

Correspondence

Helen E. Purkitt and
Stephen F. Burgess

South Africa's Nuclear Decisions

Peter Liberman

To the Editors:

In his article "The Rise and Fall of the South African Bomb," Peter Liberman uses organizational politics theory to explain South Africa's latent development of a nuclear weapons program before 1977.¹ He cites post-1976 security threats (from the Soviet Union and Cuba) as triggers for the militarization of the nuclear program and the building of six bombs. Although Liberman is less clear about the motivations for disarmament, he does suggest three contributing factors: the end of security threats, the change in South Africa to a more outward-looking leadership in 1989, and the unacceptable expense of the nuclear weapons program.

Liberman produces new insights on both the South African case and contending theories that can be used to explain it. In seeking parsimony, however, he weighs the explanatory value of only three theories and overlooks other relevant factors²—most notably, political psychology.³ This omission leads to a portrait of South Africa as a seemingly ordinary state, rather than the minority-ruled, security-obsessed regime that darkened the international stage for four decades and that developed a secret, sophisticated chemical and biological warfare (CBW) program in the 1980s.⁴

Helen E. Purkitt is a Professor in the Department of Political Science at the U.S. Naval Academy. Stephen F. Burgess is an Assistant Professor in the Department of Strategy and International Security at the U.S. Air War College.

Peter Liberman is Associate Professor of Political Science, Queens College, City University of New York.

1. Peter Liberman, "The Rise and Fall of the South African Bomb," *International Security*, Vol. 26, No. 2 (Fall 2001), pp. 45–86. Additional references to this article appear parenthetically in the text.

2. The full range of factors will be considered in Helen E. Purkitt and Stephen F. Burgess, *South Africa and Weapons of Mass Destruction* (Bloomington: Indiana University Press, forthcoming). For instance, outside powers (especially Israel) played an important role in developing South Africa's nuclear bomb and missile programs.

3. Margaret G. Hermann, "How Decision Units Shape Foreign Policy: A Theoretical Framework," *International Studies Review*, Vol. 2, No. 2 (Summer 2001), pp. 47–81; Robert Jervis, "Political Psychology: Some Challenges and Opportunities," *Political Psychology*, Vol. 10, No. 3 (1989), pp. 481–516; and Thomas J. Scheff, *Bloody Revenge: Emotions, Nationalism, and War* (Boulder, Colo.: Westview, 1994). See the papers presented at the "Responding to Negative Feedback: Decision-making in Protracted Foreign Policy Problems Symposium," sponsored by the Center for Presidential Studies, George Bush School of Government and Public Service, Texas A&M University, College Station, May 18–20, 2001.

4. Stephen F. Burgess and Helen E. Purkitt, *The Rollback of the South African Chemical and Biological Warfare Program*, monograph (Maxwell Air Force Base, Ala.: U.S. Air Force Counterproliferation Center, 2001). This also appeared as *The Rollback of the South African Biological Warfare Program*, monograph (Colorado Springs, Colo.: Institute of National Security Studies, U.S. Air Force Acad-

Regarding disarmament, Liberman focuses on change in the leadership from the nationalist-militarist president P.W. Botha to the more liberal, democratic F.W. de Klerk and seeks to evaluate Etel Solingen's proposition that transition from statist leaders to economic liberalizers lessens support for expensive nuclear weapons programs (pp. 47, 81–82).⁵ He does not stress, however, the high levels of pressure that the United States exerted on the South African political leadership from 1987 to 1989, which was based on fears that a transition to a regime led by the African National Congress (ANC) might bring with it nuclear proliferation. Similarly, in 1994 the United States issued a *démarche* to the de Klerk government based on fears of CBW proliferation. In both 1989 and 1994, the de Klerk regime negotiated with U.S. officials and largely conformed to their demands.⁶ Liberman also overlooks pressure from the South African Defense Force (SADF), which argued that the nuclear weapons and missile programs were sapping defense budget funds that military leaders felt they needed to modernize South Africa's conventional forces.⁷

THE PSYCHOLOGY OF NUCLEAR ARMAMENT

Psychological factors, including apartheid leaders' extreme sense of nationalism, a *laager* (or "circle the wagons") complex,⁸ and fear of onslaughts by Soviet-backed communists and black nationalists contributed significantly to South Africa's decision to build the bomb.⁹ In 1961 South Africa withdrew from the British Commonwealth and by 1972 had decreased the number of international organizations in which it participated from forty to two.¹⁰ With the start of negotiations in Geneva in 1964 on the Nuclear Nonproliferation Treaty (NPT), Prime Minister Hendrik Verwoerd decided against South African participation. In 1970 his successor, B.J. Vorster, rejected the NPT and instead announced the creation of a new South African uranium enrichment process and invited collaboration by "non-Communist countries" in developing it.¹¹ While empha-

emy, 2001). Helen E. Purkitt, "The Politics of Denuclearization: The Case of South Africa," paper presented at the "Institute for National Security Studies (INSS) Results Conference," U.S. Air Force Academy, Colorado Springs, Colorado, November 9, 1994.

5. Etel Solingen, "The Political Economy of Nuclear Restraint," *International Security*, Vol. 19, No. 2 (Fall 1994), pp. 126–169.

6. Helen E. Purkitt and Stephen F. Burgess, "Changing Course and Responding to Negative Feedback: A Case of Sequential Decision-making in South Africa, 1989–94," paper presented at the annual meeting of the American Political Science Association, San Francisco, California, August 29–September 2, 2001.

7. Interviews with former SADF senior military leaders, discussed in Purkitt, "The Politics of Denuclearization." At the same time, SADF leaders felt that the CBW program was still necessary for other security purposes, including the production of tear gas.

8. William H. Vatcher, *White Laager: The Rise of Afrikaner Nationalism* (New York: Praeger, 1965).

9. Purkitt, "The Politics of Denuclearization," p. 8; and Jacques E.C. Hymans, "Taking the Plunge: Emotion and Identity in the Decision to Build Nuclear Weapons," paper presented at the annual meeting of the American Political Science Association, Washington, D.C., September 1–3, 2000.

10. Deon Geldenhuys, *Isolated States: A Comparative Analysis* (Johannesburg: Jonathan Ball, 1990), p. 181.

11. Donald B. Sole, former U.S. ambassador to South Africa, "The South African Nuclear Case in the Light of Recent Revelations," paper presented at the "New Horizons in Arms Control and

sizing the peaceful aims of the program in parliament, Vorster also proclaimed that South Africa would not be limited to promotion of the peaceful application of nuclear energy.¹²

From 1961 to 1968, apartheid leaders cited growing threats from black guerrilla movements backed by the Soviet Union and China as justification for a sixfold increase in defense expenditures. Also in the 1960s, the regime became increasingly militarized, as the job of secretary of defense shifted from a civilian to a uniformed position, and parliament lost effective oversight of the military.¹³ As a consequence of heightened threat perceptions, few domestic constraints were placed on apartheid rulers and scientists as they led South Africa toward the development of nuclear weapons.

Lieberman argues that the U.S. NPT sanctions regime of the late 1970s compelled South Africa to launch a secret nuclear weapons program (p. 69). Evidence shows, however, that Vorster had decided to develop such a program in 1974, following a series of technical successes; proof of sufficient "homegrown" expertise;¹⁴ and consultations with cabinet heads, the SADF chief, and the Atomic Energy Board (AEB) chief.¹⁵ By combining decisions related to nuclear power and nuclear weapons, Vorster officially redefined the thrust of ongoing nuclear weapons research in South Africa.¹⁶

Vorster decided to keep the nuclear program secret so as not to alienate the West and thereby jeopardize South Africa's ability to obtain highly enriched uranium. Also, Vorster stopped relying on PNE justifications for South Africa's nuclear program and moved toward developing a secret nuclear weapons program in the wake of (1) unexpectedly vocal criticism by the United States and other supporters of India's May 1974 "peaceful" nuclear test and (2) South Africa's secret cooperation with Israel.¹⁷

Verification Conference," John G. Tower Center for Policy Studies, Southern Methodist University, Dallas, Texas, October 15, 1993, p. 5.

12. Waldo Stumpf, "South Africa's Nuclear Weapons Program: From Deterrence to Dismantlement," *Arms Control Today*, Vol. 25, No. 10 (December 1995/January 1996), pp. 4-7.

13. Kenneth Grundy, *The Militarization of South African Politics* (London: I.B. Tauris, 1986); and Robert S. Jaster, *The Defence of White Power: South African Foreign Policy under Pressure* (London: Macmillan, 1989).

14. Renfrew Christie, "The South African Nuclear Weapons Program," paper presented at the Fourth Sofia-Antipolis International Conference, Nice, France, June 23-27, 1993. Interviews in Purkitt, "The Politics of Denuclearization," p. 11; David E. Albright, "South Africa and the Affordable Bomb," *Bulletin of Atomic Scientists*, Vol. 50, No. 4 (July/August 1994), pp. 37-47; Stumpf, "South Africa's Nuclear Weapons Program," pp. 4-7; and Darryl Howlett and John Simpson, "Nuclearisation and Denuclearisation in South Africa," *Survival*, Vol. 35, No. 3 (Autumn 1993), pp. 154-173.

15. John W. de Villiers, Roger Jardine, and Mitchell Reiss, "Why South Africa Gave Up the Bomb," *Foreign Affairs*, Vol. 72, No. 6 (November/December 1993), p. 102.

16. International Atomic Energy Agency, *Report by the Director General: The Agency's Verification Activities in South Africa*, September 8, 1993; and Purkitt, "The Politics of Denuclearization," p. 11.

17. Stumpf, "South Africa's Nuclear Weapons Program," pp. 4-7. Domestic politics and the diversionary model help to explain India's 1974 nuclear test. Prime Minister Indira Gandhi, who was seeking a boost in approval ratings increased her popularity by a third. Scott D. Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security*, Vol. 21, No. 3 (Winter 1996/97), pp. 67-69.

Lieberman pays remarkably little attention to South Africa's covert relationship with Israel, even though the decision to build nuclear bombs was made at a time of dramatically increased cooperation and coordination between the two countries on several covert nuclear- and missile-related programs.¹⁸ During a 1976 visit to Israel, Vorster ratified six or seven covert bilateral military and nuclear agreements involving the exchange of materials and agreements to coordinate testing and development of advanced weapons systems.¹⁹

FEAR OF ADVERSARIES, NUCLEAR MILITARIZATION, AND NBC WEAPONS

The psychology (threat perceptions and political beliefs) of P.W. Botha and other "securocrat" leaders help to explain South Africa's nuclear militarization and the development of a sophisticated CBW program. The South Africans chose to build nuclear weapons in violation of the 1972 Bacteriological and Toxin Weapons Convention in the absence of a real nuclear, biological, or chemical weapons (NBC) threat from the Soviet Union or its allies, without any hope of being able to retaliate against a Soviet NBC weapons attack, and before strategies for using NBC weapons had been devised. They feared abandonment by the West in the face of rising domestic protests by opponents backed by the Soviet Union and other allies that had NBC capabilities. Apartheid leaders made little distinction between the domestic threat posed by the ANC and its sympathizers, the presence of socialist regimes in the region, and the influence of the Soviet Union; in addition, they viewed them all as part of a threatened Soviet-orchestrated takeover. Thus South African leaders resembled their counterparts in the Middle East and Asia in terms of their level of fear, reliance on nationalism, and desire for secrecy. Moreover, South Africa fit the behavioral pattern of states that developed NBC weapons in the 1970s and 1980s.²⁰

REGIME CHANGE AND INTERNATIONAL PRESSURE ON SOUTH AFRICA

Lieberman emphasizes that the South African government decided to move toward nuclear disarmament at the end of 1989 because security threats had subsided and national leadership had passed from Botha to de Klerk. Lieberman's attempt to apply Solingen's economic liberalizer thesis as a way of explaining the behavior of de Klerk and his advisers, however, does not ring true. De Klerk and the Afrikaner elite were less concerned about economic liberalization than an eventual takeover by the ANC and the restoration of relations with the United States and European powers, all of which feared implosion and proliferation.

18. Purkitt, "The Politics of Denuclearization," pp. 14–15. Military and intelligence cooperation between the two states date back to the establishment of the state of Israel. Benjamin Beit-Hallahmi, *The Israeli Connection: Who Israel Arms and Why* (New York: Phantom Books, 1987), p. 122. Israel and South Africa first discussed nuclear research cooperation as early as 1955.

19. Seymour M. Hersh, *The Sampson Option* (New York: Random House, 1991), p. 265. See also Purkitt, "The Politics of Denuclearization."

20. Jonathan B. Tucker, "Motivations For and Against Proliferation," in Raymond A. Zilinskas, ed., *Biological Warfare: Modern Offense and Defense* (Boulder, Colo.: Lynne Rienner, 2000), p. 49.

Liberman places too much emphasis on de Klerk and too little on organizational politics (pressures from below) and hegemonic pressures from the United States. When de Klerk became prime minister in 1989, pressures from below to discontinue South Africa's nuclear and missile programs were already building and influencing his new government. By the late 1980s, the SADF leadership felt that both programs had become too expensive to maintain. Considerable pressure to dismantle them came from within the SADF, which was nominally in charge of NBC weapons. Contrary to Solingen's thesis, SADF leaders were not economic liberalizers but strong Afrikaner nationalists and regime supporters. As domestic unrest grew, SADF generals became less willing to tolerate "P.W.'s exotic toys."²¹

Liberman claims that international pressure on South Africa to dismantle did not increase substantially in the late 1980s; the evidence demonstrates otherwise. The United States, as the main supporter of the NPT, did not want weapons in the hands of the ANC. Liberman interviewed U.S. officials about this, but he did not emphasize the pressure that they applied on de Klerk or his response (p. 79). In late 1986 the United States realized that the imposition of sanctions would produce rapid change in South Africa. Consequently, Washington ratcheted up pressure on Botha to dismantle the nuclear weapons program. In 1987 Mikhail Gorbachev signaled that the Soviet Union would begin withdrawing from Africa; and in 1988, negotiations led to the withdrawal of Cuban troops from Angola.²² In 1989, with the election of de Klerk and the growing prospect that the ANC would take power in South Africa, the United States, according to a well-known expert on the nuclear weapons program, Renfrew Christie, threatened to treat South Africa as a "hostile nation" to induce disarmament.²³

De Klerk and his associates decided to dismantle South Africa's nuclear weapons program to placate the United States. They understood U.S. fears that nuclear weapons would fall into the hands of the ANC, especially after de Klerk initiated the transition from apartheid to majority rule in the second half of 1989. Fear and loathing of the ANC help to explain why de Klerk waited until March 1993, well after the nuclear weapons had been destroyed, to inform the ANC and the public of the dismantlement decision.²⁴

21. Interviews by Helen Purkitt with retired Brig. Gen. William Sass, July 1994.

22. Chester A. Crocker, *High Noon in Southern Africa: Making Peace in a Rough Neighborhood* (New York: W.W. Norton, 1992), pp. 373–464. For a discussion of other factors shaping U.S. policies toward South Africa, see Helen E. Purkitt, "Recurring Foreign Policy Problems: United States Efforts to Close Down South Africa's Weapons of Mass Destruction Programs over Time," paper presented at the "Responding to Negative Feedback in Foreign Policy Decisionmaking Symposium," Center for Presidential Studies, George Bush School of Government and Public Service, Texas A&M University, College Station, May 18–20, 2001.

23. Interview with Renfrew Christie, University of the Western Cape, June 24, 2000; and Christie, "The South African Nuclear Weapons Program."

24. Burgess and Purkitt, *The Rollback of the South African Chemical and Biological Warfare Program*. The United States and the United Kingdom became aware of the CBW program in 1991, but they intervened only after evidence of proliferation was gathered in the latter half of 1993. One reason for the later intervention was the higher degree of secrecy accorded the CBW program in comparison with the nuclear weapons program.

Starting in 1989, with the transfer of power from the white minority to the black majority, South Africa can be viewed as a “state in transition,” much like Belarus, Kazakhstan, and Ukraine in 1992. In the late 1980s, the NPT regime was more powerful than it had been in the 1970s, and transitional states found it more difficult than established states (such as India and Pakistan) to resist the power of the NPT regime, especially pressures from the United States.²⁵

In conclusion, Liberman has produced useful research on an important subject. Care must be taken, however, in using too narrow a range of theories and hypotheses. In the South African case, political psychology cannot be ignored—nor can pressures from below, international norms and regimes, and other influences—in understanding why South Africa built and then dismantled a range of weapons of mass destruction.

—Helen E. Purkitt
Annapolis, Maryland

—Stephen F. Burgess
Maxwell Air Force Base, Alabama

The Author Replies:

My article examined how well South Africa’s decisions to acquire and dismantle nuclear weapons could be explained by security, organizational, and political economy incentives.¹ Rather than trying to write a full history, I sought to contribute to broader theoretical debates by focusing on just three theories. Helen Purkitt and Stephen Burgess are nevertheless justified in asking whether other factors affected the rise and fall of the South African bomb. They provide little compelling evidence, however, for the importance of the alternative factors they stress or for the historical details that they claim I got wrong.

One of our main disagreements concerns pinpointing when Pretoria decided to militarize its peaceful nuclear explosives (PNEs) research. The issue may seem theological, given that PNEs confer a de facto bomb-making capability. But the focus and timing of state goals have important theoretical implications, because a weaponization decision prior to the mid-1970s’ deterioration in South Africa’s security environment would suggest either a greater role for nonsecurity factors or an extremely low insecurity threshold for triggering proliferation.

I accepted 1977 as a significant turning point because it accords better with the testimony of the generals, scientists, and cabinet members whom I interviewed, as well as with the timing of South African investigations of nuclear delivery systems (pp. 50–53). Purkitt and Burgess detail no new evidence for their claim that Pretoria sought to build

25. Sagan, “Why Do States Build Nuclear Weapons?” p. 81.

1. Peter Liberman, “The Rise and Fall of the South African Bomb,” *International Security*, Vol. 26, No. 2 (Fall 2001), pp. 45–86. Subsequent references appear in parentheses in the text.

bombs beginning in 1974.² As I acknowledge in the article, an earlier decision or drift to weaponize remains plausible.³ South African Prime Minister John Vorster may have kept such a decision strictly to himself or to just a handful of confidantes. It does seem remarkable that South Africa would maintain a research program for PNEs, even a small one, for so long without seriously evaluating their economic and political viability. But I think this can be attributed to the Atomic Energy Board's vested interest in nuclear research and the autonomy it enjoyed because of its vaunted scientific prestige.

A second point of disagreement arises from Purkitt and Burgess's questionable claim that the South African military pressured President F.W. de Klerk to dismantle the nuclear program for budgetary reasons. De Klerk was if anything concerned about potential opposition to dismantlement from the security establishment. Both the minister of defense and the defense force chief thought that de Klerk gave up the weapons too hastily, though they apparently protested little at the time (pp. 77–78). Even though the South African military did prefer conventional to unconventional weapons, the primary investment in nuclear weapons had already been sunk by the late 1980s. More costly at this point was the missile development program, which was aimed at both surveillance satellite and nuclear delivery capabilities. But this program continued for another three years after the nuclear weapons program had been terminated, an outcome that one would hardly expect had the military been so adamantly opposed to expensive exotic weapons.⁴

A third, lesser disagreement concerns the role of U.S. pressure on South Africa to dismantle. I agree with Purkitt and Burgess that de Klerk dismantled the nuclear program at least in part to please the United States. But Purkitt and Burgess's claim that the U.S. government issued an antinuclear ultimatum to de Klerk rests on slender evidence.⁵ The U.S. and South African officials whom I interviewed agreed that, although U.S. diplomats raised the issue more frequently toward the end of the 1980s, the United

2. A 1993 *Foreign Affairs* article they cite in support of their claim, coauthored by the Atomic Energy Board chief of the 1980s, actually describes Vorster's 1974 decision as being for PNE development. Perhaps the interviews in the unpublished paper they cite contain more compelling evidence.

3. In the article I neglected to mention a partially declassified 1983 Central Intelligence Agency study, apparently based on human intelligence, reporting that "[p]assage deleted] indicates that South Africa formally launched a weapons program in 1973." This study, however, might have confused nuclear "weapons" with "explosives" development, which is how a more comprehensive Central Intelligence Agency report characterized the program the following year. See United States, Directorate of Intelligence, Central Intelligence Agency, "New Information on South Africa's Nuclear Program and South African-Israeli Nuclear and Military Cooperation," March 30, 1983, partially declassified and released May 7, 1996; and Director of Central Intelligence, "Trends in South Africa's Nuclear Security Policies and Programs," National Intelligence Estimate, October 5, 1984, partially declassified and released April 27, 1997. Both of these sources were accessed from <http://www.foia.ucia.gov> on November 17, 1999.

4. Dinshaw Mistry, "Ballistic Missile Proliferation and the MTCR: A Ten-Year Review," *Contemporary Security Policy*, Vol. 18, No. 3 (December 1997), p. 65; and Mark Wade, "RSA," *Encyclopedia Astronautica*, <http://www.friends-partners.org/mwade/lvfam/rsa>.

5. They cite an unpublished paper by a South African scholar who has not been in the government.

States did not make new threats or offers. De Klerk simply believed that, once he had taken major steps to unravel apartheid, accommodating this long-standing non-proliferation demand would hasten the West's normalization of economic relations with South Africa.

On a couple of issues, Purkitt and Burgess have misread my views. They emphasize the "unacceptable expense" of the nuclear weapons program in their summary of my analysis of the dismantlement decision, but this is not a factor that I found significant at all. While de Klerk and his finance minister were appalled by the past expense of the nuclear weapons program, they do not appear to have been much bothered by the program's ongoing costs at the end (p. 80). Nor did I contend, as Purkitt and Burgess assert, that U.S. antiproliferation sanctions "compelled South Africa to launch a secret nuclear weapons program." Western pressure following the August 1977 discovery of South Africa's secret nuclear test site only compelled a high-level reevaluation of the program and the avoidance of an overt nuclear posture (pp. 52–53, 69–70).

Finally, Purkitt and Burgess chide me for failing to investigate other factors that may have influenced South Africa's nuclear policies besides security, organizational, and political economy incentives. They emphasize psychological factors such as an Afrikaner *laager* complex, yet acknowledge that "South African leaders resembled their counterparts in the Middle East and Asia in terms of their level of fear, reliance on nationalism, and desire for secrecy." The notion that psychological and cultural factors affected South African nuclear policies is plausible, but Purkitt and Burgess neither offer a clear explanation nor provide any evidence for it. It is difficult to discern whether they are referring to the individual psychology of South African leaders John Vorster and P.W. Botha, distinctive aspects of Afrikaner nationalism and strategic mythology, or the levels of nationalism characteristic of all insecure states. Did Afrikaner nationalism lead to a nuclear weapons program because it heightened threat perceptions or military self-help urges? If the latter, how can this be squared with a nuclear strategy that called for blackmailing the United States into providing assistance? Purkitt and Burgess also fail to provide any evidence for their claim of Israeli influence on the program, beyond the well-known close military ties between the two countries.⁶

Recent research has highlighted nationalism and international emulation as general sources of nuclear and military postures, so further work on these possible links in the South African case would be worthwhile.⁷ Few individuals were privy to South Africa's decisions to build nuclear weapons, however, and most of those who were informed

6. For the record, I do not think that these factors are irrelevant. Indeed I noted how self-legitimizing propaganda portraying black nationalists as a Soviet fifth column may have heightened external threat perceptions. I also pointed out in the article that the ruling National Party's Afrikaner nationalism had ebbed over the lifespan of the weapons program. And I provide some new, albeit circumstantial, evidence for Israeli influence on South African nuclear policymaking (pp. 62–63, 67–68, 70–71, 81).

7. See, for example, Jacques E.C. Hymans, "Pride, Prejudice, and Plutonium: Explaining Decisions to Acquire Nuclear Weapons," Ph.D. dissertation, Harvard University, 2001; Emily O. Goldman and Leslie C. Eliason, eds., "Adaptive Enemies, Reluctant Friends: The Impact of Diffusion on Military Practice," book ms., forthcoming; and João Resende-Santos, "Anarchy and the Emulation of Military Systems," *Security Studies*, Vol. 5, No. 3 (Spring 1995), pp. 190–245.

and are still alive are reluctant to talk about these events openly, in part because of secrecy strictures still in place today. Most, if not all, South African documentation was systematically shredded when the program was terminated. Uncovering new evidence on this case will not be easy, but could yet reap important new interpretations and lessons.

—*Peter Liberman*
New York, New York

Corrections:

In John Garofano, "Tragedy or Choice in Vietnam? Learning to Think Outside the Archival Box," Vol. 26, No. 4 (Spring 2002), pp. 147 and 154, David Kaiser was misidentified as Robert Kaiser. We apologize for any confusion this may have caused.