nuclear Revolution* calls a "nuclear epoch," which only ends with the Cuban Missile Crisis in 1962 and the signing of the Limited Test Ban Treaty a year later. These are three of the most important events in the Cold War and much of what we today associate with the culture of the Cold War came from this "nuclear epoch" period. Between 1957 and 1963 nuclear war was as real and immanent a threat as it ever was or would be again. Many of the classic Cold War films, such as *Dr. Strangelove*, *The Manchurian Candidate*, and *On the Beach* were released during or immediately following Mandelbaum's "nuclear epoch" and Americans began to seriously worry about nuclear annihilation and to purchase bomb shelters.

Life magazine described the atmosphere in the United States that November as "a time of portents and rumors as in Caesar's Rome. *Aviation Daily*, a serious publication, predicts that on Nov. 7, the anniversary of the Bolshevik Revolution, the Russians will fire a rocket that will dye the moon red" ("The Crisis and its Precedents" 34). Talk circulated about establishing military bases on the moon from which to rain missiles down on Earth, or perhaps bases on other planets with which to fight for control over the moon itself. Even the sense of panic was a cause for yet *more* panic for *Life* magazine when they predicted that "Khrushchev may well calculate that if he is ever going to start a major war, now is the time he would find the United States most divided and unnerved" ("The Crisis ..." 34). Khrushchev realized this fact himself, publicly asserting that the next war would be "fought on the American continent, which can be reached by our rockets" ("Missiles for NATO" 25).

As the debate inside the US grew ever sharper, the consumer culture of the 1950s came under heavy attack. Before *Sputnik*, much of the nation's anxiety was focused on *communism* as a dangerous, subversive ideology that could attack from

within—revealed in the rhetoric and rise of Senator Joseph McCarthy. After the satellite's launch however, the nation's fear was focused on the *Soviet Union* as a formidable, external enemy. After 1957, the only "enemy within" was American culture itself (Zieger, "The Evolving ..." 23). Congressman Chester Holifield, the chair of the Joint Committee on Atomic Energy, feared the worst, "In the face of a challenge for survival, without courage, imagination, and the will to survive, our Western civilization will decline—each of us who does not face his responsibility will help make a truism of the Marx-Lenin predication that the capitalist system will fail" (Holifield 643). George Price, a veteran scientist of the Manhattan Project, wrote in an editorial for *Life*, "Unless we depart utterly from our present behavior, it is reasonable to expect that by no later than 1975 the United States will be a member of the Union of Soviet Socialist Republics" (Price 125–128).

What had been a fringe critique only a few months earlier, held by a few academics and political radicals, was now the shared opinion of the major periodicals in the country: Americans were hedonistic, soft, lazy, and obsessed with meaningless objects. Americans were shocked to learn that they had spent more on housing in 1956 than on national security, more on automobiles and clothing than on education, and more on flowers and seeds than on basic scientific research. They also found that they as Americans spent more than twice as much per person on goods and services then even the wealthiest of Europeans. Walter Lippmann, quoted in the same *New York Times* story as those figures, said, "Our people have been led to believe in the enormous fallacy that the highest purpose of the American social order is to multiply the enjoyment of consumer goods. As a result, our public institutions, particularly those having to do with education and research, have been ... scandalously starved" (Dale 267).

It was a situation that Zieger has called "The Paradox of Plenty," America's prosperity and booming consumer market was both the country's strength and its weakness. Americans had a significantly higher standard of living and more enjoyable lives than the rest of the world, but at the same time they were becoming lax, hedonistic, and frivolous while falling behind the Russians (Zieger, "Paradox"). Far from backwards, the Soviets were now presented as stern, dedicated, industrious and unified—in far contrast to the chaotic democratic milieu of American culture. While Americans were busy building shopping malls, the Russians had put two man-made moons into the heavens.

The Paradox of Plenty also brought with it a serious discussion of the nation's values and character and brought forth critiques about the nature of American society. Although critiques of American post-war culture did not emerge with *Sputnik*, it made them highly visible and very salient to the public at large, lending legitimacy to leftist critics like C. Wright Mills, who published *The Causes of World War Three* in 1958. The ideas and criticism raised during these post-*Sputnik* debates would never truly leave, and they reentered the mainstream in huge ways during the mid-60s. John Kenneth Galbraith even went so far as to credit *Sputnik* with the success of *The Affluent Society* in his introduction to its third edition:

> In the climate of the time, I feared it [*The Affluent Society*] would be dismissed as another semi-socialist case for public spending ... Then ... the Soviets sent up the first *Sputnik*. No action was ever so admirably timed ... I knew the book was home. A vastly less productive society had brought off a breathtaking and also ... very alarming achievement. It couldn't be because they had more wealth—more automobiles, more gasoline, more elegantly packaged food ... Surely they were using their more meager resources more purposefully ... In any case, *Sputnik* meant we were in for one of those orgies of anguished soul-searching ... I expected, in fact, that the book would be a success.
> (Galbraith xxv–xxvi)

It was. *The Affluent Society* became a huge best-seller and had a large influence on liberal politics in the next decade. The book introduced the idea of postscarcity, that wealth and value were based on a concept of scarcity that no longer existed as such in America. Galbraith used this concept to champion welfare programs and poverty relief. *The Affluent Society* marked the beginning of the antigrowth movement that found its widest expression in the War on

Poverty and the ecological movement of the late 1960s. To this day it is still the most widely read book by any modern economist ("Galbraith, John Kenneth").

Back in Washington, DC, the Democratic opposition was also grabbing hold of the newfound cracks in the postwar consensus to push forward their own agenda—*Sputnik* gave them the perfect opportunity to criticize an extremely popular president and war hero. Presidential leadership was desperately needed, but Eisenhower's muted response and unhurried pursuit of *Vanguard* led to criticism over his perceived lack of leadership and his supposed underestimation of the Soviet threat (Dickson 118–120). Then in late November, a few days before the disastrous *Vanguard* launch, Eisenhower suffered a minor stroke and according to Zieger, "the sense of a nation in peril and governed by a sickly and distracted old man became pervasive" (Zieger, "The Evolving" 16). The living symbol of American might, of victory in World War, was suddenly seen as ineffectual. It was the most serious crisis of Eisenhower's presidency, at least domestically, and, as *Time* noted, the criticisms directed at Eisenhower were the worst of his entire career (Divine xviii).

The influence of *Sputnik* can not be overstated in this area: Eisenhower had started 1957 at the height of his popularity—his reelection secured and his defense stance unquestionable after his adept handling of the Suez and Hungarian crises—but he ended the year with public debates over missile gaps (Damms 54). The Democratic Party, previously divided by the segregation issue, used the critique of Eisenhower as a party unifier (Damms 59). In particular, Senators Lyndon B. Johnson and John F. Kennedy latched onto the *Sputnik* issue and Eisenhower's perceived weakness to raise their own public profiles.

Senate Majority Leader Johnson was the first to offer a challenge—he prepared to have the Senate Defense Preparedness Subcommittee, which he chaired, launch an inquiry into why the Soviet Union had been the first in space. Ignoring the advice of those in his party who saw the hearing as an opportunity to attack Eisenhower, Johnson took a much more subtle and successful path: by putting administration witnesses on the defensive he could discredit the party in power without personally attacking Eisenhower. Thus with a clever reversal of the "hidden hand," Johnson could raise both his own profile and his party's without risking a public backlash or a GOP counterattack (Divine 62–64). The hearings were so successful in bringing him national attention that he made the cover of *Life* on January 20, 1958.

Senator Kennedy, meanwhile, used the widely perceived but largely illusory "missile gap," and the very real "space gap," as crucial issues during his 1960 presidential campaign against Eisenhower's vice-president, Richard Nixon (Sherry 232; Roman 130). Kennedy would use these issues as evidence of the failures of the GOP, suggesting that the United States might not survive the continuation of Eisenhower's defense policies under a President Nixon. As Kennedy declared in August of 1958, Eisenhower and his advisors had "tailored our strategy and military requirements to fit our budget—instead of fitting our budget to our military requirements and strategy" (Kennedy, 40). Eisenhower, for his part, viewed Kennedy as an "incompetent" and saw his constant talk about the missile gap as alarmism and demagoguery, while Johnson was "the most tricky and unreliable politician in Congress," and "a small man" (Damms 78). Both men would soon be in the White House.

By launching *Sputnik* and especially the huge *Sputnik II*, the Soviet Union had publicly demonstrated the rapid advances being made by its long-range missile programs and the perception of a missile gap began to grow. In the American public mind, it did not matter that the United States had plenty of intermediate-range missiles posited in allied countries around the Soviet Union, nor did US supremacy in bombers make much difference (Divine 25). However, in Eisenhower's mind these factors were crucial and the United States was as secure under the circumstance as it possibly could be. Secret intelligence gathered by the U-2 flights over the Soviet Union reassured him that, in fact, there was no missile gap at all. But of course, in order to keep the U-2

flights secret he had to keep the source of this information to himself. Eisenhower's reaction was to say that he would not turn the nation into a "garrison state" (Divine 39). This mind-set, as well as the calls coming from all sides for a massive expansion of the country's military budgets, eventually led to the foreboding warning about the Military–Industrial Complex he made in his 1961 farewell speech—another critique of the American system that would become critical to the rhetoric of student radicals in the 1960s (Roman 123).

With hindsight we can see that Eisenhower's quest to keep military budgets down, and to contain what he considered to be the overreaction to *Sputnik*, was ultimately a wise and reasoned, if politically naive, course of action. With everyone, even other government agencies, screaming disaster, Eisenhower asked the American people to trust him. They did not. His weak reaction to *Sputnik*, the perceived "missile gap" and his poor health led to an incredible erosion of faith in the president amongst the general public. A Gallup poll showed that from a postreelection high of 79% in January, the president's approval ratings had fallen to 57% by November 1957, the month of the *Sputnik II* launch and his stoke (Divine 45). *Harper's* issued a call for his resignation and even *Time*, typically a supporter of the president, expressed doubt over his ability (Divine 118). The political fallout was substantial. According to *Life*, "The US entered the year 1958 with violent discussion about government policy which could result in the greatest peacetime policy changes since 1933 saw the birth of the New Deal" ("Citizens Give Ideas in Crisis" 13). In the area of education at least, it did.

For example, in a poll conducted by *Life* magazine before the launch of the first *Sputnik*, a majority of respondents felt the nation's problems "were 1) inflation, 2) keeping out of war, and 3) segregation. After the Russian satellites began twinkling through the skies, the list changed completely." The nation's new concerns were "1) catching the Russians in the defense race, and 2) training more and better scientists" (O'Neil 91–92). It was in this area of education and science that the *Sputnik* crisis would have its most concrete and identifiable effects on American society. Primarily, *Sputnik* was viewed as a failure of American science, and the source of that failure was quickly identified when comparisons between US and Russian schools found their way into the press (Dickson 225).

Life offered two opposing pages, one promoting the ideas of scientists regarding the *Sputnik* crisis and the other with the headline "Educators: Pleas for Better Math and US Billions" ("Educators" 16–17). In this way, the issue of federal aid to education became linked to the national security debate (Clowse 53). The critique of American education had existed before *Sputnik*, but scientists and educators latched onto the satellite as a grand opportunity to press their case and renew the debate. The chancellor of the University of Kansas not only linked education reform with *Sputnik* but with the larger debate over American culture and values underway, "We still consider education a luxury rather than a necessity. The little satellite says that our schools are no longer a luxury but are as important as the food we eat, the cars in which we ride, the clothes we buy" ("Satellite Called Spur to Education" 3). Meanwhile, *Life* acknowledged the irony that "even the less educated realize the need of reappraising US education" (O'Neil 91).

Immediately upon returning to session in early January of 1958, *Sputnik*, outer space, and science education were on the top of the agenda. It was the first time that any significant national attention had been paid to school reform since 1917 (Dickson 226). Congressman Elmer Holland of Pennsylvania succinctly summed up the mood of the session, "Thanks to the *Sputniks*—we are reexamining our foreign policy. Thanks to the *Sputniks*—we have finally realized that what this country needs are more eggheads and less fatheads" ("America's Future in Science" 725). A Joint Congressional Committee on Outer Space was suggested, as was the creation of a Cabinet-level post of Secretary of Research and Development ("Joint Committee on Outer Space" 96–97). Congressman Victor Anfuso of New York introduced a bill to establish a United States Science Academy under the Department of Defense.

Modeled after the Military Academy at West Point, Anfuso imagined the Science Academy would one day turn out "citizen-soldiers" who were dedicated to the defense of America ("United States Science Academy" 124).

Nothing quite so melodramatic was actually passed. Later in the year, Congress enacted the National Defense Education Act. Its title remains a clear indication of the debate that allowed its passage. Although every part of the NDEA had failed to pass prior to *Sputnik*—opposition to federal aid for education had existed for years—the crisis engendered by the launch gave a new sense of urgency (Dickson 225; Clowse 43, 47). This allowed supporters not merely to overcome opposition but to completely circumvent it. The issue was now a matter of national security (Geiger 165). The act provided fellowships, grants, and loans to encourage the study of science, math, foreign languages and other fields, as well as provided funds for school construction and equipment. Perhaps most important for the author, the act provided universities with 90% of the funds needed to offer low-interest loans to university and college students (Ravitch 229). By providing money to schools, the NDEA actually did head off a crisis, though not the one intended—the American educational system now had the resources to handle the previously worrisome size of the Baby Boom generation and their vast educational requirements (Clowse 41).

University research also benefited from the boom in spending, carried onward for about ten years by government funding and NASA research contracts. From 1953 to 1968 national spending on research—which before had been outpaced by consumer purchases of plants and seeds—tripled as a proportion of the GNP, as did total university research and development. Universities became integral to both the national economy and national defense, cementing the bond between government and university research that would become such a powerful source of agitation to student radicals in the 1960s. (Neusner and Neusner 95). The federal spending also changed the nature of the research being done: from the programmatic applied research of the early 1950s to a preponderance of disinterested basic research by 1968 (Geiger 166). Because of the easily available new money, "salaries could go up, standards could go up, production could up, and opportunities for students could go" (Neusner and Neusner 93). New fields of study could also be opened, both because there was funding for it and because NDEA scholarships and loans brought formerly marginalized or ignored groups, particularly women, into more college classrooms (Dickson 228). It is no coincidence that the advent of area studies coincides with this golden age of university funding (Neusner and Neusner 84).

Though modest in today's terms, the act was a legislative landmark. The act established a precedent for federal funding to education that continues to this day and eventually resulted in such legislation as the much more expansive Elementary and Secondary School Act of 1965 and the Vocation Education Act of 1963, among many others. It also signaled a broad public support for active government that Democrats like Kennedy and Johnson were ready to embrace (Geiger 165). As Zieger notes, "The *Sputnik*-inspired cry for scientific and technical expertise opened the door for federal aid to education. The alleged missile gap, in short, might well prove just the opening needed to carry forth the interrupted agenda of the New Deal . . .," which was Lyndon Johnson's admitted goal when he took the office of the presidency in 1963 (Zieger, "Evolving Cold War" 21).

The panic in the country receded a bit in the wake of the first successful American satellite. The *Explorer,* mounted on the army's Jupiter-C missile, was launched from Cape Canaveral on January 31, 1958. The administration had learned its lesson about its over-publicizing of *Vanguard* and sought to check any public anticipation regarding future launches ("US Seeks to Check Satellite Optimism" 21). Reporters were even made to agree not to report on the impending *Explorer* launch less it end in another failure ("Newsmen Agreed to Delay Reports" 7B). Fortunately it did not, and the launch replaced the national shame felt in the wake of the *Vanguard* explosion, allaying some of America's fears (Divine 94–95). *Life* proclaimed, "New Moon, Made in USA,"

and described it as "Jupiter-based Jubilation" ("New Moon, Made in USA" 13, 18). *Newsweek* said, "At last, Americans could look into the skies and say: 'That's ours'" ("Up There—At Last" 27). Just having a satellite in orbit seemed to calm the public, "A lot of people cherish a mental picture of Russian leaders staring gloomily at one another on getting the news of *Explorer* and saying, 'We can't attack them now. They've got one too'" ("US Change of Mind" 97). In fact, Americans were so thrilled by *Explorer*'s success that the celebration in some places got quite out of hand. In Huntsville, Alabama—described as a "missile boom town" located near an army base—the mayor went on the radio "to call everyone downtown to celebrate. Drivers sat on their horns, teen-agers threw firecrackers and police joined in with sirens." Former Defense Secretary Charlie Wilson, blamed for the US failure to be the first in space, was later burned in effigy in the town square ("A Jupiter-Based Jubilation" 18).

By the time that NASA, the civilian space agency, was founded later that summer, Americans were regaining their confidence, and the country's space efforts seemed to be on equal footing with the prior Russian accomplishments. The original *Sputnik* had broken into eight pieces and fallen back to Earth in January, while *Sputnik II* had reentered the atmosphere in April after only 165 days in orbit (Divine 94). Laika, meanwhile, had died from overheating and exhaustion only four days after her orbital entry (Degroot 80). On the other hand, *Explorer* would remain in orbit until 1970—although its batteries died twelve years prior—where it would discover the Van Allen radiation belts above the Earth, the most important scientific discovery that occurred during the IGY (Conway). By July, the army had put up three more *Explorer* satellites before the program was taken over by NASA. The *Explorer* series is now the longest running satellite program, continuing to this day. As of December 2004 there have been seventy successful *Explorer* launches ("*Explorer*'s Program History"). A *Vanguard* launch finally took place successfully in March of 1958 as well. Although it has long-since stopped functioning, *Vanguard* remains today as the oldest man-made object still orbiting the Earth and is now projected to remain there for at least another 1000 years (Dickson 181). While *Vanguard* was described by Khrushchev as "the grapefruit satellite" for its small size compared with the *Sputniks*, its long-delayed launch marked the fifth US satellite in orbit compared with the Soviet Union's lone remaining, albeit huge, *Sputnik III* (McLaughlin Green and Lomask 290).

The crisis had passed, but its fallout had been enormous, if largely unheralded by historians. For a few short months, the American public was driven into a panic in which they questioned the very nature of the postwar society they had built. Although stability was restored rather quickly, the effects were wide reaching. By refocusing American education on the basics and by providing the opportunity to establish the first federal funding to education with the NDEA, the post-*Sputnik* reforms were a sea-change in American educational history. The postwar consensus also suffered its first widespread and well-publicized attacks, eventually leading to a vast array of critiques that would find a huge audience a decade later amongst student radicals, the very children who had lived through the *Sputnik* crisis. Many of those same student radicals, the children of *Sputnik*, probably would not have been able to attend college at all without the existence of the NDEA. By 1969 Americans had clearly won the space race—they were on the moon. Afterwards their interest in educational reform took a regrettable, if predictable, plummet (Rutherford).

The red moons had come tumbling down and Americans were once again free to forget their troubles, return to the shopping mall, and engage in the consumption culture that only a few months earlier they had decried as their own hedonistic betrayal. Things were finally getting back to normal ...

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