

Revis(it)ing Nuclear History: Narrative Conflict at the Bradbury Science Museum*

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Nuclear criticism theorizes culture as the site of struggle between ideological narratives seeking authority over the meaning of nuclear symbols. Following the end of the cold war, various groups have conducted this struggle through public discourse about U.S. nuclear weapons organizations. This paper examines symbolic conflict over the history and future of one such organization, the Los Alamos National Laboratory. This conflict was conducted between pro-nuclear Laboratory officials and employees of its Bradbury Science Museum, and local anti-nuclear activists. The conflict centered around the activists' construction of an alternative exhibit that was placed in the Museum, and that challenged its dominant narrative of nuclear history. Analysis reveals that the identities and activities of these two groups can be distinguished by three sets of opposing constructs: *nuclearism/pacifism*; *monologue/dialogue*, and *fact/narrative*. These frames guided the groups' interpretive practices, and heuristically condense the heteroglossia of post-cold war debate about nuclear history. They clarify, in turn, the process by which cultural memory is constructed and transformed to serve nuclear-ideological interests.

The apparent end of the cold war has created a legitimation crisis for several United States defense institutions. One keenly affected is the U.S. nuclear weapons production complex – the network of government-owned, contractor-operated laboratories, factories and test sites that have designed and manufactured the Bomb. During its peak of operations in the mid-1980's, this complex involved 17 facilities spread across 3900 square miles in 13 states, and employed approximately 100,000 people. Since 1942, the U.S. government has spent over \$300 billion¹ on these organizations, which have produced 60,000 nuclear warheads for deployment on weapons systems ranging from missiles to landmines (Cochran, Arkin, Norris and Hoenig 1987; Schwartz, 1995).

Within the last decade, the implosion of the Soviet Union and subsequent arms reduction worldwide have threatened the future of these organizations. While nuclear proliferation, accidents, terrorist attacks and blackmail all pose evolving risks to international security, the U.S. no longer faces a major strategic threat from enemy nuclear forces. Additionally, these organizations are undergoing intensive scrutiny as U.S. citizens confront a painful legacy of their cold war operations – vast amounts of radioactive and toxic waste (Cochran, Arkin and Norris 1988; Russell 1990). Critics

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charge that this waste is the result of organizational disregard for the interests of public health, worker safety and the environment in favor of obsessive secrecy and production. Estimates of the cleanup cost range up to \$1 trillion; the process is expected to take up to thirty years.

Within the past decade, the U.S. nuclear weapons complex has also been rocked by repeated shutdowns of its aging and contaminated plants, by EPA fines levied against its waste-management programs, by widely-publicized allegations of fraud, mismanagement and harassment of whistleblowers, and by litigation involving liability for the birth defects, illnesses and deaths of plant workers, military personnel and local civilian residents (Del Tredici 1987; Fradkin 1989; Morris 1993). The scientists, engineers, bureaucrats and strategists now serving as "stewards" of the reduced nuclear deterrent must re-define their mission in the face of Congressional budget-cutting and public skepticism. Recent federal plans to consolidate and modernize these facilities have added layoffs and program terminations to this traumatic cultural shift.

Within this climate, it is possible to understand these organizations on two levels. The first level involves their material status as actual organizations involved in productive operations (such as the design and manufacture of nuclear warheads). The second level involves their status as objects of representation (Shapiro 1988) in cultural texts that depict and interpret these operations, thus contributing to collective knowledge about the nuclear condition. I refer here to the variety of (un)official and (non)fictional narratives produced during the nuclear age that have explored the "organization" of the Bomb (Brians 1987; Broderick 1991). While actual U.S. nuclear weapons organizations have been protected from scrutiny by the blanket warrant of national security, they have been thoroughly treated in popular-cultural genres ranging from wicked satire (such as the 1964 film, *Dr. Strangelove*) to elegaic documentary (Gallagher 1993). These narratives have explored the ethics and (ir)rationality of these organizational cultures, focusing on the symbolic processes through which members interpret nuclear work, and its consequences for various organizational constituencies (such as nuclear "downwinders" affected by radioactive fallout from above-ground nuclear testing). These narratives alternately praise and criticize the historical figures (such as nuclear scientists), institutions (such as the military-industrial complex), ideologies (such as deterrence), and events that have contributed to normalizing nuclear weapons as instruments of U.S. foreign policy. As they circulate in culture, these narratives become "events in a play of discourses whose concerns are power, virtue, the ends of society and the nature of reality" (Smith 1989: 15).

One organization figuring prominently in this symbolic activity is the Los Alamos National Laboratory, the top-secret, military-run New Mexico facility where Allied scientists constructed the atomic bombs used by the U.S. against Japan during World War II (and where a large portion of the U.S. nuclear arsenal has since been designed). Los Alamos is commonly considered to be the "birthplace" of the Bomb, and has been treated in several works that interpret the nature and legacies of that event (see Goodchild 1980; Kunetka 1979; Rhodes 1986; Taylor 1993b). These works appear to reflect a cultural desire to return to the origin of the Bomb to better understand its contemporary influence, and to fix accountability for its legacy of actual and threatened destruction. The tone in some of these works includes regret and resentment (McMahon 1970; Smith 1986).

Los Alamos has also been preserved, however, by some conservative and patriotic groups as a symbol of American expertise (for example, as “one of the greatest scientific achievements of all time”; *Los Alamos* 1986: 1), and of sacrifice for global peace, freedom and democracy. Much like the Texas Alamo, Los Alamos is for many Americans the object of a near-religious, tribal pride. It forms “part of the national storehouse of patriotic symbols” whose heroes and lessons serve as resources for subsequent generations to use in defining and solving crises (Linenthal 1988: 510).

These competing interpretations establish Los Alamos as both a material fact and a contested symbol in nuclear culture. Through repeated narration, that symbol becomes sedimented with the grief, denial, outrage and stoicism of nuclear culture as it “forms itself around the fact of the nuclear missile” (Benson and Anderson 1990: 257), and ponders its abdication of nuclear control to a network of foreign-policy and military elites. The meaning of these narratives is not simply academic, however. By controlling narratives of the nuclear past, sectional interests (such as defense “hawks”) are better able to “plot” the meaning and conditions of the nuclear present (such as continued funding for new weapons systems). What is at stake in this process are the interrelated narrative and industrial “organization” of the nuclear future.

In this paper, I present data on cultural struggle over the meaning of Los Alamos, imaged from a particular site. These data were collected during a three-month field study conducted during the summer of 1992 at the Bradbury Science Museum (henceforth, the BSM), located on the grounds of the Los Alamos National Laboratory (henceforth, LANL). As LANL’s official museum, the BSM was charged with several missions, including: preserving, exhibiting and interpreting artifacts from LANL’s wartime and cold war history; promoting public understanding about the role of LANL research and technology in U.S. energy and defense policies, and providing science education programs for area schoolchildren. During its 34-year history the BSM had evolved from a small building displaying artifacts for guided tours to a professional, high-tech facility that uniquely combined the commemorative, didactic and persuasive discourses found in science, corporate and history museums, and in visitors’ centers. The museum employed an eight-member professional staff who performed (often in combination) the roles of senior manager, writer, editor, curator, marketer, exhibit designer, program director, operations manager, secretary and facilities manager. The museum was also staffed by an exhibits technician, and by 15 hosts who were generally older than professional staff members, more likely to be long-time local residents, and politically conservative.

During 1992, nearly 80,000 residents, students and tourists travelled to Los Alamos’ remote mesa location north of Santa Fe to view this self-described “window on the Laboratory.” Within its 8,000 square feet, they encountered a variety of densely-packed and often highly-technical exhibits about the construction and use of the first atomic bombs, and about more contemporary research programs involving lasers, high-performance computers, nuclear accelerators, and the human genetic code. These exhibits included models of the technologies used in underground nuclear testing, a bricolage of documents, photographs and artifacts known as “The History Wall,” a mock “glovebox” that simulated the “safe” handling of radioactive materials, and a small theater showing a film about the Laboratory’s environmental research programs. The exhibits utilized a combination of printed text, graphics, videodisc, interactive computer programs, and mechanical simulators to communicate with visitors. Their artifacts

ranged from the mundane (an identification badge belonging to a wartime employee) to the ominous (a model of a Mark 12A nuclear warhead suspended from a red metal ceiling grid, pointing down). Visitor responses recorded in surveys and comment books indicated a variety of reactions to the exhibits ranging from intimidation and awe, to strong moral sentiments both favoring and opposing the development and use of nuclear weapons.

A close reading of these exhibits suggested that the “window” they offered on nuclear history was not completely transparent or neutral. Instead, the exhibits collectively formed a unique text of LANL’s history, mission and product, and constructed dominant meanings for these nuclear symbols through particular codes. These meanings typically emphasized positive themes such as innocence, control and rationality over negative themes such as guilt, failure and death (for example, in a wall panel expressing the claim that nuclear weapons had ensured “peace” during the Cold War). The exhibits also promoted particular sectional interests in nuclear culture (such-as national security) over others (such as environmentalism, for example, in an absence of discussion about safety problems facing radioactive waste-storage facilities; May 1989).² The BSM text was thus ideological in its (often implicit) communication of cultural values concerning science, technology, the environment, and the national-security state (Silverstone 1988; Taborsky 1990). Here, as in many museums worldwide, “history [was] used as a political resource whereby national identities are constructed and forms of power and privilege justified and celebrated” (Lumley 1988: 2).

A brief example may serve to indicate the ideological productivity of the BSM exhibits, which subsequently became the object of heated debate. One, an exhibit on “Weapon Engineering,” presented a white workstation simulating the Computer-Aided-Design technology used by Los Alamos warhead engineers. When prompted, the computer displayed a game-like program that allowed visitors to construct an ICBM “reentry vehicle” capable of withstanding extreme atmospheric conditions by selecting the types and amounts of its materials. Visitors then watched the screen as an image of their customized warhead moved slowly through space towards the earth’s atmosphere. The warhead then either disintegrated (signalling a bad design) or stopped suddenly in mid-descent as the program announced “Successful Re-Entry,” and offered a prompt labelled “Goodbye.” The irony of hailing visitors to activate a weapon of mass-destruction, the discreet punctuation of the warhead’s journey, and the uncanny tone of this presentation were not lost on observers. The BSM’s technician, for example, wondered if the designers of this exhibit had appropriately anticipated their audience: “Well, it just seems kind of . . . ‘Well, what do kids like? [sarcastically] *Well, I bet they like to design their own warheads!*’ [shaking his head]. I’m sorry.”

While the BSM text would itself sustain a separate analysis, my focus in this paper involves the way in which that text was challenged during the summer of 1992 by a competing narrative that threatened to undermine its authority. This narrative was authored by “The Los Alamos Study Group” (henceforth, the LASG), an association of Santa Fe (New Mexico) -based peace and environmental activists committed, in the

² This particular exhibit gap (and many others created by the sudden end of the cold war) was partially repaired in the construction of new exhibits following the BSM’s move in 1993 to a new downtown Los Alamos facility. The long-running absence of such an exhibit, however, is also evidence for critical claims about LANL and the BSM’s ideology, reflected in exhibit funding and design decisions.

words of one member, to “foster[ing] public discussion and debate on the effects and consequences of past, present and future . . . nuclear weapons research on the political, economic and social fabric of the region and the nation.” This commitment took many different forms ranging from sponsoring public debates about LANL’s post-cold war mission, to performing independent research on the environmental impact of its nuclear operations. Founded in 1991 by a practicing Zen Buddhist who had previously worked as a hydrologist for the state of New Mexico, the LASG formalized and focused historical attempts by activists to monitor LANL’s activities, to challenge its primary mission, and to confront and convert its personnel (for example, through leafletting them on LANL property). In many ways, the LASG was a typical social-movement organization (or SMO; see Lofland 1993). It was a small (with approximately 20 members), local, and underfunded (sporadically supported by donations and grants) association that was improvisationally-affiliated with other regional peace, environmentalist, labor-union and indigenous peoples’ rights groups. The LASG’s two “leading lights” – the Zen hydrologist and a former Quaker schoolteacher – generally served as its only full-time (and occasionally paid) professional staff. Its grass-roots membership included farmers, writers, scientists, a printer, a lawyer, educators and retirees. The LASG was *atypical* in its quasi-symbiotic dedication to a single nuclear weapons facility (Charles 1988), and in its “conflictual” commitment (Mehan and Wills, 1988) to directly engaging that facility.

During the summer of 1992, the LASG successfully petitioned LANL for permission to mount an “alternative exhibit” in the BSM. As leverage, they invoked a 1984 California Court of Appeals ruling that upheld a lower trial court’s approval of a similar exhibit at the Lawrence Livermore National Laboratory’s Visitors Center (henceforth LLNL). The LASG held that their exhibit would respond under “equal-time” provisions to a perceived bias in the BSM text favoring the development and use of nuclear weapons. The LASG implied that they were willing to take the issue to court, and LANL officials reluctantly allowed them to proceed.

This event strongly affected the BSM staff and hosts, who responded with varying degrees of surprise and dismay. These reactions – along with gradual resignation to the LASG exhibit – clarified the meanings which had historically shaped the BSM text. The LASG’s action initiated – however involuntarily – a “conversation” between the two exhibit texts, between their creators, and between their affiliated audiences. That exchange – which is still evolving – formed a microcosm of post-cold war narrative conflict in U.S. culture, centered around the symbol of Los Alamos.³

Theoretical Issues

Overall, this analysis is influenced by three interdisciplinary projects connected by a concern with organizational symbolism. The first, nuclear criticism, holds that

³ Somewhat arbitrarily, I am bracketing events that are still developing. My focus here primarily involves events occurring in 1992 and 1993 as this conflict commenced. I plan in subsequent reports to focus on more recent events, and on the similarities between this dispute and the related controversy over the Smithsonian National Air and Space Museum’s *Enola Gay* exhibit. See note 5 below.

institutional discourse about nuclear weapons should be ethically evaluated in order to decenter the dominant voices of technical rationality and militarism that have historically controlled their meaning (Chilton 1985). Ideally, this evaluation can transform nuclear debate to include marginalized voices, and to develop previously unconsidered policy options (Schiappa, 1989; Shapiro, 1987). My goal here is to contrast the situated meanings and practices of these opposing nuclear groups, and to consider the consequences of their narratives. Those narratives are viewed as elements of a larger, cultural conversation in which nuclear "utterances" historically anticipate, engage, displace and transform each other (Mehan, Nathanson and Skelly 1990; Taylor 1992).

The second project involves critical study of nuclear museums as discursive sites that reproduce cultural myths about history, science and technology, and that promote various corporate and ideological interests (Learner 1979; McMahon 1981; Tillson 1993; Wallace 1981). One critic (Kirstein 1989: 45) has described these museums as "border[ing] on overt propaganda" in their depictions of the Soviet Union, of the motives and operations of U.S. defense institutions, and of the actual-historical and potential consequences of nuclear war. The recent conflict between historians, curators and veterans' groups surrounding the Smithsonian Museum's exhibition of the *Enola Gay* aircraft (and a separate but analogous conflict in Japan involving a "revisionist" war museum; Hammond 1995) suggests how, as the fiftieth anniversary of Hiroshima approached, museums functioned as arenas for simmering conflicts about the nature and moral meaning of nuclear history. Nuclear-themed museums became highly-agitated and polarized zones of "interanimating" narratives that embodied the "voices" of patriotism, nationalism, professionalism, and also their opposites (Bakhtin 1981). My goal here is to analyze how competing readings of the BSM text construed its formal qualities as evidence for arguments regarding power relations between nuclear authorities and citizens. These formal qualities included certain emphases in tone, patterns of imagery and language, and contradictions and omissions.

The third project involves critical study of organizations as sites of conflict between multiple stakeholder discourses (for example, of investors, labor, regulators, and environmentalists) struggling to legitimate their respective interests as the dominant principles of organization. Communication theorists Stanley Deetz (1991) and Dennis Mumby (1988) have elaborated a model of organizations which emphasizes how the representation of competing interests is often distorted by hegemonic codes condensing power, money and instrumental rationality. One area for critical study involves the symbolic struggle between dominant and marginal interests to define what is good, true, normal and possible in organizational practice, and to determine whose logics are privileged in that process. Because nuclear weapons are a terrifying condition of contemporary culture, they simultaneously demand *and* defy management by powerful discourses of national security and secrecy. Interpretive studies of nuclear weapons organizations and their communities (see, for example, Krasniewicz 1992) suggest that these sites form rich opportunities to study the conflict between hegemonic and oppositional interests. Here that conflict was conducted through symbols of organizational history and purpose.

Methodology

I draw here on ethnographic data gathered from a variety of sources. Between May and August, 1992, I conducted approximately 180 hours of participant-observation with BSM employees, principally during their staff and exhibit-development meetings. I also conducted approximately 40 hours of observation with LASG members and an affiliated group of Santa Fe activists during their planning and exhibit-development meetings. This affiliated organization was known as "People for Peace" (henceforth, PFP). It had evolved from a group that protested against the Persian Gulf War to become a "support group for activists busy in their own work . . . a Crockpot to allow thoughtful stewing over ideas. . . [and] a place where everyone can be heard" (Bird 1995: 19). The PFP organization was relevant to this study because LASG and PFP membership overlapped, and because PFP and LASG members would often combine to conduct various environmental and peace "actions." While PFP's mission was broader than the LASG's, its members frequently talked about LANL, and in so doing clarified an oppositional discourse encoded in the LASG exhibit. All of these sessions were documented in fieldnotes, and in analytic memos that clarified relationships among problematic events to facilitate inductive and emic explanations of these scenes (Anderson 1987; Lindlof 1995). Additionally, I conducted and transcribed 19 audiotaped interviews with current and former BSM employees, and with related LANL employees, regarding their interpretation of the Museum and its depiction of nuclear history. Other data were also gathered through a review of various BSM and LASG organizational documents (such as job descriptions, memos, fundraising and news letters, meeting minutes and film scripts), as well as relevant extra-organizational discourses (such as newspaper articles and legal decisions).

All of these data were reviewed and coded for recurring themes that suggested how each group meaningfully ordered nuclear actors, motives, objects, events, and communication itself (Carbaugh 1988). Particular attention was given to statements about the specific symbols "Bradbury Science Museum" and "Los Alamos," as well as nuclear history in general. Initial claims regarding the groups' interpretive "frames" (Benford 1993a) and "constructs" (Pacanowsky and O'Donnell-Trujillo 1982) were verified through subsequent observation and interviewing, and through triangulation among data sources. These claims were modified to account for conceptual overlap, negative instances, counterexamples, and member-checks on their validity (the latter of which were gathered during follow-up visits and debriefings with the groups in December, 1993 and August, 1995). Exemplars were developed from fieldnote and interview data to support claims about the significance of identified constructs for each group.

Data analysis revealed the influence of three opposing constructs in communication within and between the two groups: *pacifism/nuclearism*; *dialogue/monologue*; and *fact/narrative*. Collectively, these three oppositions suggest important dimensions on which the Laboratory/Museum and peace-activist groups differed in their narration of nuclear history. The groups were not simply competitors: their discourse reflected deep differences in epistemologies, premises, and preferred modes of address (Downey 1986: 366). Following a brief synopsis of events surrounding the development of the LASG's

alternative exhibit, I discuss each of these oppositions in turn. Each specific construct, I emphasize, served as an organizing principle for other, related themes reflected in the discourse of group members (for example, in the way that the LASG/PFP construct of "pacifism" subsumed the narrative theme of "embodiment"). Additionally, the constructs did not operate in isolation, but reinforced each other (for example, in the way that a belief in "facts" encouraged LANL and BSM personnel to view "monologue" as the appropriate form for communicating nuclear history). Below, I discuss these constructs, and their utility for understanding cultural conflict about nuclear history.

Three Sets of Opposing Constructs in the Representation of Nuclear History

Synopsis. Eric Moore,⁴ one of the founders of the LASG, first learned about the California court decision regarding the LLNL Visitors Center exhibit in 1991, while he was performing consulting work for a Bay Area activist group. He petitioned LANL officials in June, 1992 for permission to mount a similar exhibit in the BSM. LANL authorities were reluctant to grant this request. They challenged the legitimacy of such an exhibit, and were generally overwhelmed by the chaos involving transformation of LANL's post-Cold War mission and structure (Browne 1991; Zamora 1992).

The BSM professional staff were no more enthusiastic. During this period they were busy revising outdated exhibits, were designing new ones reflecting the rapidly changing environment of LANL work, and were preparing to move the Museum to a new facility in downtown Los Alamos. The ensuing controversy formed a significant, but not exclusive, concern in their daily routines: "You can't have winds of change," one staff member reflected later, "when you have dirty bathrooms." The LASG exhibit was unique, however, as a potential threat to their professional autonomy and expertise. They worried about the LASG's aesthetic standards, about the potential for "offensive" and "graphic" excess in their exhibit, and (presciently) about the problem of regulating "gatekeeping" for other groups seeking access to the BSM. With ambivalence, the staff noted rumblings from local figures (such as Laboratory retirees) who hinted they might create a *counter*-exhibit that would rebut the LASG's "alternative" message.

Development of the LASG exhibit progressed amid local media debates about other LASG actions, such as the release of a report challenging LANL's progress in "conversion" to non-military missions. During this process, LASG members enlisted the BSM director, Jim Street in a reluctant collaboration. While negotiating with the LASG, Street had his hands full mollifying the Museum's patriotic hosts, who vehemently opposed the LASG exhibit. Most of the hosts firmly held beliefs which have been characterized as elements of an "official" narrative of nuclear history (Bernstein 1995): that the atomic bomb had been heroically constructed and justly used against a vicious wartime enemy; that it had prevented further loss of Allied and Japanese lives resulting from an imminent invasion of mainland Japan; that it had been correctly used to inhibit

⁴ The events depicted in this study involve organizational politics that potentially place my informants at risk. Anonymity was a condition of their frankness: all names have been changed, and occasionally speakers' identities have deliberately been obscured.

evil Soviet expansionism during the Cold War; and that it was still required to deter evolving threats to U.S. national security (such as the development of ballistic missile technology by “rogue” states like North Korea).

Most LASG and PFP members, alternately, held the following, opposing beliefs: that, because of Japan’s waning military strength and tentative peace overtures, dropping the Bomb had been unnecessary to secure U.S. military victory; that using the Bomb on largely civilian populations had been vengeful and “barbarous”; that U.S. officials had at some level intended the bombings to deter Stalinist expansionism into Japanese territories and Eastern Europe; that planning the nuclear destruction of the world as a solution to ideological disputes was irrational and immoral; that the cold war arms race had caused grievous harm to the U.S. and world economy, to the environment, and to the human psyche; and finally, that nuclear weapons organizations would resist converting to post-cold war missions such as “technology-transfer” to corporate clients.

The LASG exhibit was completed in time for the opening of the BSM in its new location in April, 1993. Installed along a special wall, the initial exhibit contained a series of panels focusing on topics such as a proposed comprehensive nuclear test ban treaty, environmental conditions at U.S. nuclear weapons complex sites, the opportunity costs of the arms race, and the regrets expressed by former nuclear scientists about their work. These panels were subsequently replaced during the summers of 1993 and 1994 by an exhibit created from materials loaned to the LASG by the Hiroshima Peace Memorial Hall. These materials included controversial photographs depicting the incineration and irradiation of Hiroshima residents, and the destruction of the city’s infrastructure. An exhibit caption explained that such images “poignantly illustrat[e] the folly of pretending that scientists need not concern themselves with moral issues or the application of their work by society.” The BSM, it charged, “has been built and lavishly funded to counter the deep ambivalence . . . with which our society regards the achievements of Los Alamos.”

Opposition #1: Pacifism/Nuclearism. Used here, “pacifism” describes an ideology in PFP and LASG cultures that opposed war based upon the inherent value and equality of all human life. These two groups were typical of many SMO’s in their integration of anti-militarist, anti-imperialist, and internationalist beliefs. For most members, the use of military force and imposition of rule were unacceptable solutions to problems affecting groups and nations. Greater cooperation, alternately, would reduce and eliminate conflict (Kleidman 1993). Many members, additionally, displayed “neocounterculturalist” (Epstein, 1991) integration of these (and related Marxist, feminist and environmentalist) beliefs into disciplined lifestyles of frugality and moral witnessing. Group performances were ecumenically spiritual in their selective integration of Judaeo-Christian, Zen Buddhist, Hindu and Islamic beliefs that privileged the sanctity of human life over sectarian creeds and sacred texts. Although many members maintained “cordial civility” in their interactions with opponents, they also displayed a variety of *personae* including alarmism, righteous anger, solemn melancholy and spirited senescence (see Lofland 1993: 117–122). One PFP member deserves special mention here: a homeless schizophrenic, his occasional appearances at Los Alamos (after walking 40 miles from Santa Fe) dressed in work boots and an old wedding dress provided a carnivalesque critique of local norms.

Feminist beliefs, such as opposition to “male” practices of hierarchy, competition and aggression, were central to this construct. Alternate practices of collaboration (for example, in conflict resolution), and authenticity (matching expressions to the truth of one’s experience) were valued, if not always achieved. One example of feminism’s influence involved the claim expressed in one PFP meeting that men were largely “in denial” about the nuclear threat, and underrepresented in the peace movement. A connection between achieving peace and transforming traditional gender-roles was central to this construct; group members often mentioned that nuclear authorities have traditionally been white males. Because pacifism is potentially erotic (or life-affirming), this milieu had a distinctive, equalitarian sensuality as well: members frequently hugged and touched each other supportively. This sensuality appeared to heighten members’ sensitivity to sex roles: some men wrestled, for example, with ambivalence about homosociality as they hugged each other, and also explored non-sexualized intimacy in hugging women.

Internationalism was reflected in member discourse about the connections that they perceived between national and international events, and their own personal struggles for meaningful relationships (for example, with estranged relatives). Metaphors of “web” and “family” were often used to describe feelings of empathic connection to distant people and conditions, and a desire to achieve peace and justice. The slogan “think globally, act locally” summarized members’ commitment to “human values” while recognizing their own limitations as agents of change (see exemplar below).

Pacifism was performed both in the *content* of LASG/PFP discourse (for example, in opposition to U.S. troop deployments abroad) and also in its *form*. Reflecting a belief that the (inter)personal is the political, group meetings were frequently conducted in an organic, leaderless fashion using rotating facilitators and ground-rules. These rules (such as “no crosstalk”) sequenced the (often emotional) contributions of speakers in a democratic and evolving, non-linear fashion that ensured against domination by a single speaker or disagreement. Even when not formally employed, the holistic spirit of this format pervaded discussions. The contrast between this format and LANL’s hierarchical culture became apparent one day when the president of a Los Alamos community group telephoned Eric Moore. When the caller asked to speak to the LASG’s “leader,” Moore replied somewhat disingenuously, “We don’t really *have* a leader.” The caller reportedly became nervous and declined an invitation to meet with the LASG as a whole body. A subsequent series of meetings between peace and Los Alamos groups arrived at an impasse when members of the latter balked at speaking in this format. One LASG participant attributed this resistance to their preference for “debating the data” in a linear, oppositional format.

LASG members performed pacifism as they developed their exhibit. They challenged the claim – preserved on a BSM wall plaque – of one former LANL Director that nuclear weapons had contributed to worldwide “peace” during the Cold War by citing conventional and “by-proxy” superpower conflicts in developing countries (such as Angola). They partially attributed these conflicts to inequitable distributions of wealth created under international capitalism, and to the resource-draining arms race. They claimed that the BSM reflected an unexamined and, in the words of one member, “very powerful premise that this culture *needs* weapons.” They wished to emphasize, one member said, how “people are having experiences everyday in their homes and in their

lives where they resolve things peacefully, without violence.” Additionally, they wrestled with the issue of how to oppose the BSM and LANL narrative structures in a peaceful manner. One of their goals was to leave employees and visitors with a heightened sense of personal responsibility for the nuclear condition, but they also ran the risk in this process of alienating these targets. Drawing on a Quaker discourse, Eric Moore proposed a calm, deliberate tone for the exhibit: “I think it’s possible to speak truth to power without being hostile. This is the whole essence of nonviolent action.”

Related constructs of sensuality and embodiment also emerged in the LASG’s pacifistic critique of the BSM. The Museum appeared to them to be a sterile, lifeless and “eerie” place where “cold” technology was “worshipped.” In this environment, they felt, the peaceful body that was attuned to life-affirming energy was threatened. “You come out of that museum feeling *embalmed*,” said one member, a writer. “Absolutely dead, silenced . . . It just leaves you with no feeling, no humor.” Another member drew a vivid analogy between visiting the museum and night terrors: “It’s like when you wake up at night and you lose your ability to distinguish proportion. You lose all perspective. *And you feel like you have a really big head* in relation to the rest of your body.” Alternately, LASG members hoped, their exhibit would re-embodiment the issue of nuclear weapons for visitors – ground it in somatic truths of mortality and sensation. Partially in jest, one member proposed “hav[ing] a real live human being in the exhibit . . . someone to pop out every half hour and just start laughing hysterically.” Another proposal – connected to the theme of accountability – involved placing a full length mirror unexpectedly in the middle of the exhibit: “*This is who is threatened by nuclear weapons.*”

All of these related elements worked in contrast with the LANL and BSM construct of *nuclearism*. I use this term to describe the cultural ideology of organizations involved in the production and use of nuclear weapons. Developed by Lifton and his associates (Lifton and Falk 1991), and others (Ungar 1992), nuclearism describes a variety of phenomena associated with “psychological, political and military dependence on nuclear weapons . . . as a solution to a wide variety of human dilemmas. . .” (Lifton and Falk 1991:xix). These writers hold that this dependency is both ironic (we embrace what terrifies us in the hope of securing its dangerous power as “protection”) and psychologically destructive (it leads to widespread denial and “numbing”). This dependency also leads to the creation of “a set of supportive social arrangements” (Lifton and Falk 1991:257) – including roles, rituals and organizations – facilitating the development and use of nuclear weapons. Critics hold that these institutions draw on and reproduce hegemonic ideologies such as militarism, nationalism, capitalism, technological determinism, and bureaucracy. Critics also argue that these arrangements heighten the risk of global annihilation, degenerate democracy through secrecy, and subvert Third World economies (Stegenga 1988; 1991).

While nuclearism has been specifically used to analyze the culture of nuclear weapons professionals (Lifton and Markusen 1990), it is also a controversial analytic device. Gusterson (1993) argues that as a psychological construct, nuclearism has questionable utility for studying cultural and political phenomena. Additionally, he argues, it is an attribution of pathology that reinforces the existing defensiveness of nuclear elites, and the liberal bias of ethnographers. Other concerns about the concept include its precision (it encompasses both dedicated warriors and anxious citizens), its identity (its difference

from its constitutive ideologies), and its sensitivity for depicting the historical evolution and complex variety of nuclear-weapons cultures. Studies of nuclear weapons plant workers (Gallagher 1993; Loeb 1986; Mojtabei 1986), scientists (Broad 1985; Gusterson 1992; Rosenthal 1992; Taylor 1990, 1993a) and strategists (Cohn 1987; Kaplan 1983; Kull 1988) indicate that there are both similarities and important differences in organizational (and local community) members' identification with pro-nuclear ideology. This identification is mediated by variables such as structural proximity to an organization's weapons mission and its technical/production core; the location of tasks in the cycle of weapons production; occupational-subcultural membership; religious and ethical beliefs; gender; social class; and regional identities. Because of these concerns, my application of this construct here is qualified.

LANL and BSM employees – particularly the BSM hosts – displayed nuclearism in placing a high value on “a strong defense,” and on the potential need for military solutions to international political problems facing the U.S. as a nation-state. Most LANL employees did not *perceive* themselves as militaristic, however, because the terrifyingly destructive potential of nuclear weapons appeared to have *prevented* a direct superpower conflict during the cold war. In this way, paradoxically, the warlike nature of these weapons was so effective as to be noncontroversial. Nuclear weapons were seen by the BSM hosts as primarily *defensive* weapons, or, in the words of one, “I don't think it should ever be used as an *offense* . . .” This claim evoked potential challenges, however, that the U.S. had already used nuclear weapons offensively in 1945; that under the conditions of Mutually Assured Destruction, distinctions between “defensive” and “offensive” weapons were ambiguous; and that despite declared intentions, the speed, numbers, accuracy and operational targeting policies of U.S. nuclear forces suggested pro-active, war-fighting intentions to enemies and allies alike (Nolan 1989).

Underwriting this pro-nuclear sentiment was conventional wisdom expressed by the BSM hosts that LANL had relatively less responsibility for the use of nuclear weapons – and for Hiroshima and Nagasaki in particular – because it had “only” designed them. “Someone else,” they repeatedly emphasized, had used them. The BSM's operations manager punctuated narrative events through use of an analogy: “We see the dropping of the Bomb as the end point of our display . . . We kind of designed the cannon. The museum does not tell what the social results are of firing the cannon.” This ethical distinction, in turn, evoked challenges that compartmentalized work was not necessarily innocent work, and that structural and ideological boundaries between “military” and “scientific” personnel at wartime Los Alamos had been porous. Los Alamos personnel such as (future Laboratory Director) Harold Agnew accompanied and were instrumental to the atomic bombing flights (Rhodes 1986, pp. 705–706).

Comments made by the BSM hosts and staff also indicated the influence of nationalistic and bourgeois-capitalistic ideologies. These “particularistic” (Wertsch 1987) comments frequently characterized the activists as unpatriotic and illegitimate because of their non-traditional lifestyles, and because of their naive beliefs about international cooperation. The activists were perceived as either rich and idle (and thus ignorant of “how things really work” in corporate- and state- craft), or un(der)employed (and thus non-productive citizens). Some hosts expressed suspicion about the LASG's

sources of funding (although the words “foreign” or “Communist” were never stated explicitly). As traditional wage-earners, some hosts saw the activists as frivolous and alien. The activists’ stated professions and occupations (such as “artist”) were dismissed. The activists were negatively stereotyped as “vocal,” “flower-children,” “know-nothings,” “peaceniks,” “over-reacting,” “extremists,” “emotional,” and “crazies . . . acting like a dog with a bone.” Because the activists were not full, traditional or enthusiastic participants (some were tax protestors) in the nation’s economic system, they were seen as questionable.

These positions suggest how many of the BSM employees viewed the Bomb through nuclearist frames of patriotism, militarism, nationalism and capitalism. These frames justified the historical construction and use of nuclear weapons, and their subsequent integration within U.S. culture and foreign policy. These frames also formed a conceptual ground against which the BSM employees were able to recognize the LASG and PFP activists as “Other.”

Opposition #2: Dialogue/Monologue. For the LASG, their exhibit represented a single but important turn in their ongoing “conversation” with LANL about the history and future of its operations. While this conversation had been difficult to open and maintain, members believed that it served the public good by allowing affected groups to participate in organizational decision-making. Ideally, the presentation of claims and evidence in these arguments would be truthful and undistorted, and participants would be able to question and refute opposing arguments. This commitment to dialogue, and to expanding LANL’s symbolic “universe of obligation” (Gamson, 1995), reflected the LASG’s “universalistic” and inclusive punctuation of the nuclear condition.

The exhibit accelerated the development of this relationship, however, as a forced intimacy – a requested accommodation that LANL could not refuse under the LASG’s threat of lawsuit. The LASG thus perceived a tension between the risks of – in the words of one member – “shoving it down their throats,” and of failing to capitalize on this important opportunity. Ivie (1987) has diagnosed the failure of anti-nuclear rhetoric that reflects “de-civilizing” of the enemy back towards Americans themselves. With luck, LASG members believed, they could “speak truth to power” without alienating the BSM staff, whom they viewed as potential allies. Ideally, the exhibit would further an ongoing, constructive relationship with LANL, and enhance the LASG’s reputation as a legitimate stakeholder.

Exchange with LANL personnel, however, was not simply a dry or technical debate for the activists. It was also a spiritual matter between mutually threatening groups engaged in the practices of (literally) life and death. In communicating with BSM and LANL officials, the peace activists balanced their commitment to authentic relationships with their anxiety and cynicism. Eric Moore, for example, would occasionally grow despondent about LANL’s intentions: “The Laboratory has discredited itself and lied to me so many times that I’m not really optimistic The Lab has been and always will be a weapons-oriented facility.”

LASG members also discussed the possibility that LANL would renege on its implied consent to installation of the alternative exhibit. They were not sure, they agreed, if they could trust LANL, and made contingency plans for betrayal. It seemed that they were

stunned by LANL's grudging and implied consent, and simply could not stop waiting for the other shoe to drop.⁵ Each partner in this conversation projected powerful fears and stereotypes onto the other. For the peace activists, as the following episode shows, one goal was to talk through the visceral force of those stereotypes, and potentially achieve mutual understanding.

During the summer of 1992, the LASG sponsored a public forum on LANL "conversion" from weapons-work to alternative missions. Here, at a PFP meeting following this forum, a woman named Martha shares her reaction to one of the LANL speakers who had participated. Her performance of this reaction is animated, and her hands rise into the air with the pitch of her voice.

"There was a point where he said that the [U.S. nuclear] testing program was SAFE, and I don't know, I JUST WENT BERSERK INSIDE, I COULD NOT CONTROL MYSELF! And there I was, raising my hand, but it was a good thing that the light was shining in the moderator's eyes [group members laugh], because I DO NOT KNOW WHAT I WOULD HAVE SAID, I JUST DO NOT KNOW!!"

"And so, after a while I got myself calmed back down, and my voice went back to normal, and I decided – and this was VERY SCARY for me – that I was going to have to go up . . . and talk to him. Because when anyone punches all of my buttons like that, I feel that I have a relationship with that person, and I've got to try and work on that. And so I did, I went up to him, and I wanted him to see this film that I had seen on [U.S. nuclear tests conducted on] Bikini [Island], and I wanted to tell him what I felt about that movie, *and I wanted him to know me.*"

"And so we agreed," she finishes. "We made a date."

The other group members nod knowingly and approvingly. One woman reaches over and, smiling, begins to massage her shoulders. Another woman tells Martha how moved she was by the story, but also offers a warning: "I think I would just caution you that maybe it's best that you do not go alone to this meeting, that you go with a friend, or someone who can support you, because it's clear that he was very powerful for you and I think you should be careful about that power."

The peace activists, then, were ambivalent about dialogue. While they desired it as a means of increasing public knowledge and of toppling the nuclear monolith, it was also risky. To open oneself fully to the fear and violence believed implicit in nuclear weapons-work might threaten a fragile spirit. In varying degrees, the activists appeared to accept this as an inevitable cost of achieving desired social change, and personal growth. Additionally, it is important that as a fixed text, the exhibit did not create immediate, collaborative and reflective dialogue between human speakers. Even if it contributed to "duelling monologues," however, it was viewed as an important tool for educating the public.

⁵ These suspicions were later confirmed in 1995 when the Museum and Laboratory reasserted control over the alternative space to allow members of a reactionary community group to install a counter-exhibit that rebutted LASG claims. Although LASG members consented to share one-half of their space with this group, they were angered that LANL had apparently reneged on its promise that the space would be dedicated to anti-nuclear critiques of shortcomings in the BSM text, and that the LASG would retain control over gate-keeping. The BSM and LANL position was that a strict interpretation of "free-speech" did not permit them to restrict petitioners for the space based on the content of their views, and that they had not formally committed to those specifics. Strategically, the reactionary group claimed that its exhibit – which justified the 1945 bombings based on the savagery of the Japanese enemy and the imperative of saving American lives – did in fact express views not explicitly emphasized in the BSM. Subsequent debate between the groups has centered on the following issues: 1) whether the reactionary narrative is an "alternative," or an "amplification" of the BSM text's dominant ideology; 2) the exact nature of the initial agreement between LANL and the LASG regarding the alternative exhibit space; and 3) the appropriate interpretation of 1st Amendment and California legal precedents for managing this forum. The LASG members were not reassured that the LANL lawyer advising the BSM on this matter was also a founding member of a reactionary group designed to counter LASG success. This reaction demonstrated Glass' (1993: 106) claim that SMO victories against nuclear hegemony are likely to be "fragile, hard to predict, and even harder to repeat."

The activists were also concerned about another risk involved in the dialogue: that posed to LANL “boundary-spanners” such as BSM director Jim Street, who were mediating their relationship with suspicious senior LANL management. The activists knew that sympathetic LANL employees were caught between a rock and a hard place: the LASG continually prodded their social conscience, yet as these employees warmed to the alternative exhibit, they risked becoming “contaminated” in the eyes of LANL authorities. LANL was indeed experiencing its own form of *glasnost* in the summer of 1992 (demonstrated, for example, in cooperation by LANL Public Affairs staff members with news organizations in their development of stories about the Laboratory), but its operational limits varied within different organizational units. “If any extremity of the Lab gets infected with our presence,” Eric Moore reflected sadly, “it gets cut off.” As a result, LASG members tried to cultivate contacts to their advantage without jeopardizing the careers of those individuals. For Jim Street and others, “handling” the LASG exhibit formed a dangerous career opportunity: it was closely watched, second-guessed, and evaluated by internal monitors as a sign of competence and organizational loyalty.

While the activists favored dialogue, most BSM staff and hosts were not as enthusiastic or hopeful about this process. Initially – and not surprisingly – many were hostile towards the prospect of having the LASG exhibit in “their” museum. Their comments reflected a number of different arguments that defended against this perceived threat, and re-secured the BSM – at least in principle – as the authoritative site of the official nuclear-historical narrative. These arguments reflected a desire to maintain the relative *monologue* which that narrative had enjoyed within the BSM.⁶

The following interaction between two BSM staff members suggests the character of such arguments:

On the evening of the LASG-sponsored forum on LANL conversion (discussed above), Rebecca and Gary are sitting on a wooden deck between the two office trailers that house the BSM professional staff, observing the fading workday. Soon, they will get ready to go into town to hear the debate. Gary is drinking coffee poured from an old, battered thermos. Rebecca is standing in the doorway of one trailer, speculating about how the forum will go. She is more pessimistic about its value than Gary, who gently prods her.

“We have to open a dialogue with these people, Rebecca, or else it’s going to be a contentious situation.”

“What dialogue?” Rebecca replies. “*What dialogue?* There’s not going to be any dialogue! There’s no middle ground here. How can there be any middle ground? These people are extremists. They want the complete elimination of all nuclear research.”

⁶ This is not to suggest that the BSM staff and hosts did not face challenges to this narrative. The BSM had in fact served as a site of protest – such as pagan “cleansing” rituals – by anti-nuclear activists. Almost all of the hosts could recount angry exchanges with visitors who objected to the exhibit content. Such reactions, however, were relatively anemic and infrequent, were discouraged by the potential appearance of LANL security forces, and were usually perceived by the Museum staff as extreme and “unreasonable.” Museum employees conceptualized the majority of visitors as having a pleasant – even if challenging, due to the highly technical nature of the exhibits – experience. Superficial observations of the BSM guests tended to support this official interpretation. As is common in most museums – and particularly in a self-guiding museum such as this one – visible reactions to the exhibits were generally muted and respectful. Even a cursory review of the Museum’s guest book entries, however, suggested a range of oppositional reactions – many from foreign visitors – that visitors chose not to share with the hosts. Such reactions – and equally passionate defenses – were becoming increasingly frequent during the period of this study, as the continued viability of LANL was opened to question.

"Eventually," Gary concedes, picking his words carefully. "But they're realistic enough to know that it's not going to happen right away."

"No," Rebecca disagrees. "No way. It's like being a little bit pregnant. There's no way that you can do a little bit of nuclear research." She says that the protestors should be in New York at the [1992 U.S.] Democratic Convention, "talking to Clinton . . . We – you and I – HAVE NOTHING TO DO WITH THE NUCLEAR WEAPONS PROGRAM HERE AT THE LABORATORY!"

"But we do have something to do with its exhibition," Gary replies.

But Rebecca does not seem to hear his point.

"They should be talking to [the LANL Director]," she says, cynically. "I just work here, man."

Arguments made by BSM personnel opposing the LASG exhibit reflected several logics. Arguments from *professionalism* held that competing points of view in a museum would "confuse" visitors, who did not have "the tools" to resolve ambiguity. As one staff member put it, "I don't go to museums to have a fight with my husband." A related argument held that visitors "might get sick" if they were shown graphic images of nuclear casualties. Museum professionals, BSM staff members believed, had a responsibility to "protect" visitors from such presumably damaging experiences. Advocates of professionalism claimed to know the will of the museum-going public, and how to serve it. People already *knew* about the Hiroshima casualties, one staffer reasoned; they didn't want to *see* them, too. *Legalistic* arguments held that freedom of speech did not necessarily entitle the LASG to protest inside the BSM – or as one host drew an analogy, "there aren't any exhibits in the *Pentagon!*" *Generic* arguments held that the BSM was a *science* museum, and thus was not required to debate history. Arguments from *anachronism* held that LASG rhetoric described a Laboratory that no longer existed, and had been rendered obsolete by LANL progress in conversion to post-Cold War missions. *Patriotic* arguments held that – in the words of one host – "the Lab has *nothing* to apologize for, and should *not* be forced to give up space to vilify itself!" *Expansionsistic* arguments linked controversial issues in the BSM exhibit text with parent or associated concepts: "Well then," argued one host, "we should apologize for *cars*, too, and *all* of technology." "If we show atrocities," said another, "then we'll have to show *everyone's* atrocities, including the Japanese." This strategy sought to diffuse the specificity of LASG claims by creating a larger context of events that they were logically obliged to engage. Finally, *ad hominem* arguments attacked the character and worth of the LASG members: "They're just like *insects*" said one staff member. "They're always there, but they're not important. They can't affect policy. *They don't COUNT!*" Sometimes, these evaluations were less direct, as when the founder of a reactionary Los Alamos group complained that "there aren't enough *real* people" participating in public hearings on Los Alamos affairs (such hearings were often marked by activist discourse; emphasis mine). In general, these arguments functioned to neutralize LASG claims by depicting them as inaccurate, invalid, or irrelevant.

It is important to note that these sentiments were not universally shared among BSM personnel. At least two staff members welcomed the exhibit as an opportunity to expand dialogue about issues of nuclear history. Jim Street, for example, sensed which way the political wind was blowing (even if faintly or temporarily), and worked diligently to "sell" the exhibit to the hosts. His strategy involved presenting it as an "opportunity" for

the hosts to demonstrate their support for the “messy” and “in-your-face” value of democracy that U.S. (and other Allied) soldiers had officially fought and died for in World War II. Knowing his audience, however, Street also sprinkled this message with bravado (“We won’t like this, but I’m not the least bit afraid of this. It’s a bloody free country, after all!”) and ambivalence (“I’m still not convinced, though, that the Museum is the best way to get their point across”).

Finally, the prospect of a *counter-exhibit* constructed by conservative Los Alamos residents and LANL employees inspired hopes of successfully defending against the LASG. In this strategy, the LASG’s “alternative” statements would be rebutted; their claims to legitimacy and veracity would be weakened. In this way, it seemed that proponents of this exhibit both welcomed *and* feared dialogue. On the one hand, their proposal promised yet another turn in the ongoing conversation about the nature and moral meaning of Los Alamos history. The instantaneousness, however, with which this strategy occurred to LANL conservatives (“I think we should form a *Santa Fe* study group!”, quipped one) *even prior to their actually viewing the alternative exhibit* suggested that their motives were also defensive. There was a marked similarity between this proleptic strategy and the compulsive, hyper-vigilant and mirroring character of the nuclear arms race (see Rubenstein, 1989). It suggested a possible future “exhibits race,” replete with “pre-emptive displays.” The function of “replying” for this group seemed to be premised on a win-lose model of debate that would vanquish the LASG as a legitimate speaker.

In general, these defensive strategies interacted to reinforce the frame of “monologue” – a belief that the BSM should resist the opportunity for reflexive and critical dialogue about LANL’s history and mission that was offered by the LASG. LANL and BSM speakers appeared resolved that – if forced into such an exchange – they should primarily work to correct the errors of their opponents.

Opposition #3: Fact/Narrative. This third and final opposition involves the differing *epistemological* stances adopted by LANL/BSM and LASG interests towards interpreting nuclear history. Specifically, their positions in some ways mirrored contemporary historiographical conflict between the epistemologies of “Old” and “New Historicism” (Kellner 1987; Porter 1988). LANL interests in this debate often adopted the position of traditional, positivist historiography: that there is an essential truth independent of human agency or interpretation contained in the raw data presented by the past. That truth was believed to be inherent in historical events, objects and people as “fact” – the self-evident, empirical essence of their being. Candidate historical representations subsequently conformed to or deviated from that truth, and could be judged by their correspondence to “the facts.”

This position was explicit in the discourse of LANL officials, who frequently cited the “facts” of nuclear history, and warned the LASG to hew to them in their exhibit. In one letter, for example, a senior LANL manager described the BSM mission as “represent[ing] . . . Los Alamos in a clear and *factual* manner. This means we need to avoid *opinion*. For example, the [first atomic bomb] test took place July 16, 1945. That’s *fact*, not opinion. Our objective is to convey what took place here, when and why” [emphasis mine]. Official, positivist belief in the certainty of listed, nuclear-historical facts – perhaps unsurprising in a culture of physical scientists – was so strong that some

LANL authorities wondered what, if anything, the LASG had to add to the conversation: "I'm not sure how *opinions* held by your organization will be in conflict with the material we present" [emphasis mine]. Having identified and displayed the universe of possible "facts," this speaker suggested, LANL had left no discourse for others to offer save speculation. This "decontextualized"⁷ field of nuclear history appeared "defeated" in this official discourse – both secured and exhausted. Such beliefs were also expressed in the subsequent formation of two Los Alamos groups designed to counter LASG success. One, the Responsible Environmental Action League, took the term "REAL" for its acronym. The other, the Los Alamos *Education* Group, seemed to adopt a didactic stance in its name that positioned the Los Alamos *Study* Group as subordinates petitioning for correct knowledge.

In this view, history appeared as a chronological succession of events whose meanings were both commonly accessible and certain. The very occurrence of those events seemed to render their meanings transparent and irrefutable: "History is history, so how can there be a counter-view to historical matters?" asked one LANL manager. In practice, this discourse constructed the BSM as the faithful "reflection" of nuclear history. The LASG members were seen as illegitimate by the BSM hosts because they were "ignorant about the facts." The BSM was alternately believed to have portrayed things – in the words of one host – "as they happened." "The history was simple," insisted another. "We had a task, and we did it." For them, the exhibits captured events as they actually occurred in "real life." "We show how the weapons work," said one host. "It's a factual thing."

This perspective was destabilized during the period of this study, however, by a number of factors. One involved the rapidly deteriorating validity of the BSM exhibits: their signifieds (such as a monolithic and strategically threatening Soviet enemy) no longer existed. Another involved the citation by the LASG of competing "facts" which challenged key BSM themes of LANL progress, openness, and rationality in nuclear weapons development (such as the small number of U.S. nuclear tests that *actually* involved safety and reliability experiments designed to better manage the existing arsenal, compared with the official claim that testing was *primarily* conducted for these purposes; Stern 1992).

The LASG's accusations of "absence" and "bias" in the BSM exhibits did suggest to some employees the workings of an historical-ideological agency that had influenced the selection and arrangement of certain, possible facts *as* the current BSM text. This reflection gradually made explicit cultural knowledge about the exhibits that employees had shared but had rarely discussed – their "open secret." A few BSM employees, it is important to note, saw no bias whatsoever in the exhibits. "They do a pretty good job of depicting things as they were," said one host. "I don't see the museum as *having* a point of view," said the operations manager. Taking the term at its most literal meaning, one host reasoned that "we're not *exactly* biased. We don't promote *using* the weapons."

Most, however, were willing to concede that the exhibits' designers had exerted some

⁷ I hesitate in using Wertsch's (1987) term. As indicated in the hosts' remark that LASG claims needed to be evaluated in light of Japanese savagery, it is inaccurate to connote that the activists' discourse possessed context while that of LANL personnel did not. The question is of course *which* context (patriotic nationalism, abstracted rationality or ethical pacifism) was privileged by which speakers for which audiences, when, and with what outcome.

degree of strategic manipulation over their formal elements to achieve a desired impression. The tone of those concessions differed widely, however. Some hosts had been troubled by the perceived bias all along: "You know," said one, "if they did a content analysis of this place, visitors would see that 'Gee, this place is all weapons!'" Jim Street conceded that the exhibits did reflect implicit assumptions, such as the priority of the nation-state over international cooperation. One exhibit designer also agreed that they offered a soothing and possibly patronizing message to visitors: "Greater minds [than yours] are working on these issues."

Other hosts, however, did not feel apologetic regarding the exhibits' alleged bias: "It's not like the museum is *proselytizing*," said one. Some hosts were blasé: Yes, one agreed, the exhibits were biased to "our side," but since the LASG exhibit was going to be biased too, "So what?" "Of course it's biased!" said another. "It's *our* museum!" Several BSM employees agreed that the BSM was in fact a "corporate museum" and thus was *entitled* to be biased. "We're not a true museum," Jim Street said in a moment of candor. "We're a company store." Another host reasoned that "you wouldn't expect the people who make Valium to tell their customers that it's bad for them" – that it could be "fatal" if taken in certain doses. "We're a company museum," echoed another. "We're showing the best that the company has produced."

Other staff members were more troubled by this image, however, and managed an enduring tension in their work between creative freedom, personal ethics and organizational loyalty. One of the writers described the tension this way:

"I know that [the exhibits] are biased. This is a corporate museum. I know that. And so I wonder if we are in fact obligated to depict all points of view. I mean, let's take the General Motors museum as an example. That's a corporate museum, and you don't go in there expecting to see exhibits about environmental damage from auto exhaust, or about poor safety records."

"And so, I think the crucial issue that's never been answered here is, Who does this museum serve?" If it serves the Laboratory, then its function and guiding message are clear. We're not required to represent all points of view, and we don't necessarily have to accommodate requests for other viewpoints.

"But if it serves the public, then that changes things. I mean, we are a taxpayer-funded institution, and you and I are paying indirectly for those exhibits. And so I wonder to what extent we're required to open things up . . ."

It would be incorrect here to say that the LASG was not similarly concerned with certain knowledge. This was partly because the group had developed clear "diagnostic" frames (Benford, 1993a) that identified problems and concerns in LANL operations. These frames created a "counter-realism" (Taylor, forthcoming) of nuclear facts which members used in "educating" various audiences (such as politicians). LASG discourse also reflected, however, the influence of an alternate, anti-objectivist historiography holding that historical events do indeed "happen," but that they are incomplete until they are endowed through narrative with meaning and value (White 1980). This perspective questions the political conditions under which "truth" is produced as an effect of historical narratives (for example, through the tradition of favoring written documents – and thus the sentiments of the literate classes – as historical evidence). It has recently been used by critics to show how institutions create an "official" historical record and naturalize its meaning, thus perpetuating power imbalances between nations, genders, classes and ethnic groups (Lipsitz 1990).

Accordingly, LASG members *did* recognize the arbitrariness and political role of

“fact” in LANL’s historical narrative, and tried to slip its constricting net. Continuously, they emphasized the connotations and ritual significance that established BSM exhibits as symbolic texts. This hermeneutic is summarized in the following description by Eric Moore:

[The] Museum does not just portray history. It *makes* history as well, in two senses. First, how we see the past determines our [current] reality, what narrative we are in . . . Second, it determines where we go from here; if there is no regret there is no moral course for the future . . . Everything in the museum is more than a fact – it is part of a mandala, ritually arrayed like a sand painting, a hologram of the universe, and it channels an intention. It is a prayer – among other things a prayer for money . . . It is the somnambulant narrative of the nuclear age, which we interrupt with a call to the bright day, to our brothers and sisters around the U.S., and the real work.

Descriptions such as these were opposed to LANL’s insistence on the exhibits’ apparently natural, literal and denotative meanings. They were complemented by discussions among LASG members about the ways in which LANL narratives of positivism and empiricism were inappropriate, amoral guides for navigating nuclear-social reality. One member described these narratives as “a classic case of crackpot realism: they want you to believe that this is the way it is, and they’ll insist and insist until you do.” Occasionally, the perceived transparency and dubiousness of this perspective formed a source of humor for the activists:

At an LASG exhibit-development meeting, one member, Anne, tells the group, “I was just in [the Museum] yesterday.” She seems angry and excited at the same time. “It was so positive and light! There’s this video in the back on nuclear testing. It’s really incredible! It says “Nuclear tests are as important as ever.” There’s this music coming out of it. Later, I recognized that it was a military march I used to know. It’s just on a military high!”

Another member, Gretchen, reacts to this description sarcastically, and invokes LANL’s official criteria for the LASG exhibit. “But that’s just not *factual!*” The group members laugh.

“That’s propaganda,” Walter says.

“It’s the facts that are important to *them*, anyway,” Stu offers, smiling.

Despite this sensitivity to arbitrariness and contingency, LASG members did not seem willing to completely abandon the *idea* of fact. As mentioned, they passionately believed in the validity of their own claims and evidence, even as they recognized the political struggle involved in their publication. As activists, they appeared committed to restoring the nuclear-historical record to a fullness of documentary evidence and interpretive claims which they believed represented its integrity. This view was relatively sophisticated in its sensitivity to symbolism, but fell short of a giddy, postmodern belief that such arguments were *always* and *only* narrative in nature (or, after Derrida 1984, “fabulously textual”).⁸

⁸ See Hunter (1991) for a related description of “orthodox” and “progressive” discourses in contemporary culture that similarly differ in their attitudes towards history. The mappings of LASG to “progressive,” and “LANL” to “orthodox,” however, are not perfect. Hunter argues for instance that it is progressives who value scientific rationality, while the orthodox value the literalist interpretation of scripture. The relevance here is that while the relationships between fundamentalist discourses (both political and religious) and nuclearism have been mapped among some classes of nuclear weapons workers (Mojtabai, 1986), the relationships between nuclear-scientific rationality and orthodox historiography, to my knowledge, have not (at least not fully).

Conclusion: Remembering Los Alamos

This case-study has depicted the practices of nuclear memory, as they were inscribed and performed at a particular site during a specific cultural moment. Used here, “site” involves both the actual Los Alamos that existed during this period, and the ongoing debate over its historical meaning for U.S. culture. Los Alamos is both a place and a story, and those planes intersected powerfully at the Bradbury Science Museum. There, during the summer of 1992, the traditional narrative of Los Alamos faltered due to international events. In its preferred meaning, that narrative had served to “anchor” the ideological drift of cold war nuclear experience (see Zelizer 1995). Critical and revisionist⁹ interests subsequently intervened in an attempt to regain control over that narrative, and elicited a powerful backlash from its keepers.

In studying this struggle, I have tried to address questions such as: How do nuclear symbolism and ideology operate in public discourse? What are the different modes of organized remembering that characterize cultural activity in the nuclear age? Viewed in this light, Los Alamos forms an opportunity to explore the politics of nuclear culture. It is a “theoretically knowable but actually unknown historical story” (Carmichael 1993: *xiii*) giving rise to cultural texts that are themselves polysemic, and that form the site of public controversy. The construction and interpretation of these texts serve particular agendas, and incorporate the highly charged symbols of other institutions such as the military and science. The BSM was semiotically dense in this regard, and demonstrated Katriel’s (1993: 71) claim that: “It is in this broader dialogic context of cultural struggle over narrative production that particular museums weave their ideological tales, attempting to gain visitors’ adherence to particular visions of the future by claiming cultural authority over the presentation of preferred versions of particular – albeit “museumified” – pasts.”

The BSM also formed a rare opportunity to study interaction *between* nuclear elites and activists (see also Krasniewicz 1992). Nuclear elites typically do not desire such relationships, and protestors often presume that developing them will be futile (Lofland 1993: 125). There have been few studies of facility-dedicated anti-nuclear SMO’s (see Blain 1991, for an exception), of the organizational dilemmas associated with promoting nuclear development (Useem and Zald 1982), or of the adaptation of symbiotic pro-and anti-nuclear groups to the cold war’s end. Viewed in this light, the LASG exhibit represented an unusually deep and significant penetration by an SMO into hegemonic nuclear terrain. The cheekiness of this action elicited rhetorics of both nuclear insurgency and counter-insurgency. Analysis of this rhetoric indicates how conflicting nuclear groups mobilize their members around diagnoses of the Other, around prescriptions for resolving problems, and around articulations of common identity (Benford 1993a; 1993b). Here, the BSM formed a symbolic medium through which otherwise more direct conflict could be conducted.

This study has focused on both the form and the content of this framing discourse, emphasizing elements such as preferred modes of address, forms of legitimation,

⁹ This term has been demonized by conservatives as the subversion of established Truth. I use it here to describe opposition to a hegemonic narrative which has itself been analyzed as a defensive revision of historical events (Lifton and Mitchell 1995).

epistemological premises, and ideological productivity. In addition to extending knowledge of anti-nuclear SMO's (see also McRea and Markle 1989), this study supports existing descriptions of ideological elements in nuclear weapons cultures: the vilification of dissent; the reification and naturalization of deterrence logic; the use of binary oppositions to organize complexity; the rationalization of potentially catastrophic consequences of work; strong resistance to graphic and iconic depictions of nuclear "victims"; the existence of nuclearist subcultures that inhibit organizational change; and a general tendency towards using language for the purpose of instrumental control (Hales 1992). As such, it indicates that obituaries for the "righteous, inflexible, proselytizing, paranoid [cold war rhetorical] vision" (Bormann, Cragan and Shields 1996: 25) may be premature (its demise is at best asynchronous within and across institutions), and that the current tension between progressive and regressive forces should be studied at the organizational level (see Friedman 1993). It also indicates that while the Bomb may totemically unite the American people in a climate of permanent emergency (Glass 1993) anti-nuclear SMO's can disrupt its ideological fog by addressing particular institutional agents and events.

Despite their serious ideological conflicts, it is important to note that the LASG and the BSM members shared a commitment to the sacredness of memory. They defied together the ahistoricism of post-modern culture, which some critics attribute to pernicious terror of the Bomb itself (Lasch 1986). Whether numb or dumb, North American culture in the early 1990s had to some extent forgotten both Los Alamos *and* Hiroshima. Each group had a heritage that it wished to save, and the BSM unexpectedly accommodated both.

The politics of each heritage, however, were very different. Both possessed an epideictic component: the LASG wished to commemorate the official and "unofficial" victims of nuclear operations, while the BSM generally wished to honor U.S. casualties in World War II, and the victims of cold war Soviet expansionism. The BSM memory served to keep the United States *mindful* of the cost of protecting "freedom," *vigilant* for the next threat to that freedom, and *girded* to pay that cost. The LASG members, alternately, believed that nuclear victims must be remembered not only to prevent the repetition of their destruction – perhaps on a global scale – but also to *atone* for their deaths. This need for at-one-ment was for them made urgent by the conditions of Mutually Assured Destruction, by risky nuclear-reactor technologies, and by escalating nuclear proliferation, which potentially bound *all* citizens of the world to the victims of Nagasaki, Chernobyl, and Oklahoma City. In this way, the LASG seemed to follow Perlman's (1988: 79) recommendation that, "Taking a hint from the reality that there is no defense from the nuclear bomb, we should seek shelter not *from* but *with* the disfigured images of nuclear horror, housing them in memory, bringing them home."

This, then, may be the ethical criteria which distinguishes each group: what sort of future is likely to emerge from the form of memory that they practice? The post-Cold War debate over U.S. national security needs is likely to turn on oppositions such as those explored in this paper, and on the images of safety and risk which they generate. This paper has demonstrated the role of cultural memory in producing such images, and the role of organizations such as the BSM and LASG in maintaining their authority. It has also demonstrated the enduring productivity of the "the nuclear weapons

organization” in post-Cold War society as a symbol that organizes reflective dialogue about the development and use of nuclear weapons. Continuing the dialogue between these forms of memory will, hopefully, prevent the nuclear “obliteration of places treasured, loved, and inhabited by soul” (Perlman 1988: 158).

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