The Vela Incident: A Product of Political and Nuclear Cooperation Between Israel and South Africa

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On September 22, 1979, American satellites observed a "double flash" indicative of a nuclear weapons test in the south Indian Ocean. The "Vela Incident," so-named after the satellite that detected the flash, was immediately described by nuclear experts as a joint Israeli-South African nuclear test.[1] However, a lack of indisputable physical evidence verifying the nuclearity of the event, coupled with the vigorous denials of the Israeli and South African governments, has limited an adequate scholarly analysis of the likelihood of Israeli-South African cooperation in the Vela Incident. This essay does not seek to prove that the Vela Incident was definitively a nuclear explosion. Instead, it investigates the likelihood of Israeli and South African involvement in the Vela Incident by outlining the states' growing political and nuclear cooperation in the fifteen years preceding the event.

My argument is presented in three parts. First, evidence demonstrative of the increasingly intimate relationship between the governments of Israel and South Africa will provide a foundation for a circumstantial argument outlining why Israel and South Africa likely cooperated to explode a nuclear bomb. Second, I analyze the development of Israel's policy of "nuclear opacity" and South Africa's policy of "nuclear ambiguity." Third, I examine how the ascendancy of these policies of opacity and ambiguity—coupled with a mutual respect for the norm against nuclear

[1] Richelsen, Jeffrey. "The Vela Incident: Nuclear Test or Meteoroid." *National Security Archive Electronic Briefing Book* 190 (May 5, 2006).

testing—determined both states' insistence on a clandestine, rather than overt, nuclear test.

Part I: Alliance

The 1960s were marked by a cool relationship between Israel and South Africa as Israel attempted to obtain support from the emerging post-colonial African states. Israel's African policy during the decade was successful, as many African states refused to support anti-Israel United Nations Resolutions.[2] In 1961 Israel supported the first UN resolution advocating sanctions against apartheid South Africa, a resolution that did not even enjoy the support of the West.[3] The South African government thought Israel's African policy hypocritical, since, as Prime Minister Verwoerd stated, "Israel, like South Africa, is an apartheid state."[4] Verwoerd saw South Africa's isolation in Africa as analogous to Israel's isolation within the Arab world. This strained relationship did not last long.

While the Six Day War of 1967 marked a warming in the relationship between Israel and South Africa, The October War of 1973 (Yom Kippur War) was the transformative event in the development of the Israeli-South African alliance. The Six Day War popularized Israel's image amongst South African leaders because the Israeli victory demonstrated the manner in which a smaller, besieged state could emerge victorious.[5] In the October War, many African nations broke diplomatic ties

[2] Joseph, Benjamin M. *Besieged Bedfellows: Israel and the Land of Apartheid.* (New York, NY: Greenwood P, 1988) 14.
[3] Ibid 12
[4] Ibid
[5] Joseph 12

with Israel when it crossed into Egypt.[6] Seemingly abandoned by its former allies, Israel responded to friendly South African overtures. South Africa included Israel in its so-called "pariah strategy,"[7] in which South Africa attempted to diversify reliance on the West by reaching out to other ostracized nations. However, despite South African attempts to establish an ideological alliance with the Israelis, the real backbone of the relationship was material.

The crucial factor in strengthening political ties between Israel and South Africa in the 1970s was military cooperation. This cooperation included commercial trade of military materials, as well as officer visits and joint military advising. Both states were obsessed with the procurement of military materials. Israel constantly had to renegotiate arms deals with allies, and France cut off military aid in 1968. United States military aid was usually contingent on certain political compromises.[8] Similarly, South Africa was at war in Angola and felt (like Israel) that a military defeat could spell the end of the state.

While the extent to which South African and Israeli leaders viewed themselves as marginalized on the international political stage is a complicated subject, the leaders of both states undoubtedly shared a similar sense of isolation. While one can certainly make the argument that neither South Africa nor Israel truly needed each other for military survival; nonetheless, both states viewed military cooperation as mutually beneficial. Israel and South Africa might not have needed each other, but they had no reason not to fully exploit such a productive military

[6] Ibid 22
[7] Moore, J.D.L. *South Africa and Nuclear Proliferation: South Africa's nuclear capabilities and intentions in the context of international non-proliferation policies.* (Hampshire: MacMillan, 1987) 124.

alliance.

In the 1970s, every Israeli Defense Minister along with numerous other officers visited South Africa to discuss arms sales and other endeavors.[9] Heads of state exchanged visits and always made sure to praise the close ties between their respective states. From 1963 to 1977, many states participated in a voluntary arms embargo against South Africa, though Israel and western states like France and Germany ignored the effort.[10] In 1977, however, the UN strengthened the international embargo significantly. The Israeli Prime Minister immediately announced that Israel would not "leave her (South Africa) to the mercy of fate," and the importance of military cooperation between the two states became even more significant. The Israeli-South African alliance continued unabated and involved cooperation in military strategy on the actual battlefield, as in Namibia, where over 200 Israeli officers provided strategic advice to South African units while hundreds of South African military personnel trained in Israel.[11]

The International Political Response to Israeli-South African Relations

The increasing political, military, and economic ties between South Africa and Israel soon made the relationship subject of international criticism and outrage. The UN condemnations of the relationship in the mid-1970s did not mention nuclear cooperation, most likely because international actors were not aware of such cooperation. In the General Assembly's yearly condemnation of relations

[8] In general, Israel demanded stronger security guarantees while the United States attempted to pacify Israel to avoid a conflict with the USSR in the Middle East.
[9] Joseph 44

between Israel and South Africa, the resolutions highlighted cooperation in "political, military, economic, and other fields."[12] The international community attempted to isolate South Africa to force the elimination of apartheid, so the publicized relationship between South Africa and Israel became the subject of increased calls for Israel to terminate this relationship. Only in December 1979 did the UN resolutions add collaboration in the "nuclear field" to its list.[13] Ironically, South Africa's "Pariah Strategy" had made Israel even more of an international outcast.

It is important, however, not to overestimate the effect of these UN resolutions, or overstate the supposed isolation of South Africa. Despite international resolutions condemning South Africa, many western nations continued to trade with the country unabated. German companies even traded sensitive nuclear technologies to South Africa, legally.[14] Furthermore, the country enjoyed substantial support in the International Atomic Energy Association until 1977, when it was ousted from the Board of Governors (against objections from the United States, United Kingdom and other western allies).[15] For decades, South Africa

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[10] Ibid.
[11] Joseph 47
[12] United Nations. General Assembly. Resolution 32/105 D. 1977. www.un.org/documents
[13] United Nations. General Assembly. Resolution 34/93 P. Dec. 1979. www.un.org/documents. In 1980 and 1981 resolutions, the UN only listed "nuclear and military collaboration" rather than the previous "political, nuclear, economic, and other fields".
[14] African National Congress, The Nuclear Conspiracy: FRG collaborates to Strengthen Apartheid (Bonn: PDW-Verlag, 1975). The investigatory report shows how German companies supplied the South African nuclear industry with nuclear materials, with the complicity of the German government. Germany was not unique in its willingness to put commercial interests above wishes of the anti-apartheid movement.
[15] Hecht, Gabrielle. "Negotiating Global Nuclearities: Apartheid, Decolonization, and the Cold War in the making of the IAEA," in John Krige and Kai-Henrik Barth, eds., Global Power Knowledge: Science, Technology, and International Affairs , in Osiris 21 (July2006): 48. Hecht examines how the idea of "nuclearity" is negotiable. For example, South Africa attempted to increase its power in the IAEA by

was a leader in the IAEA—an organization of crucial importance for nuclear politics-despite many states' efforts to marginalize the country in international politics. South Africa maintained an elevated position in the IAEA through an effort to define the nature of "nuclearity" and continuously argued that the political must be separated from the technological.[16] Nevertheless, the fact that the country enjoyed significant support in the IAEA even in 1977 undermines the notion that world actors committed themselves to really isolating South Africa.

I therefore note a contradiction between international condemnation of the South African government (and Israeli cooperation), and the reality that many of these same states continued to trade with South Africa throughout the 1970s. Despite the ineffectiveness of international efforts to isolate South Africa materially, the effect these condemnations had on the South African government would have serious implications when the South Africans and Israelis agreed on a "clandestine nuclear test."

A Nuclear Partnership

There is no way of knowing the date at which Israel's military partnership with South Africa turned into an intimate nuclear partnership. While organizations such as the IAEA documented trade of nuclear materials between the two countries, scholars have not uncovered evidence as to when Israel and South Africa decided to pursue a joint nuclear test. Some suggest that Israel participated in the 1977 South

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arguing that a country's raw uranium resources ought to add to its level of nuclearity, in the same way as an enrichment facility would. While I discuss nuclear norms in the third section, Hecht's analysis is useful for me here because it shows how South Africa managed to maintain a leading role

African Kalahari Test, which never took place after Soviet satellites detected the test site. While I divide the conventional relationship from the nuclear relationship, it seems more likely that the conventional relationship simply progressed into a nuclear relationship.

Israel and South Africa were ideal candidates for a nuclear partnership. In short, South Africa could provide uranium and a large geographic area for nuclear testing, while Israel could provide nuclear know-how and expertise. In the early 1960s South Africa informed other members of the Western Suppliers Group of uranium sales to Israel. After 1968, however, the system failed and Israeli imports of nuclear materials from South Africa could no longer be monitored.[17] As the international community increased its efforts to isolate South Africa within international organizations such as the IAEA and the UN, it became harder to trace South Africa's nuclear exports. Also, during the 1960's South Africa did not require that customers inform the government when they used material for spent-fuel reprocessing.[18] Israel had sophisticated technological expertise that South Africa needed. In 1977 South Africa obtained 30 grams of Israeli tritium, which was apparently used in a secret trial for use in nuclear bombs.[19]

But unlike the conventional weapons trade, Israel and South Africa had never been caught in conspiring to produce nuclear weapons. An argument for weapons cooperation relies on a circumstantial argument, though conventional military and

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in the IAEA in the midst of growing international political pressure.
[16] Ibid 27.
[17] Moore 77
[18] Ibid 79.
[19] Liberman, Peter "The Rise and Fall of the South African Bomb," International Security, Vol. 26, no. 2 (Fall 2001): 45-86.

nuclear materials trade between the two countries is well documented. Nevertheless, I can draw on important viewpoints of the American intelligence community regarding this relationship.

An invaluable document outlining the possibility of such a nuclear alliance was produced by the CIA in the months after the Vela Incident. The report assumed that the Vela Incident was a nuclear explosion, and aimed to identify what states might be involved in the test.[20] As such, the document is reflective of the United States intelligence community's conclusions regarding South African and Israeli involvement in the Vela Incident.

The report stated that Israel and/or South Africa were the only states that would have been likely participants in the Vela Incident. The author discarded the idea that the test was a solo Israeli undertaking because the close political relationship between the two countries would prevent Israel from trying to place the blame on South Africa. The document also concluded that both countries would have had ample incentive to test nuclear weapons for technical reasons, but that secrecy would have been of utmost concern. Over 60 percent of the section outlining South African and Israeli nuclear collaboration is redacted. Interestingly, these redactions in the section outlining South African-Israeli nuclear collaboration are significantly more numerous than redactions in the individual sections outlining individual tests by both countries.

The CIA remained interested in the South African-Israeli nuclear relationship in the years following the Vela Incident. A 1983 CIA report titled "New Information

[20] The 22 September 1979 Event. Rep.No. The Director of Central Intelligence, Central Intelligence

on South Africa's Nuclear Program and South African-Israeli Nuclear and Military Collaboration" also describes the long history of scientific exchanges between the two countries and that South Africa supplied Israel with natural uranium rods from 1972 through 1975. While much of the discussion of South African-Israeli collaboration is redacted, it is noteworthy that four years after the Vela Incident, the CIA still thought the countries were engaged—and had been engaged—in significant nuclear collaboration. There is even a possibility that some of the redacted text describes unknown information regarding cooperation in the Vela Incident.[21]

Part II: Opacity and Ambiguity

Differentiating between the concepts of "nuclear ambiguity" and "nuclear opacity" is critical to understanding the extreme secrecy of the South African and Israeli nuclear programs. While Israel passed through a period of "nuclear ambiguity" before its transition to "nuclear opacity", South Africa retained a policy of "nuclear ambiguity." Though Avner Cohen used these terms to describe periods of Israeli nuclear policy, the terms are also useful in contrasting Israel's policies with those of South Africa.

Once we understand the implications both terms had on each state's nuclear programs, we will be able to understand why both countries would have insisted on a clandestine nuclear test. In other words, I argue that these policies—once

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Agency. January 1980.

[21] New Information on South Africa's Nuclear Program and South African-Israeli Nuclear and Military Cooperation. Rep.No. Directorate of Intelligence, Central Intelligence Agency. March 1983. One noteworthy aspect of the report is the location of the redacted section. The report states, "each side could contribute to the nuclear weapons program of the other"(3). Four lines are redacted, followed by, "Nonetheless, we have no confirmed reports of equipment or technology transfer…" It seems at

developed—were not characteristics of the South African and Israeli nuclear programs but complex strategies that came to define both states' nuclear policies.

The Development of South African Nuclear Ambiguity

Cohen uses "nuclear ambiguity" in two ways. In the first, "there is a genuine uncertainty, that is lack of sufficient knowledge as to the technical nuclear status of the country under study."[22] The second usage "refers to an ambivalence—political, military, or even cultural in origin—on the part of the suspect country's leadership concerning nuclear weapons."[23] The first usage of "nuclear ambiguity" implies that states do not understand a particular nation's nuclear capabilities because of a lack of transparency. The second usage of the term implies that the specified country's leadership lacks a nuclear weapons program strategy. South Africa's nuclear program demonstrated both implications of "nuclear ambiguity."

Similar to the Israeli nuclear program, the South African program lacked a coherent strategy from the beginning.[24] One South African scientist later recalled that he and other scientists were concerned that this lack of strategy could lead to South African leaders making "an irrational decision simply because they haven't got time to really consider."[25] Understanding the South African leadership's motivation for establishing a nuclear weapons program has been the object of much speculation and debate. Nevertheless, it does appear that the leadership was adamant about one aspect of the program: that it remain secret.

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least plausible that the Vela Incident is described in the redacted out text.

[22] Cohen, Avner. *Israel and the Bomb*. (New York: Columbia UP, 1998) 2.

[23] Ibid 3.

The first use of the term, "ambiguity" examines the Vela Incident within the context of international politics. Simply put, the West failed to comprehend both the existence and capabilities of a South African nuclear weapons program.[26] The CIA could not discern the South African method of uranium enrichment, the veracity of IAEA reports indicating the quantity of fissile material produced, and the advanced degree of the South African nuclear program even in the 1980s.[27] While the United States intelligence community might have suspected a South African nuclear weapons program and involvement in the Vela Incident, documents reveal a sense of confusion and bewilderment. South Africa had every intention of maintaining this ambiguity and maintained levels of secrecy that were manifested in the Vela Incident.

The Development of Israeli Nuclear Opacity

Cohen defines nuclear opacity as a "situation where a state's nuclear capability has not been acknowledged but is firmly recognized in a way that makes a difference in other nation's perceptions, strategies, and actions."[28] Israel denies that it has nuclear weapons, but the widespread belief and evidence of Israel's nuclear capability has shaped the way in which friendly and rival states alike have treated Israel.

Israel moved from a position of nuclear ambiguity to nuclear opacity in the

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[24] Liberman 55
[25] Ibid.
[26] , "U.S. Intelligence and the South African Bomb", National Security Archive, EBB 181,<www.gwu.edu.proxy.lib.umich.edu/~nsarchiv/NSAEBB/NSAEBB181/index.htm>
[27] Ibid.
[28] Cohen, Introduction

fall of 1968. The catalyst for this transformation was a series of critical negotiations between American and Israeli leaders regarding whether or not Israel would sign the Nuclear Non-Proliferation Treaty (NPT). President Johnson and members of the State Department believed in non-proliferation as a strategy and hoped that the NPT would result in a more stable Middle East.[29] The stakes were raised when Assistant Secretary of Defense Paul Warnke attempted to link the sale of 50 Phantom fighter jets to Israel's participation in the NPT.[30] Israel seemingly did not fully understand the implications of the treaty, and when told that routine IAEA inspections would be involved, senior members of the Israeli nuclear establishment were astounded.[31]

Israel demanded significant security assurances from the United States in exchange for signing the NPT. One of these included a demand for a formal guarantee of American nuclear protection, a price too high for the United States. Israeli policymakers apparently took some time before coming to the conclusion that signing the NPT undermined the country's position of nuclear ambiguity.[32] The NPT posed a direct threat to the secrecy of the Israeli program. Israel held firm, and the sale of the Phantoms to Israel was completed. A new consensus emerged between the United States and Israel: the United States would not pressure Israel into signing the NPT as long as Israel maintained its promise that it would "not be the first to introduce nuclear weapons into the Arab-Israeli area."[33]

Israel's "non-introduction" pledge exemplified the manner in which the country exploited existing nuclear norms to establish a strategy of nuclear opacity.

[29] Cohen 316
[30] Ibid 319
[31] Ibid 300

During the negotiations regarding Israel and the NPT, Warnke asked Ambassador Rabin of Israel what Israel meant by its non-introduction pledge. After much prodding, Rabin stated, "all nuclear powers...have tested nuclear weapons. Do you really believe introduction comes before testing?"[34] Israel argued that possessing an operational nuclear weapon did not constitute "introduction." A norm had been established that states only "go nuclear" when they have publicly tested a nuclear explosion.[35] Israel was able to use this norm to its advantage. When Warne commented to Rabin that "in your view, an unadvertised, untested nuclear devise is not a nuclear weapon," Rabin responded that he was correct. By 1970, the CIA informed Congress that Israel possessed nuclear weapons. While Israel denied their existence, the world now believed that Israel possessed nuclear weapons. Israel thus finished the transformation from nuclear ambiguity to nuclear opacity.

Part III: A Clandestine Test

This section first presents how security concerns might have led Israel and South Africa to perform a clandestine rather than overt nuclear test. Second, I show how applying this security argument to Israel and South Africa is erroneous. Third, I describe the rise of the norm against nuclear testing. Fourth, I show how Israel's policy of nuclear opacity and South Africa's policy of nuclear ambiguity—coupled with both states' respect for the norm against nuclear testing—provides a better

[32] Ibid 303
[33] Ibid 320
[34] Cohen 317
[35] Nina Tannenwald, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," International Security , Vol. 29, No. 4 (Spring 2005): 5-49. The norm against testing nuclear weapons can be understood as an extension of the "nuclear taboo."

explanation for the decision to conduct a clandestine test.

The Security Argument

South Africa kept its nuclear program secret while it existed and still remains protective of this information. Israel also cast its program in secrecy, and Israelis are prohibited from discussing their state's nuclear capabilities today.[36] One explanation for this extreme secrecy is the security argument: nuclear matters are so essential to national security that they ought to be shrouded in extreme secrecy. Can the security argument explain the South African and Israeli decision to perform a clandestine, rather than overt nuclear test?

At first glance, Israel seems to bolster the security argument. Israel pursued a strategy of nuclear ambiguity and then nuclear opacity because it did not want enemy states in the Middle East to develop their own nuclear programs. Israel felt that a public Israeli nuclear program would put Arab states such as Egypt and Syria into a security situation that could provoke the leaders of both states to pursue their own nuclear programs. Furthermore, Arab leaders understood the political pressure they would face to initiate a nuclear program if Israel's already suspected program became public record. They too had a vested interest, at least in the 1970s, that Israel not acknowledge its nuclear capabilities.[37] According to this security argument, Israel had to conduct a clandestine nuclear test because making its program public would create new nuclear powers in the Middle East, and

[36] Cohen 341. Cohen discusses the "Kdushat Habitachon" term used to describe the taboo against discussing nuclear matters amongst Israelis. "Kdushat" is literally the same term used within biblical texts to signify sanctity. "Habitachon" translates to security.

compromise Israeli nuclear hegemony.

Explaining South Africa's decision for a clandestine test with the security argument is also persuasive. Peter Liberman demonstrates how the security argument cannot account for the South African decision to develop a latent nuclear weapons capability.[38] In the early to mid 1970s, South Africa was not threatened by any of its neighbors. He argues, however, that security concerns best account for the South African decision to weaponize, stating that "the significance and quickened pace of militarized decisions from 1977 to 1979 is consistent with a security explanation."[39] Liberman notes that the decision to open the Kalahari test site resulted from concern over the escalating Angolan conflict. Apparently, P.W. Botha thought that a South African nuclear test would cause "the Yanks to come running" to the aid of South Africa.[40] If the security threat explains South Africa's decision to weaponize, can it also explain the decision to conduct a clandestine, rather than overt, nuclear test? Liberman does not ask this question.

The Security Argument Disproved

The Israeli nuclear weapons strategy in wars against Arab states in 1967 and 1973 undermines the security argument. Israel likely possessed a functional nuclear weapon in 1967, and definitely had the capability to deploy nuclear weapons in 1973. Moreover, in 1973 Israel was on the verge of defeat, and only turned the tide of the war once a vital American arms shipment arrived. Therefore, the security

[37] Cohen 321.
[38] Liberman, Peter "The Rise and Fall of the South African Bomb," International Security, Vol. 26, no. 2 (Fall 2001): 45-86.

argument would have dictated either a nuclear strike, or at least the threat of a nuclear strike. Avner Cohen, however, has shown that the Israelis viewed nuclear weapons as usable only in the last resort. He calls the Israeli attitude to nuclear weapons usage a "double sense of prohibition."[41] The first prohibition resulted from the growing use of nuclear weapons in a first-strike (the "nuclear taboo"), and the second prohibition resulted from Israel's culture of nuclear opacity.[42] These two prohibitions mandated that Israel opt for a clandestine test in 1979.

While the security argument might account for the South African decision to weaponize, it cannot account for the specific decision to conduct a clandestine nuclear test with Israel. If South Africa felt that its security situation was threatened,the country would have every incentive to conduct an overt test. This could influence South Africa's enemies, or perhaps, as Botha incorrectly assumed in 1977, win United States support. The security argument might fit South Africa's decision to weaponize, but certainly not its decision to conduct a clandestine test.

In their critique of Liberman's article, Helen Purkitt and Stephen Burgess propose that South Africa moved towards a secret nuclear weapons program because of criticism by the United States and others of India's 1974 "peaceful nuclear explosion," and because of South African-Israeli nuclear cooperation.[43] Purkitt and Burgess, therefore, argue that international outrage over India's violation of the norm against nuclear testing, as well as Israeli influence, mandated

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[39] Liberman 49
[40] Liberman 60.
[41] Cohen, Avner. *Israel and the Bomb*. (New York: Columbia UP, 1998) Chapter 9.
[42] Ibid.
[43] Purkitt, Helen E. and Burgess, Stephen S, "Correspondence: South Africa's Nuclear Decisions," International Security , Vol. 27, no. 1 (Summer 2002): 188.

the program's secrecy. If Purkitt and Burgess' arguments are shifted from the program's secrecy in general and applied to the 1979 test, they also undermine the notion that South Africa conducted a clandestine nuclear test out of a concern for its security. I believe that Purkitt and Burgess' reasoning for the secrecy of South Africa's program in general can extend to the specific decision to conduct a clandestine nuclear test in 1979.

The Norm Against Nuclear Testing

Beginning in the mid-1950s, a norm against testing nuclear weapons developed alongside the development of a "taboo"[44] against the first use of nuclear weapons. Nina Tanenwald defined a "norm" as "a standard of right or wrong, a prescription or proscription for behavior "for a given identity."[45] She called the taboo against first use of nuclear weapons a "de facto normative prohibition"[46] because international law does not prohibit the use of nuclear weapons, and the five declared nuclear states are allowed to possess these weapons.[47]

The development of a norm against nuclear testing (I argue that it is a norm, not a taboo)[48] complemented the creation of this taboo against first-use of nuclear

[44] Tannenwald, Nina, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," International Security , Vol. 29, No. 4 (Spring 2005): 8.
[45] ibid.
[46] Ibid.
[47] Tanenwald 9
[48] Tanenwald states that "there are two elements to a taboo: its objective characteristics and its intersubjective, phenomenological aspect, that is, the meaning it has for people…Further, it is also a 'bright line' norm: once the threshold has been crossed, one is immediately in a new world with all the unimaginable consequences to follow". Tanenwald's "bright line" aspect of a taboo makes nuclear testing incongruent with the idea. There have been hundreds of nuclear tests conducted since 1954. While the vast majority of these tests were done by the recognized nuclear powers, other states like China, India, and Pakistan have also performed nuclear tests. The norm has held, however, and we do not find ourselves in the "new world" that might develop should a state violate the first-use taboo.

weapons. Israel and South Africa were concerned with a nuclear test, so understanding the norm against testing as a corollary of the taboo against first-use illuminates international political understandings of nuclear testing in the years preceding the Vela Incident. Did a norm against nuclear testing exist by September 1979? Were Israel and South Africa bound by this norm?

The development of a norm against nuclear testing first gained momentum after a 1954 US hydrogen bomb test over the pacific.[49] Unexpected fallout from the explosion sickened a number of Japanese fishermen on the *Lucky Dragon*, and Prime Minister Jawaharlal Nehru of India subsequently called for a ban of nuclear testing.[50] For the next forty years, the international community engaged in attempts to produce agreement on partial bans on testing.

In 1963, the Partial Test Ban Treaty banned nuclear tests underwater, in the atmosphere, or in space. In 1968, the nuclear non-proliferation treaty indirectly forbade participating countries from nuclear testing (aside from the 5 declared powers) because it prohibited the manufacture of a nuclear device. Furthermore, throughout the 1950s-1970s many countries made statements and endorsed UN measures condemning nuclear weapons tests. For example, a 1962 UN resolution that "condemns all nuclear weapons tests" enjoyed widespread popularity (the U.S., USSR, and other Western states abstained from voting,) and when China tested a

[49] Bunn, George. "The Status of Norms Against Nuclear Testing." The Nonproliferation Review winter (1999): 20-32. George Bunn, the first general counsel of the US Arms Control and Disarmament Agency analyzed the status of norms against nuclear testing in the wake of the 1998 tests by India and Pakisitan. His analysis illuminates how a norm against nuclear testing developed from 1954 to the present day, and how this norm often applies to states that are not legally bound by international treaties or laws against nuclear testing. He calls this phenomenon an example of a "politically binding" norm (21).

nuclear weapon in 1964 many states condemned the test.[51]

Ironically, the 1974 Indian nuclear test demonstrated the strength of the norm against nuclear testing. On May 18, 1974, India exploded its first nuclear bomb, the Smiling Buddha. While India's action might seem to weaken an argument outlining the strength of the norm against nuclear testing, the manner in which India justified the test was striking in its deference to this norm. India insisted that it had performed a "peaceful nuclear explosion," and that the UN should not condemn India since the test was for peaceful purposes.[52] India, despite not even signing the NPT, felt that it had to defend its actions since it violated an international norm against nuclear testing. The deference India paid to this norm was demonstrated when India announced in 1978 that it would no longer test weapons even for peaceful purposes. India did not test another weapon until 1998.[53]

Israel and South Africa ratified the Partial Test Ban Treaty in 1963, but neither country signed the NPT before the Vela Incident. South Africa finally signed and ratified the NPT in 1991, and Israel is still not a member. Even though Israel and South Africa did not sign the NPT, one can argue that both countries were still "politically bound"[54] to the treaty. While the Partial Test Ban Treaty prohibited both countries from conducting a nuclear test, the NPT specifically prohibits countries from discretely collaborating to spread nuclear technology and know-how. And Israel and South Africa were engaged in exactly this activity in the years leading up to the Vela Incident. Nevertheless, Israel and South Africa were influenced by the

[50] Ibid 23.
[51] Ibid 23
[52] Ibid 23.

NPT to such a degree that they did not want to publicize the details of their nuclear partnership. This exemplifies the manner in which a non-legal norm can be just as effective as a legally binding norm in influencing a country's behavior.

Opacity, Ambiguity, and the Norm Against Nuclear Testing

By 1979, Israel and South Africa had formed well-developed strategies of nuclear opacity and nuclear ambiguity. Furthermore, both countries understood the strength of the norm against nuclear testing, as well as the negative consequences a violation of this norm could bring. The idea that these two factors contributed to the secrecy of both countries' nuclear programs is not my own; Avner Cohen argues both these points, while Purkitt and Burgess demonstrate how the anti-testing norm contributed to the secret nature of the South African program. My analysis furthers these historians' arguments, however, by arguing that these two reasons also apply to the South African and Israeli decision to jointly conduct a clandestine test in 1979.

Avner Cohen proposed that Israel kept its nuclear program secret because of respect for the norm against nuclear testing and because of its policy of nuclear opacity. These same two reasons account for the decision to perform a clandestine nuclear test in 1979. Israel had developed an understanding with both the United States and its Arab neighbors that it would not "introduce" nuclear weapons into the Middle East. After 1970, Israel was known to possess nuclear weapons. Israel, however, decided for a clandestine nuclear test in 1979 because an overt test would

[53] Ibid.

have undermined the country's policy of nuclear opacity. Furthermore, Israel understood the strength of the norm against nuclear testing, and the consequences a test would have had on its international political relationships.

Similarly, I draw on Purkitt and Burgess' argument that the secrecy of the South African program was a result of both the norm against nuclear testing and Israeli influence. They are right to point out that if the Vela Incident was a joint decision, Israel or South Africa could have persuaded the other for a clandestine test. I additionally argue, however, that South Africa's policy of nuclear ambiguity influenced the decision to conduct a clandestine nuclear test.

One seemingly obvious point that Purkitt and Burgess fail to make, while consistent with their argument, is the connection between the Kalahari Test and the Vela Incident. South Africa did not need to look at the fallout from India's PNE in 1974 when it was deciding whether to perform an overt or clandestine test in 1979. South Africa's leaders had already been humiliated by the political outrage caused by a temporary exit from their program's secrecy, the Kalahari Test. In 1977, South African leaders apparently decided to conduct an overt nuclear test, and then changed their minds when they became subject of numerous international condemnations. In other words, they temporarily moved towards an overt nuclear strategy, before retreating back to the strategy of nuclear ambiguity. South Africa's decision for a clandestine test in 1979 demonstrated this retreat back to a policy of nuclear ambiguity.

[54] See footnote 49.

Conclusion:

Part I of this paper showed how a growing military and political alliance between Israel and South Africa likely led to an intimate nuclear partnership. Part II described the development of Israeli nuclear opacity and South African nuclear ambiguity. Part III argued that these policies of opacity and ambiguity—coupled with Israeli and South African deference for the norm against nuclear testing—led to a clandestine, rather than overt, nuclear test.

While historians have documented the construction of a growing political, military, and scientific relationship between Israel and South Africa, one cannot date the moment at which Israel and South Africa decided to conduct a joint nuclear test. This lack of direct evidence implicating both states has prevented many scholars from addressing the Vela Incident within the historical context of both states' nuclear programs.

If one allows for a circumstantial argument, however, the decision by both states to perform a clandestine nuclear test fits right into the historical narrative of both nuclear programs. Not only did a military and political alliance between the two states allow for nuclear collaboration, but the decision to conduct a clandestine test seems to follow naturally from Israel and South Africa's respective strategies of opacity and ambiguity as well as their deference to the norm against nuclear testing. Viewed in this manner, the ambiguous Vela Incident actually increases our understanding of both nations' nuclear programs.

Bibliography

Primary Sources:

African National Congress. *The Nuclear Conspiracy: FRG collaborates to strengthen Apartheid*. Bonn: PDW-Verlag, 1975.

"A Flash of Light," *Newsweek,* 5 November 1979. Provides an initial reaction to the Vela Incident.

Barasch, Guy E. Los Alamos Scientific Laboratory. *Light Flash Produced by an Atmospheric Nuclear Explosion*, November 1979. Unclassified.

Dodson, Christine. Staff Secretary, National Security Council, Memorandum for: The Secretary of State [and others], *Subject: South Atlantic Nuclear Event*, w/att: untitled discussion paper, October 22, 1979. Secret.

"Israel Denies It Tested Nuclear Bomb." *Associated Press*. 22 February 1980.

New Information on South Africa's Nuclear Program and South African-Israeli Nuclear and Military Cooperation. Rep.No. Directorate of Intelligence, Central Intelligence Agency. March 1983.

New Reports of South African-Israeli Collaboration." Associated Press. 21 April 1997.

Office of Science and Technology Policy. *Ad Hoc Panel Report on the September 22 Event*, May 23, 1980. Secret.

The 22 September 1979 Event. Rep.No. The Director of Central Intelligence, Central Intelligence Agency. January 1980.

United Nations. General Assembly. Resolution 32/105 D. 1977. www.un.org/documents

United Nations. General Assembly. Resolution 33/183 D. Jan. 1979. www.un.org/documents

United Nations. General Assembly. Resolution 34/93 P. Dec. 1979. www.un.org/documents

United Nations. General Assembly. Resolution 35/206 H. 1980. www.un.org/documents

United Nations. General Assembly. Resolution 36/172 M. 1981. www.un.org/documents

Secondary Sources:

Bunn, George. "The Status of Norms Against Nuclear Testing." The Nonproliferation Review winter (1999): 20-32.

Cohen, Avner. Israel and the Bomb. New York: Columbia UP. 1998.

Cohen, Avner. "The Dynamics of Middle East Nuclear Proliferation." Studies in International Relations Summer (1995).

Evron, Yair. Israel's Nuclear Dilemma. Ithaca, NY: Cornell UP, 1994. (University of Michigan Library).

Feldman, Shai. Israeli Nuclear Deterrence. New York, NY: Columbia UP, 1982. (University of Michigan Library).

Hecht, Gabrielle. "Negotiating Global Nuclearities: Apartheid, Decolonization, and the
Cold War in the making of the IAEA," in John Krige and Kai-Henrik Barth, eds., Global Power Knowledge: Science, Technology, and International Affairs , in Osiris 21 (July 2006): 25-48.

Joseph, Benjamin M. Besieged Bedfellows: Israel and the Land of Apartheid. New York, NY: Greenwood P, 1988.

Joshi, Sharad. "Israel's Nuclear Policy: A Cost-benefit Analysis." Strategic Analysis: A Monthly journal of the IDSA XXIII (March 2000).

Liberman, Peter "The Rise and Fall of the South African Bomb," International Security ,
Vol. 26, no. 2 (Fall 2001): 45-86.

Moore, J.D.L. South Africa and Nuclear Proliferation: South Africa's nuclear capabilities and intentions in the context of international non-proliferation policies. Basingstoke, Hampshire: MacMillan, 1987.

Purkitt, Helen E. and Burgess, Stephen S, "Correspondence: South Africa's Nuclear Decisions," International Security , Vol. 27, no. 1 (Summer 2002): 186-194.

Richelsen, Jeffrey. "The Vela Incident: Nuclear Test or Meteoroid." National Security Archive Electronic Briefing Book 190 (May 5, 2006).

Tannenwald, Nina, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," International
Security , Vol. 29, No. 4 (Spring 2005): 5-49.