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Nuclear Shelters and Moral Convictions: An Investigation into Princeton's Debate over Nuclear Fallout Shelters in the Early 1960s

Princeton University is home to some of the most historic aspects of the atomic age. With many Princeton scientists contributing greatly to the Manhattan Project, Princeton served as a key location for the development of nuclear research. However, remaining largely not discussed in the conversation around nuclear weapons and their history at Princeton University are the nuclear fallout shelters built around the campus and community. Nuclear warfare dominated the psychology of American society for the duration of the Cold War. Until the Berlin Wall fell, much of the American population worried about nuclear warfare and actively sought ways, such as fallout shelters, as means to feel prepared. During the 1960s, all across the United States, the idea for places of refuge that would protect Americans during a nuclear attack arose. Promoted by the government as the best way to survive a nuclear attack, many Americans endorsed the idea of a nuclear fallout shelter. Life magazine in January 1962 featured a photo and article about nuclear fallout shelters entitled, "The Drive for Mass Shelters: New Facts You Must Know About Fallout." A Nobel prize-winning physicist and Princeton Professor, Eugene P. Wigner, tried to convince many that a network of underground tunnels would be the best solution to building long-term shelters.[1] And, so concurrent with the rise in interest in nuclear fallout shelters and the timeline of the Cuban Missile Crisis of October 1962, Princeton's community,

[1] "Wigner Seeks Bomb Shelters Beneath Cities," *Daily Princetonian*, Vol 89, No 119, November 4, 1965.

including the University and the surrounding township, began to discuss the possibility of developing nuclear fallout shelters.

The town of Princeton quickly became divided and engrossed in the subject. All through 1962, nuclear fallout shelters were the concentration of much dialogue, argument, and thought for Princeton residents. It became the political issue of the town, as many newspaper front pages, question columns, and op-ed sections were devoted to discussion of nuclear fallout shelters. A Princeton professor is reported to have said, "This is all you ever hear in the faculty lounge." [2] Some of Princeton supported the fallout shelters as shelters for the entire community. Others still supported the fallout shelters, but as shelters for only Princeton University students and faculty. Even others still entirely opposed fallout shelters. Nuclear weapons raised ethical and moral questions that had never been raised before. Did the residents of Princeton have an obligation to protect themselves by any means, such as building fallout shelters? Or, did that action invite or even compound the horror of nuclear weapons? The weight of these questions was unprecedented in history. The debate of building a fallout shelter would never have the same weight if it were in response to normal conventional weapons. People's perspectives on nuclear shelters reflected their own ethical stances due to how the nuclear shelter debate hinged on principles of morality. The town of Princeton debated these questions through forums and dialogues over the question of nuclear shelters from the fall of 1961 through fall of 1963.

In September 1961, a group from Princeton University's faculty was selected by President Goheen for the creation of the Committee on Fallout, a committee devoted to discussing the benefits and disadvantages as well as the moral implications of constructing

[2] John W. Fischer, "Letters Stir Conflict On Shelter Program," *Daily Princetonian*, Vol 86, No 8, February 12, 1962.

nuclear fallout shelters. [3] They served as the guiding force in implementing the nuclear fallout shelters around Princeton. They drafted the original plans for building nuclear fallout shelters, and all the shelters were on Princeton's campus due to their influence. This plan would have been quite an undertaking for Princeton University. Overall, the renovations from this plan were estimated to cost around $120,000 and take six months to complete. [4] In current USD (2019), that amount would be equivalent to over $1 million. [5] The shelters would be able to house 5,000 to 8,000 people according to one report and specifically 6,000 to another report, with the variation in estimates due to which sites were selected. [6] [7] There were 12,000 residents within the township of Princeton in 1960, and many more in surrounding counties, who would likely come to shelters constructed at Princeton University. [8] So, a network of shelters would only be able to host less than 50% of the population that would be seeking protection in the event of a nuclear disaster. This information fueled the debate over whether the shelters would be worthwhile to complete, and if they were completed, who would be the intended recipients.

The shelters on Princeton University's campus that were proposed in a plan during February, 1962 were a selection of 23 buildings that would be able to function as reliable and sturdy nuclear bunkers. These proposed shelter locations were what are now parts of Mathey and Rockefeller residential colleges, including Holder Hall, Hamilton Hall, and Madison Hall; the upper-classmen dormitory, 1901-Laughlin Hall; Dillon Gymnasium; McCarter Theater; what are now parts of Wilson and Butler residential colleges, including 1915 Hall, 1938 Hall, 1939 Hall,

[3] John M. Jones, "Shelter Space Open To All; Faculty Convictions Vary," *Daily Princetonian*, Vol 86, No 9. February 13, 1962.
[4] Peter B. Carry,"Shelter Proposals Ready for Goheen," *Daily Princetonian*, Vol 86, No 4, February 6, 1962.
[5] CPI Inflation Calculator.
[6] Carry,"Shelter Proposals Ready for Goheen."
[7] Jones, "Shelter Space."
[8] Census of Population and Housing, New Jersey, U.S. Census Bureau, 1960.

Dodge-Osborn Hall, and Wilcox Hall; Guyot Hall, and the laboratories below it; McCosh and Dickinson Halls; Firestone Library; what was Palmer Physical Laboratory at the time; Green Hall; the original Julis Romo Rabinowitz Building and Louis A. Simpson International Building; parts of the Engineering Quadrangle, including buildings A, B, and D; and a section in the Graduate College. From other newspaper clippings and notices, parts of the Forrestal Research Center, Eno Hall, University Cottage Club—one of the eleven eatings clubs on Prospect Avenue and although technically not a property of the University it is very deeply connected to the school and embedded in the campus—and potentially even the Chapel were also all suggested as fallout shelter locations.

Many members of the community were against the construction of fallout shelters and against the Committee's recommendations for the 1962 plan. In a newspaper commentary many Princeton residents expressed their lack of confidence in fallout shelters through their responses to the chosen column question, "From what you have read and heard about the effects of a possible nuclear attack, are you any closer now to building a family fallout shelter than you were a year ago?" James Esposito, the owner of the Princeton Service Station, said, "No I don't believe in [fallout shelters]. They wouldn't do any good. To me, it's just a lot of talk, and nothing else. It's just something to make some contractors a lot of money. If you are going to die, you are going to die." [9] James Stewart, a bricklaying foreman from Mercerville, said, "I don't think a shelter will be the answer. I feel there is no answer. I'm sort of fatalistic about it but this is the way I feel. Let's be sensible about this thing." [10] In fact, all the people interviewed for the question column said that they were against nuclear fallout shelters simply because they believed

[9] "Question of the Week," *Town Topics*. Princeton. April 1, 1962.
[10] Ibid.

they were a waste of money, resources, and effort and that they provided a sense of false hope instead of addressing the actual issue of nuclear weapons.

Members of the community stressed that by focusing the population's attention on the debate of nuclear shelters, people would become distracted from the real issue at hand: nuclear weapons. Mary Vulgen, a resident of Princeton wrote, "It seems to me that the very basic issue has been forgotten" in a newspaper letter titled "Education, Not Shelters." She argued, "Since 1948, when the Soviets acquired the atomic bomb, nuclear war became obsolete" and now "there is a balance of power, or a balance of terror," thus reflecting how the war had become psychological rather than physical. She wanted to focus resources on the education of the younger generation rather than instilling a false sense of security and accepting the inevitability of nuclear warfare. She concluded by saying, "Therefore, we should not spend our money and energy on building the nuclear shelters which we will never use, but rather spend it on the education of our children so as to enable them to fight the ideological 'wars' of the present and future." [11] Her argument was shared by many of the anti-nuclear activists as a way to resolve the larger issue of nuclear weapons rather than just trying to implement a strategy to mitigate the damage of nuclear warfare.

However, despite the argument against nuclear fallout shelters, there was a strong stance held by those who supported fallout shelters. They argued that it was in the best interest of the township to build nuclear fallout shelters, as President Kennedy had advised and as much of the United States was doing already. They wanted to follow suit and do what they could to protect themselves from nuclear disaster. A collection of 120 academics from Princeton University and

[11] Mary Vulgen, "Education, Not Shelters," *Brunswick Pike Town Topics*, 11 March 1962.

68 from Rutgers University wrote an open letter to President Kennedy published in the *Town Topics* in favor of the national program of building fallout shelters. They began their letter by stating, "We believe that the President and Congress of the United States are acting in the best interests of the American people, and of all the free people of the world, in supporting a national shelter program." [12] They argued, "In the event of a thermonuclear attack, many would perish because of needless absence of a protective shelter. Nobody knows how many lives would be lost in a nuclear war. But we do know that more lives would be saved." [13] Supporters continued on to say that it is "not lack of provocation that has kept our civilization intact" but rather that it "has been the American policy of refraining from actively using our atomic bomb monopoly against Soviet Russia and then adhering to a tacit balance of power system, once the Soviets became a nuclear power." [14] Their argument rested on the platform of mutually assured destruction and deterrence theory that shaped the psychology of many Americans during the Cold War.

Additionally, Dr. Wigner argued in defense of nuclear fallout shelters saying that they did not provide a false sense of security, but rather, they offered adequate protection in preparation for the possibility of nuclear war. He wrote, "We can believe that the shelter program is worth-while without a false sense of absolute security" because it would better to be prepared for the worst rather than to hope innocently that it would not occur. [15] He also utilized his academic standing to present himself as a reputable source for the scientific statements against nuclear fallout shelters, saying, "Some of the authoritative-sounding statements are incorrect or grossly

[12] "AN OPEN LETTER TO PRESIDENT KENNEDY" *Princeton Town Topics*, February 11, 1962.
[13] Ibid.
[14] Ibid.
[15] Eugene P. Wigner, "MAILBOX: Dr. Wigner Backs Shelters." *Princeton Town Topics*, March 11, 1962.

exaggerate the acknowledged limitations of Civil Defense," and that the damage of a hypothetical nuclear bomb from the Soviet Union would not be nearly as devastating as anti-nuclear shelter advocates stated. [16] Following this logic, the shelters would provide adequate protection from a nuclear explosion over New York City or Philadelphia, and thus the community should build shelters as a means of protection. Not that he was necessarily right about disputing the facts given about how safe a shelter actually would be, but his gravitas as an esteemed Princeton scientist gave weight to his opinion on the veracity of statistics provided in the anti-nuclear shelter arguments.

But even among those who supported the argument for fallout shelters, there was a dilemma that split the group into two: those who supported Princeton University's construction of fallout shelters for the faculty and students only, and those who supported the movement for the entire community. Ultimately, when the Committee decided to move forward with the creation of nuclear fallout shelters, the residents of Princeton shifted the dialogue from whether to build the shelters or not, to whether they should be for the public or for the University. Publically, the Committee supported the idea that the shelters should be open to all, but their planning says otherwise. [17] The original plans seem to be intended for Princeton University students and faculty only. Dr. Wheeler, a professor in Princeton University's physics department and a member of the Committee, said in favor of building the shelters,"It shouldn't be too terrible for us to build shelters for our students," revealing that the students were their priority and whom they had in mind as the committee discussed the fallout shelters. [18] All of the original shelters planned by the Committee were on Princeton University's campus. Although that was

[16] Wigner, "MAILBOX."
[17] Jones, "Shelter Space."
[18] Fischer, "Letters Stir Conflict."

understandable because the Committee would know the buildings the best on their own campus rather than within other schools or churches around the community, their planning reveals favoritism towards their own population. While this position would have been publically hard to defend, in that it connotes a sense of superiority felt by the members of Princeton University and specifically by those on the Committee, many proponents of the shelter program cited students as their motivation, not the larger community of Princeton. Wheeler argued that fallout shelters are a necessary part of "the responsibility of the University to the students," stressing the students, not the town. [19]

The Committee felt it necessary to publicly declare that their intentions to build fallout shelters would be for the public and not just the University's members after facing some negative responses and inquiries from the town. John Jones wrote in a newspaper article dated February 13, 1962 that the Committee's most recent recommendations "call[ed] for any shelter space to be available to anyone at all on a first come-first served basis." [20] His article, entitled "Shelter Space Open To All; Faculty Convictions Vary" highlighted how the Committee wanted to publicize their decision to open all shelters to the community. The Committee adamantly stated that they had two unanimous convictions about the nuclear fallout shelter designs: "First, that a residential university has a moral responsibility for the health and safety of its students." [21] Princeton University, along with Harvard, Yale, Brown, and MIT were among the first institutions to begin discussions about nuclear fallout shelters. [22] Then, "Second, that, beyond that responsibility, in a national emergency it has a moral obligation to share its facilities, to the extent of its capacities,

[19] Jones, "Shelter Space."
[20] Ibid.
[21] Ibid.
[22] Fischer, "Letters Stir Conflict."

with the public at large. To this extent the members of the committee are agreed." [23] Princeton University, in order to proceed with the plans for nuclear fallout shelters had to find a way to not only provide shelter for the students and faculty, but also to provide access or proximity to shelters for the larger community.

This dilemma of who should be able to take refuge in, or rather, who would have physical access to the shelters was ultimately solved by building more shelters around the larger Princeton community. Around 30 or more locations around the town of Princeton were refurbished and stocked to serve as nuclear fallout shelters for the community. In this way, the University and the town worked together to create a resolution. The University's locations on campus were not strictly for students and faculty only, but with the existence of other shelters, most community members would go to those rather than the ones on campus. The buildings located around Princeton township that were designated shelters as of October, 1963 were Princeton High School, Nassau Street Elementary School, St. Paul's School, Miss Mason's School, The Hun School, Columbus Boychoir School, First Presbyterian Church, Aquinas Foundation, Our Lady of Princeton, the post office, Township Hall, the Textile Research Institute, Princeton University Press, Van Nostrand Company, 20 Nassau Street, the Peacock Inn, the YM-YWCA, the Speer Library, the Campus Center, Tennent Hall, North Hall, and Symington House. [24]

The locations that were selected and ultimately transformed into nuclear fallout shelters around Princeton's campus were Holder Hall, Hamilton Hall, Madison Hall, 1901-Laughlin Hall, Dillon Gymnasium, McCarter Theatre, 1915 Hall, 1938 Hall, Dodge-Osborn Hall, Wilcox Hall, Guyot Hall, Firestone Library, McCosh Hall, Dickinson Hall, Frick Chemistry Building, Palmer

[23] Jones, "Shelter Space."
[24] "45 Buildings are Designated and Stocked as Fallout Shelters," *Princeton Herald*. October 2, 1963.

Physical Laboratory, Green Hall, E-Quad areas, the Graduate College, Cottage Club, Eno Hall, and Forrestal Research Center. [25] So the actual shelters created were the ones in the proposed plan of 1962, except 1939 Hall, Julis Romo Rabinowitz Building, and Louis A. Simpson International Building were omitted and the Frick Chemistry Building was added. All these buildings were refitted to serve as nuclear bunkers during 1963. The federal financial budget of $169 million allocated by Congress in 1962 for the development of nuclear shelters helped to fund and to stock these Princeton shelters with "federally-furnished supplies, such as food, water and sanitation, medical and radiological kits, sufficient for the designated capacity" as well as to mark them with "shelter signs affixed to the exterior of the buildings chosen." [26] [27]

The likelihood that a fallout shelter in Princeton would even help someone in the event of a nuclear disaster is debatable. Situated only 50 miles from both New York City and Philadelphia, Princeton would most likely be destroyed in a nuclear attack on either city. Using the speculated attempts from Arthur Mendal in his letter against fallout shelters, five 20-megaton bombs or one 100-megaton bomb would destroy Princeton. [28] According to NukeMap.com, a Tsar Bomba 100-megaton bomb dropped on either New York City or Philadelphia would create such a strong and devastating blast that all of Princeton would be in the third-degree burns radius, as well as the air blast radius of 1 psi, which would cause light damage to the town's infrastructure. A 20-megaton bomb dropped around the areas of New York City or Philadelphia have the potential to hit Princeton, depending on their accuracy of location; only 20 miles off the centers of each city, a 20-megaton bomb would hit Princeton with third-degree burns radius and

[25] "45 Buildings," *Princeton Herald*.
[26] Andrew Glass, "JFK urges Americans to build nuclear bomb shelters Oct. 6, 1961" *Politico*. October 6, 2017.
[27] "45 Buildings," *Princeton Herald*.
[28] Arthur Mendel, "Fallout Shelters - Why I Oppose Them" *The Daily Princetonian*, February 19, 1962, 2.

an air blast of 1 psi. The shelters chosen were concrete and brick buildings, and so they would have withstood an airblast of 1 psi. Anyone inside would likely survive, but those caught outside would be severely injured or killed from the burns and falling debris from lighter material. Thankfully never tested in real circumstances, people would have had to survive the initial blast(s) with minimal injuries or at least be in good enough condition to be mobile. Then, they would have to move from their origin to the shelter, counting on the hope that the shelter was not already full to capacity. Then, they would have to stay in the shelter until the fallout had passed and the area had been decontaminated. The shelter would have to be fully stocked and prepared in order to handle the refugees seeking the shelter, a set up that would require constant maintenance of the shelters. The refugees would already have been contaminated by the blast from the radioactive blast and would need to be decontaminated. Princeton Township had built around 50 shelters in the area, and most would have been able to handle the influx of people but it would have been difficult to keep all these shelters in prime condition.

In fact, Princeton residents quickly lost interest in nuclear shelters as time passed without a nuclear disaster. The lack of support and maintenance of these fallout locations led to their dilapidation and disappearance from Princeton's awareness. By 1973, only a decade after their construction, residents of Princeton had lost touch with the fallout shelters. In an open letter in the op-ed letter section of the *Daily Princetonian*, a concerned Princeton University freshman named Ronald Mann wrote,"This ignorance is an outrage." He argued, "Every member of the Princeton University community should be appalled by this lack of protection. We should not let ourselves be caught with our pants down!" [29] Ironically, the implementation of fallout shelters in

[29] Gardners "Missing Fallout Shelters."

Princeton augmented the sense of safety and normalized the possibility of nuclear disaster. Posted on every dormitory door of Princeton University was an emergency plan for the students and faculty that stated, "A list of civil defense disaster procedures to be followed in case of nuclear attack," in the same way that there are fire emergency exit plans posted in current dormitories of Princeton. [30] It read, "Fallout may take one half hour or more to drift to Princeton from Philadelphia or New York. Gather supplies and proceed to the nearest shelter." So, students and residents over the decade since the shelters were first built lost interest and awareness of the shelters due to how mundane they had become. Ideologically, people became desensitized to nuclear weapons, and thus nuclear weapons lost their captivating power that they had in 1962 when everyone was obsessed with them. The shelters provided a way for people to become numb to the notions of nuclear weapons, just at Mary Vulgen had warned of and why she had argued for education rather than shelters.

Now, most of these locations around Princeton's campus serve as normal basements or have been refurbished for different purposes. Many of the basements of the halls in the residential colleges have been redesigned to be classrooms, more dormitory rooms, or common spaces. Dillon Gymnasium now features squash courts, a pool, fitness centers, locker rooms, and no nuclear fallout shelter facility. Palmer Physical Laboratory no longer exists, as it became Frist Campus Center, a building full of communal spaces, cafes, classrooms, and more, during a full renovation that began in 1998. [31] The Julis Romo Rabinowitz Building and Louis A. Simpson International Building have been deeply renovated recently and no longer serve as nuclear fallout shelters. University Cottage Club's basement hosts parties for Princeton students rather than

[30] Ronald Mann. "Missing Fallout Shelters," *Daily Princetonian*, Vol 96, No 142, January 12, 1973.
[31] "Laboratory Equipment" *Princeton University*.

housing nuclear fallout shelter stockpiles of supplies. Firestone Library completed a 10-year renovation in March of 2019, so all shelter materials have been removed, and the basement now houses more relevant items such as books and research. [32]

The fear of nuclear warfare influenced the very infrastructure and fabric of our society, influencing and even dividing communities through hypothetical thoughts. But as much as it divided the community of Princeton, it also created a space for collaboration between the residents and the University. The strong town dialogue around shelters ultimately fostered the cooperation between the town and the University in order to resolve a shared problem of what to do in the event of a nuclear disaster. Undoubtedly, Princeton University is a significant landmark in the Princeton community, and it can create both a sense that the town revolves around the University as much as it can divide the town into those affiliated with the University and those who are not. Through the discussions over nuclear fallout shelters, the community and the University came together to create a plan that would hypothetically provide access to shelter for all in the community, rather than just those within Princeton University. By building shelters all around the community and not just on Princeton's campus, the University acknowledged the importance and the existence of the surrounding township. The only ones who did not get their way were the ones who argued for no nuclear shelters to be built. Thankfully, since a nuclear attack never occurred during the Cold War, this entire debate is a moot point in our current day. And so although the Cold War era has passed and the arguments for and against nuclear shelters are bygone, we are still left with questions. If we as a society still had the mentality of the Cold War, how would the University address the event of a nuclear disaster now, with thousands of

[32] Barbara Valenza and Emily Aronson, "A new era begins at Princeton University Library," *Princeton University*, March 11, 2019.

students and faculty? Nuclear weapons have ideological and ethical weight that no other weapon does, as seen through the debate over nuclear shelters in Princeton Township, but their influence and prominence in our current society have faded just as the nuclear fallout shelters have fallen into oblivion in the public eye.

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Honor Pledge:

I pledge my honor that I have not violated the Honor Code during this examination.

I pledge my honor that this paper represents my own work in accordance with University regulations.