In *Bomb Scare: The History and Future of Nuclear Weapons*, author Joseph Cirincione argues in favor of the non-proliferation movement. Cirincione doesn't focus on explicit moral arguments, choosing instead to build his argument on the practicality of nuclear weapons, a line of reasoning most similar to a utilitarian argument (or an egoistical one if nationals are viewed as agents). Cirincione views the desire for nonproliferation as a given, and presents his arguments under the assumption that if non-proliferation is shown to be practical, any reader would be sure to agree that nonproliferation should be pursued. The practicality of nuclear proliferation is core to the conclusions of several philosophies, including utilitarianism, contractualism, and egoism. With these taken into account, nuclear weapons proliferation should not be viewed as a moral undertaking.

Before a full analysis of the moral implications of nuclear weapons proliferation can be undertaken, it is prudent to briefly study the facts and history of proliferation and antiproliferation sentiment. Nuclear weapons development came to a head during World War II, when the Allied and Axis powers both sought to develop a nuclear bomb, which they saw as essential to winning the war. When the Allies made the decision to begin development, they didn't initially anticipate using the bomb; instead, "they thought it necessary to have a bomb to deter German use" (Cirincione 19). Some historians argue that the eventual decision to use the bomb against Japan at the end of World War II was primarily made out of a desire "to intimidate the Soviet Union" (Cirincione 32), and not motivated by the conclusion that it was the swiftest and least-deadly way to end the war. The US-USSR rivalry continued through the Cold War, as both nations stockpiled enormous amounts of nuclear weapons. Under Kennedy's administration, and spurred by the Cuban Missile Crisis, work began on the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which was signed in 1968 by LBJ. Since then, changes in leadership have resulted in fluctuating nuclear arsenals, but with a trend towards decreasing proliferation. Cirincione identifies five primary drivers of and barriers to nuclear proliferation: "security, prestige, domestic politics, technology, and economics" (72). Each factor can act as either a driver or a barrier: for example, changing international sentiment towards nuclear weapons can move prestige from a driver to a barrier, or vice versa. Cirincione believes that if international policies "minimize the proliferation drivers while maximizing the proliferation barriers" (163), nuclear proliferation and the threats associated with it can be contained or even eliminated. Cirincione concludes on an optimistic note, stating that sentiment has been moving ever more in favor of non-proliferation. Bomb Scare was published in 2007, and as such is missing some modern context (for example, viewing North Korea as merely a potential nuclear state). More recent politics has begun a shift in the other direction, as Trumpian US politics antagonized the Iran Nuclear Deal and sentiment has swung towards militarism.

Cirincione's arguments frequently fall into the category of utilitarianism, with an emphasis on the success or failure of non-proliferation efforts. A utilitarian cares only about

whether proliferation generates more pleasure in more people, or whether non-proliferation better achieves that goal—in other words, only about ends (and not means). Two opposing central arguments about nuclear weapons are utilitarian, namely whether they aid in peace through the deterrence of mutually assured destruction, or increase the danger of a devastating conflict by raising the stakes of war. If nuclear weapons are effective in achieving the former, this is a point in favor of proliferation—if the latter, then this is a point against it. Cirincione's arguments attempt to demonstrate that nuclear proliferation is not an effective deterrent, and that non-proliferation is a more effective method for defusing global tensions. Of the five drivers and barriers, these arguments generally fall into the security category, as he argues that nuclear weapons increase international insecurity because "proliferation begets proliferation" (Cirincione 77). In other words, a single nuclear power does not remain unilateral for long, and a region of many nuclear powers is highly dangerous, resulting in "increased rivalry, greater friction, and quite possibly nuclear catastrophe" (Cirincione 138).

However, Cirincione largely skates over the risk of a treaty being ineffective, or a failure in international surveillance. If all nations agree to destroy all nuclear weapons and to never construct more again, this raises the incentive for a single nation to develop nuclear weapons. Leaders like Kim Jong Un of North Korea see nuclear weapons as essential to the legitimacy of their regime, and positions of power in the international community. A failed international agreement could leave one hostile nation in power, which would be a significantly worse position than now—akin to why the development of a nuclear bomb was seen as essential during World War II, to prevent a Nazi victory. Cirincione agrees that there must be universal agreement—specifically, that the US cannot appear "to be acting only in its self-interest" (Cirincione 177)—but that if "consensus of expert opinion, focusing the attention of senior officials, securing the necessary funding, and above all, securing presidential leadership" (Cirincione 179) can be achieved, such a goal is attainable. While that may be true, this argument ignores the fact that attaining all of those things may not be realistic. If a successful disarmament requires total international agreement, a utilitarian could reasonably argue such a goal is so difficult as to be impossible, and that therefore the world would be better off relying on deterrence, a strategy whose foundation lies on the reasonable assumption that nations will act in their self interest as far as it does not result in their own destruction. If enforcement can be achieved effectively—Cirincione suggests heavy restrictions on the production and distribution of materials needed to make nuclear weapons, and heavy sanctions on nations that break an agreement—then non-proliferation will decrease the risk of nuclear war to be negligible. He highlights successes in limiting the production of chemical and biological weapons to demonstrate that this possibility is not unattainable. He also describes the relative success of the NPT: at the time of publication, although 44 states had the means to pursue the development of nuclear weapons, less "than one-fourth of these nations have nuclear weapons or are attempting to develop them" (Cirincione 102). However, if enforcement and international agreement cannot be achieved—recent examples include the recent struggles with North Korea and an Iranian nuclear deal—non-proliferation efforts could do more harm than good by providing

disproportionate power to volatile, hostile states. Therefore, a utilitarian argument either in favor or opposition of non-proliferation is reasonable, and dependent on the efficacy of non-proliferation.

Viewed through the lens of contractualism, nuclear proliferation raises questions about what principles states can reasonably accept or reject in a shared international order. According to this framework, states, like individuals, are morally bound by rules that others could not reasonably reject if everyone were trying to justify their actions under fair conditions. This ethical model highlights a tension between the desire for fair, universal principles and the reality of unequal security conditions. Bomb Scare aligns most closely with a contractualist argument when it emphasizes the role of international norms, treaties, and collective security arrangements. The 1968 Non-Proliferation Treaty (NPT) represents a form of global agreement in which nearly every state pledged to abstain from nuclear weapons development in exchange for security assurances and the distribution of peaceful nuclear technology. This is an example of explicit consent, where nations agree to relinquish some rights in exchange for a mutually beneficial goal. However, the NPT was not entirely fair in its terms, emerging "from bilateral negotiations between the United States and the Soviet Union on preventing the transfer of nuclear weapons to states that did not already possess them" (Cirincione 52). The treaty recognized five nuclear powers, and while it committed them to reducing and eventually eliminating their nuclear arsenals, a large emphasis was instead placed on the prevention of new nuclear powers. While the US has decreased its arsenal from the signing of the NPT to present, it is far from removing it entirely. This is a criticism that Cirincione identifies as a point of contention for other nations, who would be reluctant "to accept more stringent nonproliferation obligations when nuclear weapon states are seen as failing in their commitments to disarmament" (Cirincione 187). For a contract to be enforced, both sides need to hold up their ends of the deal. States may not view it as reasonable to give up their nuclear production or subject themselves to increased scrutiny when large nuclear powers are reluctant to do the same. Even if "over time...the majority of governments came to view nuclear weapons as dangerous and unnecessary" (Cirincione 88), an international contract must be agreeable to all parties involved for nonproliferation to be achieved.

Contractualism presents a question regarding social contracts as well, rather than just explicit contracts. A government's primary contract is with the people that they govern— Enlightenment philosophy dictates that ultimately, governments derive power through consent of the governed. This connects to the concept of a global social contract to forward nonproliferation through the shared understanding that nuclear weapons create an unsafe global environment. If a national government shares the belief that nuclear-armed states create an unsafe world, then their contract with their citizens obliges them to pursue formal agreements like the NPT. The broad global consensus in favor of the NPT reinforces the idea that states have collectively and reasonably rejected the notion that every nation should possess nuclear arms. The Franck Report, composed by Manhattan Project scientists, similarly warned that using nuclear weapons or failing to seek international controls would undermine global trust and spur an "unlimited"

armaments race" (Cirincione 34). This early call for mutual restraint supports the view that international cooperation on disarmament is both a rational and moral imperative.

However, contractualism also reveals the moral challenge of asking vulnerable or isolated states to accept disarmament without meaningful guarantees. For countries like Israel and North Korea—surrounded by adversaries and lacking robust international security assurances—rejecting the non-proliferation agreement may not be unreasonable. If citizens in these nations reasonably believe their survival depends on nuclear deterrence, then leaders could argue they are morally justified (bound by a social contract) to protect them by any means necessary. This tension lies at the heart of contractualism's application to nuclear policy. While the framework can support non-proliferation in principle, it also demands reciprocal trust and enforceable security guarantees to make the agreement sustainable. As Cirincione notes, "Nations accumulate power to reduce insecurity, but they face a dilemma that too much power may cause other states to feel insecure" (Cirincione 80). Thus, the success of any global nuclear agreement hinges not only on the shared rejection of proliferation but on ensuring that no state is left vulnerable by its compliance.

Nations generally act in their own self-interest when it comes to international affairs; therefore, analyzing an egoist approach to nuclear proliferation is also a sensible endeavor. An egoist pursues the course of action that is most in their own self-interest, with disregard for the effect that this has on others. For a nation, primary motives are security and sovereignty, with other associated motives following from that. A nation can reasonably justify nuclear weapons if it sees them as essential to its security or sovereignty, but these can also be used as justification to oppose proliferation. For example, a nation that seeks to assert its authority over surrounding nations might find an initial increase in power (and therefore security) by developing nuclear weapons, but find the long-term effect to be a decrease in power and stability as tensions rise due to neighboring nations feeling compelled to develop their own weapons out of security concerns. When nations perceive that non-proliferation enhances regional stability and global legitimacy, they may reasonably accept its constraints. South Africa's decision to dismantle its nuclear arsenal in the early 1990s, and Libya's abandonment of its clandestine program in 2003, demonstrate cases where states judged that aligning with international norms better served their national interests. As Cirincione explains, "South African security was better served in a continent where there were no nuclear weapons than in one where there was a nuclear arms competition" (89). A nation or national leader might also find their security and sovereignty better secured with the support of the international community. If their nation's prestige falls, they could expect to see sanctions or other punishments, which could threaten the authority of the leader and plunge the country into chaos. Thus, as international sentiment around nuclear weapons changes, nations see their interests surrounding nuclear weapons development change to match. If international sentiment opposes nuclear weapons, states may relinquish them to avoid painful sanctions. Regardless of whether nonproliferation is good for the globe as a whole, a nation might decide to stop development of nuclear weapons for purely self-interested reasons.

In this way, like with contractualism and utilitarianism, egoism can endorse either the support of or the opposition to the proliferation of nuclear weapons.

Considering all of these factors together, nuclear weapons proliferation should not be viewed as ethical. All of the philosophies discussed previously hinge on the efficacy of proliferation: as a utilitarian, contractualist, or egoist, whether one supports proliferation or nonproliferation is dependent on the efficacy of nuclear weapons as a deterrent compared to the threat of nuclear destruction through hostility, terrorism, or accidents. Weighing these against each other, the risk of massive destruction is too great to ignore. The principle of deterrence through mutually assured destruction relies on the premise that detection is perfectly accurate, and all national leaders behave in a rational manner. Cirincione provides the example of a neardisaster in 1995, when "Russian forces mistook a Norwegian weather rocket for a U.S. submarine-launched ballistic missile" (Cirincione 131). Boris Yeltsin, the Russian President at the time, was just moments away from launching a retaliatory attack against the US, but concluded that the warning was probably a mistake. Such close calls, with such destructive consequences, are an unacceptable risk. On the other side of the equation, the efficacy of nonproliferation enforcement has historically been surprisingly high. For example, when inspectors returned to Iraq in 2002 after the imposition of harsh sanctions, they found that "the combination of sanctions and UN inspections had crippled" (Cirincione 104) Iraq's nuclear program. Nuclear weapons production is big, expensive, and hard to hide. With strong international cooperation and existing nuclear powers taking a leading role in nonproliferation, a peaceful and safe disarmament is possible. To invoke Kantian philosophy, while this is not a trivial endeavor, it is our duty to try.