

OF GAUCHOS AND GRINGOS:

WHY ARGENTINA NEVER WANTED THE BOMB, AND WHY THE UNITED STATES THOUGHT IT DID

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HOW REAL WAS the threat of an Argentine nuclear arsenal? Washington thinks that Argentina, until the early 1990s, was dead set on building the bomb. Argentina's subsequent behavior, including its accession to the Non-Proliferation Treaty (NPT) in 1994, is thus held up as a shining success for tough U.S. nonproliferation diplomacy. U.S. policies are credited with turning Argentina from a nuclear "rogue" into a nuclear "choirboy."¹ In Buenos Aires, however, this perception is met with simple incomprehension. Argentines emphatically deny that their country even considered acquiring nuclear weapons. Indeed, they argue that the main effect of North American

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1. See, for instance, Henry Sokolski, "Next Century Nonproliferation: Victory is Still Possible," *Nonproliferation Review* 4, no. 1 (fall 1996): 91; Thomas Graham, Jr., "Nuclear Maturity in Argentina and Brazil" (paper presented at SAIC Argentina and Brazil Rollback Workshop, McLean, Virginia, 22 October 1998) <www.lawscns.org/argbra.htm>; Gary Milhollin, "Testimony of Gary Milhollin before the Committee on Armed Services," United States Senate, 9 July 1998 <www.senate.gov/~armed_services/statemnt/980709gm.htm>; Robert F. Moxley, *The Politics and Technology of Nuclear Proliferation* (Seattle: University of Washington Press, 1998), 204-7.

pressure was merely to push them even further toward acquiring the unsafe-guarded nuclear technology that the nonproliferation regime is geared to limit.²

Which story is correct? In this article, the first study based on a review of hundreds of previously secret Argentine nuclear policy documents, I confirm that Argentina's nuclear program was not aimed at building nuclear weapons. Like its national symbol, the gaucho Martín Fierro, Argentina was surely no saint, but at the same time there were clear limits to its nuclear ambitions.

If Argentina did not desire nuclear weapons, why was the United States so convinced that it did? Many Argentines, whether within the nuclear establishment or without, perceive vigorous U.S. nonproliferation efforts as just one more example of domination of the South by the North. The Argentines call it the "disarming of the disarmed."³ That interpretation, however, is too simple. Much of Argentina's nuclear behavior was consistent with that of a state seeking to acquire nuclear weapons, and as such it worried not only the United States but also its Latin American neighbors. The Brazilian parallel nuclear program, in particular, was in large measure a response to a perceived potential Argentine nuclear threat.⁴ Washington's impression was incorrect, but it was not foolish.

The Argentine case, then, poses two puzzles for theory-driven explanation: why did the Argentines not desire nuclear weapons? Given that they did not, what led them to behave in a way that clearly risked misinterpretation?

This article applies a new, potentially general, theoretical framework to the Argentine case.⁵ This framework focuses on the effects of different types of national identity on foreign policy choices. In particular, I argue that Argentine nuclear behavior up to 1989 can be explained largely as a function of a deeply held, broadly based nonoppositional nationalism. By nonoppositional nationalism, I mean a national identity that produces great national pride without also producing fear and loathing of an external "other." Argentine nonoppositional nationalism explains the tremendous eagerness to develop the country's

2. See, for instance, Julio C. Carasales, "The So-Called Proliferator That Wasn't: The Story of Argentina's Nuclear Policy," *Nonproliferation Review* 6, no. 4 (fall 1999): 51-64; and the debate between Carasales and Aaron Karp, "Argentina and the Bomb," *Nonproliferation Review* 7, no. 1 (spring 2000): 189-90. See also Conrado F. Varotto, "The Non-Proliferation Treaty: Thirty Years Later," in Center for Strategic and International Studies (CSIS), *Global Nuclear Materials Management: A CSIS Conference Report* (Washington, D.C.: CSIS, 1998), 79-83.

3. Julio C. Carasales, *El Desarme de los Desarmados: Argentina y el Tratado de No Proliferación de Armas Nucleares* (Buenos Aires: Editorial Pleamar, 1987).

4. See Michael Barletta, "The Military Nuclear Program in Brazil," working paper, Center for International Security and Arms Control (CISAC), Stanford University, August 1997, esp. 15-17.

5. I have elaborated these ideas in "Taking the Plunge: National Identity and the Decision to Acquire Nuclear Weapons" (paper presented to the APSA Annual Meeting, Washington, D.C., September 2000).

nuclear capacities and to resist any externally imposed restrictions on those capacities. It also explains why the North Americans' attempts to impose such restrictions backfired and led to an even greater expansion in Argentine nuclear capacities. Finally, and most importantly, it explains Argentina's lack of desire to acquire nuclear weapons.

The article is divided into three sections. In the first section, I present a brief theoretical introduction and a set of hypotheses relevant to the Argentine case. In the second section, I outline the history of the Argentine nuclear program from the 1950s to the 1990s, focusing on the 1960s and 1970s—the period during which Argentina's nuclear behavior raised the most suspicions. In the final section I summarize my findings and highlight the main general lessons of the Argentine case.

THEORY AND HYPOTHESES

THE TRADITIONAL understanding of nuclear proliferation is that nuclear weapons are so valuable that nearly all technically capable states will desire them.⁶ In fact, however, there are strong reasons to doubt that states should naturally want nuclear weapons. Even without the nuclear nonproliferation regime, there would be strong security incentives for states not to acquire nuclear weapons.⁷ Acquisition of nuclear weapons is often a destabilizing provocation with incalculable consequences. More destructive power does not automatically translate into more security. States' leaders instinctively understand the dangers of going nuclear, and in the face of them most have chosen moderation. Indeed, it seems best to start a theory-driven explanation of nuclear proliferation from the hypothesis that the acquisition of nuclear weapons is generally security-decreasing and is therefore of little interest to most rational, security-minded states.⁸

Of course, some states do harbor nuclear weapons ambitions. I hypothesize that in the absence of an obvious external existential threat, the states most

6. For a strong argument against this conventional wisdom, see T. V. Paul, *Power versus Prudence: Why Nations Forgo Nuclear Weapons* (Montreal and Kingston: McGill-Queen's University Press, 2000).

7. See also Stephen M. Meyer, *The Dynamics of Nuclear Proliferation* (Chicago: University of Chicago Press, 1984). Even the realist Hans Morgenthau held this view. See Morgenthau, "The Fallacy of Thinking Conventionally about Nuclear Weapons," in *Arms Control and Technological Innovation*, ed. David Carlton and Carlo Schaerf (New York: Wiley, 1976), 256–64.

8. This is not to say that other factors, such as the international nuclear taboo, might not also dissuade states from going nuclear. In the interest of parsimony, it seems unnecessary to go beyond the simple security-centric perspective, at least in this stage of theoretical development.

likely to decide to acquire nuclear weapons are those whose leaders can be characterized as oppositional nationalists. Oppositional national identities are based on a stark contrast with an external enemy who is seen as threatening and inimical to values and interests. Oppositional identities produce a predisposition to feel fear in interactions with the enemy. Nationalist national identities are characterized by high self-efficacy, or in other words a belief in the nation's capacity to defeat all challenges if it obtains sufficient means. Nationalist identities produce a predisposition to feel pride in interactions with external others. The composite national identity of oppositional nationalism creates a set of cognitive and emotional predispositions that form an explosive psychological cocktail.

Oppositional nationalism is not a mere synonym for nationalism. A nation can be proud, self-assertive, and aspire to a higher profile in the world even in the absence of a hated enemy; this is what I call nonoppositional nationalism.⁹ This distinction is relevant because before 1989 Argentina was led by a series of nonoppositional nationalists.¹⁰ In spite of numerous regime changes, at least until 1989 Argentina's national geopolitical identity remained quite constant; as a result so did the fundamental principles guiding its foreign policy. As Carlos Escudé has written, the great prosperity of pre-1945 Argentina, combined with geographical isolation and the nationalist content of Argentina's educational system, combined to "nurture inflated ideas of Argentine development and power."¹¹ A succession of presidents, from the bombastic dictator Juan Perón (president from 1946 to 1955 and also from 1973 to 1974) to the more modest social democrat Dr. Raúl Alfonsín (president from 1983 to 1989), shared the view of Argentina as a country that was not only capable of surviving, but also to some degree capable of influencing, the course of world politics. At the same time, they did not envision any external mortal enemy of Argentina, no yin to Argentina's yang. It took the humbling experience of hyperinflation in the late 1980s to begin to undermine these longstanding Argentine ideas.

9. A somewhat similar distinction is often made in the literature between "patriotism" and "nationalism." This vocabulary does not suit my purposes for two reasons. First, patriotism is often associated with love of country, which may exist even in countries that do not aspire to a higher profile in the world (which is how I have defined "nonoppositional nationalism"). Second, patriotism is often presumed to have only positive effects on a society's goals and achievements, whereas as explained below my nonoppositional nationalism may have perverse effects.

10. In "Plus Ça Change: The Evolution of Argentine National Geopolitical Identity, 1973–2000" (paper presented to the Comparative Sociology Workshop at Stanford University, February 2001), I demonstrate this finding through an intensive qualitative and quantitative analysis of Argentine presidents' messages to Congress.

11. Carlos Escudé, *Foreign Policy Theory in Menem's Argentina* (Gainesville: University Press of Florida, 1997), 1–2.

The nuclear policies of oppositional nationalist and nonoppositional nationalist leaders are likely to be similar in some respects and different in others. First, both types of leaders are likely to want to build up their technology base. In the first decades of the nuclear era in particular, the nuclear revolution was perceived to be every bit as significant on the level of industrial and economic development as on the level of military strategy. Moreover, the great economic and intellectual resources required to master the technology lent an aura of prestige and advancement to those states that built nuclear programs. No self-respecting nationalist would willingly divert his country from such a promising avenue for domestic development and international standing.

Second, both oppositional and nonoppositional nationalists are likely to view the nonproliferation regime with suspicion. From the perspective of many, the efforts of those in the North to suppress Third World nuclear programs, under the guise of nonproliferation policies, actually represent a transparent desire on the part of the North to maintain its economic and technological edge. Some nationalist states in the Third World have resisted the nonproliferation regime because they want nuclear weapons, but others have resisted it to defend the principle of the equality of sovereign states and to protect pathways for development.

Third, while oppositional nationalists are very likely to pursue the bomb, nonoppositional nationalists have neither a cognitive nor an emotional predisposition to do so. Nuclear weapons may provide nations with prestige, but even the most prestige-conscious leader could not ignore their potentially enormous negative security implications. Unlike oppositional nationalists, nonoppositional nationalists tend not to view their nation's security situation as greatly imperiled by dogged external enemies. Thus, unlike their oppositional counterparts, nonoppositional nationalists tend not to be unduly influenced by fear in their foreign policy decision making. Given this outlook, it is highly unlikely that they would blithely go nuclear, for doing so might risk bringing on a danger that did not exist before.¹² Pride may govern the political and diplomatic choices of nonoppositional nationalists, but prudence governs their decisions over life and death.

Finally, a distinction can be made between two types of nonoppositional nationalist nuclear policies. Nonoppositional nationalists pursue "productive" or "expressive" benefits through their nuclear policies. A productive nationalist policy in the nuclear arena is the building of nuclear technological capacity of direct relevance to the country's development strategy, and the maintenance of

12. This is a paraphrase of Indira Gandhi's explanation for why she preferred not to produce a nuclear arsenal. Quoted in George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California Press, 1999), 178.

diplomatic stances to protect that development. An expressive nationalist policy in the nuclear policy arena is the building and maintenance of technological capacities and diplomatic stances in order to reinforce the country's international standing and even its own sense of pride.

It is difficult to elaborate the complete set of contexts in which a non-oppositional nationalist will likely adopt nuclear policies more for productive or for expressive goals. Often these two types of goals may not conflict. Since nationalists of any type are not easily cowed, however, one hypothesis is clear: the more that great powers pressure their state to accept second-class nuclear status, the greater the risk that its nuclear policies will become vehicles for nationalist self-expression, disconnected from the practical needs of the economy or society. From the outside, such expressive nationalist nuclear policies may seem only to make sense if they actually result from the ambition to build a nuclear bomb. In fact, however, it is unlikely that states led by nonoppositional nationalists will seek the bomb, for as explained above they should recognize the heavy security cost of going nuclear. Indeed, to the extent that their expressive policies can be seen to be creating real security risks as opposed to mere international opprobrium, nonoppositional nationalists are likely to curtail those policies. The logic here is the same as the logic for why they would abstain from acquiring nuclear weapons.

The main hypotheses suggested in this theoretical exposition can be summarized as follows:

1. Leaders of states not facing obvious existential threats are unlikely to want to go nuclear unless their national identities can be characterized as oppositional nationalist.
2. Although nonoppositional nationalists will not want to build nuclear weapons, they will have a tendency to build up their technology base while rejecting international nuclear discrimination. In the nuclear field, such a policy would have been especially likely in previous decades, when nuclear technology was still seen as the key to the future.
3. The more great powers attempt to use diplomatic pressure to force a technically competent, nonoppositional nationalist-led state to accept the nuclear nonproliferation regime, the more likely that state will resist by adopting increasingly expressive nationalist nuclear policies.
4. Credible military pressure on a positive or nonoppositional nationalist state—for instance the threat of nuclear proliferation by neighboring states—will likely moderate the expressive nationalist content of the state's nuclear policies.

ARGENTINA'S NUCLEAR PROGRAM

NOW TURN TO an assessment of these hypotheses in the light of the evidence from the case of Argentina. The evidence presented in this article represents the first document-based history of the most eventful—and, from a nonproliferation perspective, the most worrisome—period of the Argentine nuclear program. There have been previous solid efforts by political scientists to analyze the Argentine case.¹³ As these authors would be the first to admit, however, their arguments have been hampered by the lack of internal state documents to test many of their conclusions. The evidence presented here, gathered on a research trip to Argentina in the summer of 1999, consists of data amassed from dozens of interviews with individuals with inside information on the nuclear program, and more importantly from archival documents that previous researchers had been unable to consult. Most of these documents were obtained through informal channels and were not screened or sanitized before they were consulted. These documents allow for the tracing of the policymaking process on nearly every major decision in Argentine nuclear history from the early 1960s to the early 1980s. This information is supplemented by declassified U.S., U.K., and French government documents.

The bottom-line lesson of these documents is simple: the weight of the evidence against the existence of an Argentine nuclear bomb program is overwhelming.

It would be impossible in a single article to cover the entire story of the rise and fall of Argentina's nuclear program. This study therefore focuses special attention on the period from the late 1960s to the early 1980s, the period of greatest Northern worries about Argentine nuclear intentions. This is also the period for which I have amassed the most complete historical documentary record.

13. Among the best of these works are Emanuel Adler, *The Power of Ideology: The Quest for Technological Autonomy in Argentina and Brazil* (Berkeley: University of California Press, 1987); Michael Barletta, "A Needless Regime and the Bombs Never Built: Framing Nuclear Technologies and Regimes in Argentina and Brazil"; and "Democratic Security and Diversionary Peace: Nuclear Confidence-Building in Argentina and Brazil" (papers prepared for delivery at the 1998 Annual Meeting of the American Political Science Association, Boston, 3–6 September 1998); Daniel Poneman, *Nuclear Power in the Developing World* (London: George Allen and Unwin, 1982); Etel Solingen, *Industrial Policy, Technology, and International Bargaining: Designing Nuclear Industries in Argentina and Brazil* (Stanford: Stanford University Press, 1996); and Solingen, "The Political Economy of Nuclear Restraint," *International Security* 19, no. 2 (fall 1994): 126–69.

The basic story is as follows. Argentine nonoppositional nationalism had two faces in the nuclear field: a productive aspect and an expressive aspect. At first the simultaneous pursuit of both these aspects was possible for Argentina, but as the nonproliferation noose became tighter, Argentina was forced to choose between them. Consistent with theoretical expectations, nonoppositional nationalist Argentina's nuclear policies began to favor the expressive over the productive side of its nuclear autonomy drive. This produced a vicious circle in which Argentine expressive policy choices led North Americans to perceive a proliferation threat and to engage in ever-tougher nonproliferation diplomacy, which in turn produced even more expressive responses from the Argentine side. This expressive nationalist behavior, however, was not without bounds. Argentina did not even come close to deciding for nuclear weapons, due to internal and regional security constraints. Finally, for a variety of reasons, beginning in 1989 Argentina abandoned its traditional foreign policy orientation, and this shift had a direct consequence on the autonomist nuclear policies that had long been important to the country's self-image.

THE 1960S: ARGENTINE NUCLEAR NATIONALISM FLOURISHES

From its founding in the early 1950s, the Argentine *Comisión Nacional de Energía Atómica* (CNEA) promoted an ideology of technological autonomy. The main intellectual father of this ideology in the nuclear sphere was Jorge Sábato, a scion of an eminent Argentine family who became director of the Metallurgy Department of the CNEA in 1955.¹⁴ This ideology was entirely focused on peaceful applications of nuclear energy; Sábato was fervently opposed to the bomb, and was considered a dangerous leftist peacenik by many in the military.

Within the CNEA, Sábato did not have to fight to impress his colleagues with the national significance of what they were doing. Indeed, his nationalist credentials were considered somewhat suspect by followers of Celso Papadopoulos, who favored designing and building reactors entirely in-house.¹⁵ It is fair to say that even if Sábato had not existed, Argentine nuclear nationalism would have. Sábato, however, did push this nationalist impulse in a productive direction. His ideology was at the core of the 1968 decision in favor of a German natural uranium-fueled power reactor as the first nuclear power station in Latin America. Not only did natural uranium fuel offer the potential for

14. The information in this paragraph is largely based on Carlos A. Martínez Vidal, "Esbozo Biográfico de Jorge Alberto Sábato, 1924-1983" (ms. prepared for the Asociación Argentina para el Desarrollo Tecnológico, Buenos Aires, February 1999). See also the exposition of Sábato's thought in Adler, *The Power of Ideology*.

15. Enrique Mariano and Bernardo Murmis, former CNEA officials, personal communication with author.

indigenous fuel fabrication, but the Germans also offered 100 percent financing for the project and ended up losing millions.¹⁶ With those terms, the selection of the German reactor could not have been faulted on financial grounds.

The first Argentine technical choices in the nuclear field were thus the result of a relatively pragmatic, productive aspect of nonoppositional nationalism. On the diplomatic side, expressive and productive aspects stood side by side. The list of 1960s-era nonproliferation and arms control measures that Argentina did not ratify is a long one. In fact in only one case, the 1961 Antarctic Treaty, did Argentina both sign and ratify a nonproliferation measure in the 1960s.¹⁷ In opposing the growing nonproliferation regime, Argentina surprised observers in the 1960s by working hand-in-hand with what Washington considered its most likely nuclear foe: Brazil.¹⁸ Clearly, in contrast to India and Pakistan, neither Argentina nor Brazil in the late 1960s perceived the other as having the intention to introduce instability into the Southern Cone by building nuclear weapons.

One of the reasons that Argentina's nuclear intentions came under special scrutiny by the international community was that in international diplomatic fora it insisted on retaining the right to conduct peaceful nuclear explosions (PNEs).¹⁹ This stance has been seen as a transparent cover for a desire to build nuclear weapons. This interpretation, however, ignores the extent to which the nuclear powers themselves were promoting PNEs as a tool for economic development at the time.²⁰ Moreover, as former Argentine ambassador to the IAEA Antonio Carrea informed me, sometime around 1970 France offered to use a PNE to excavate a deep-water port on the Patagonian coast. The Argentines quickly discarded this offer because of worries about its environmental

16. Daniel Poneman, "Argentina," in *Limiting Nuclear Proliferation*, ed. Jed C. Snyder and Samuel F. Wells Jr. (Cambridge, Mass.: Ballinger, 1985), 98.

17. This was a stricture in the broader 1961 Antarctic Treaty not to test weapons or stash nuclear waste on that continent. Roberto Mario Ornstein, "Contexto Político Internacional para Los Usos Pacificos de La Energía Nuclear" (ms. intended for publication by the Comisión Nacional de Energía Atómica [CNEA], Buenos Aires, 1998), 26.

18. The Argentine foreign minister, visiting Brazil in 1968, had to deny that an exclusive axis had been established between the two countries. Note from British Embassy, Rio de Janeiro, to Foreign and Commonwealth Office, marked "confidential," 6 February 1968. Foreign and Commonwealth Office files, 7/134, Public Record Office, Kew, United Kingdom.

19. Julio C. Carasales, "Las Explosiones Nucleares Pacificas y La Actitud Argentina," Consejo Argentina para las Relaciones Internacionales, Documento de trabajo no. 20, Buenos Aires, Argentina, 1997.

20. Optimism about PNEs would continue until at least the mid-1970s. See Theodore B. Taylor, "Commercial Nuclear Technology and Nuclear Weapon Proliferation," in *Nuclear Proliferation and the Near-Nuclear Countries*, ed. Onkar Marwah and Ann Schulz (Cambridge, Mass.: Ballinger, 1975), 118.

and diplomatic ramifications.²¹ The pro-PNE stance of the Argentines was therefore primarily an expressive stance and did not arise from a concrete interest in nuclear explosions for any purpose.

Argentina's stance in the nonproliferation diplomacy of the 1960s was the result of its nonoppositional nationalism. Throughout the decade there was little real contradiction between the expressive and productive aspects of Argentina's nuclear nationalism. The efforts of the North to stem the tide of weapons proliferation were still secondary to their efforts to promote nuclear exports. A communication within the British Foreign and Commonwealth Office brings this point home in the case of Argentina. A diplomat in the British Embassy in Buenos Aires wrote London to ask whether there would be any problem in continuing efforts to promote the sale of a British power reactor if Argentina failed, as expected, to join the Tlatelolco regional nonproliferation regime. The response from London was that if the Argentines preferred the British reactor, then they would sort out the nonproliferation implications.²²

With the NPT debate, however, the Northern states were slowly beginning to move to make nuclear technology sales and transfer dependent on adherence to the nonproliferation regime. CNEA president Oscar Quihillalt was sensitive to these changes, especially as he had recently served as chairman of the IAEA Board of Governors in Vienna. Judging that rejection of the nonproliferation regime was becoming too great a risk to the future progress of the Argentine nuclear program, Quihillalt decided in favor of the NPT and went to see both the Argentine president and the minister of foreign affairs to press for Argentine adherence.²³ This was an extraordinary act for a man who usually stayed away from such political matters, and it demonstrates that the Argentine atomic energy bureaucracy hardly constituted a "bomb lobby" in the 1960s. Quihillalt came away from his discussions thinking that he had convinced his political masters to join the NPT, but in the end they decided not to sign. Quihillalt believes that this decision was based on his superiors' desire not to

21. This episode was experienced firsthand by the CNEA scientist and diplomat Antonio Carrea. To Carrea's knowledge, there were never any concrete studies done in Argentina on PNE technology or their utility in the Argentine context. Antonio Carrea, personal communication with author.

22. "Note" marked "confidential" from Mr. Summerhayes, British Embassy, Buenos Aires, to Mr. Barker, American Department, Foreign Office, 29 December 1967; and "Note" marked "Confidential" from A. White, Foreign Office, to Mr. Barker, American Department, Foreign Office, 18 January 1968. Folder on "Tlatelolco Treaty," Foreign and Commonwealth Office Files 10/154, Public Record Office, Kew, United Kingdom.

23. Former CNEA President Oscar Quihillalt, personal communication with author. Quihillalt's recollection is confirmed by the note "Argentina and the NPT," Note from J. F. Wearing, British Embassy, Vienna, to R. C. Hope-Jones, Foreign Office, 12 July 1968, Foreign and Commonwealth Office Files 10/106, Public Record Office, Kew, United Kingdom.

accept "a diminution of our dignity."²⁴ Expressive nationalist goals had prevailed over productive nationalist goals.

THE 1970S: ARGENTINA CONFRONTS A TOUGHER NONPROLIFERATION REGIME

By the end of the 1960s, Argentina's diplomacy of nuclear nationalism was beginning to come at a cost. In the 1970s, the Northern states dramatically raised these costs in their bid to contain nuclear proliferation. Far from dissuading Argentina from its autonomist path, however, these policy changes actually pushed it more and more toward an expressive nationalist policy, which combined an assertive diplomacy with technical choices that were increasingly questionable from the perspective of the real economic needs of the country. In turn, these choices, while not actually made in pursuit of the bomb, worried Argentina's neighbors and as an unintended consequence created friction with Brazil. The fact that a nuclear arms race in the Southern Cone was averted, however, is further testament to the lack of nuclear weapons ambitions of nonoppositional nationalist states.

The 1970s were the period of greatest expansion of the Argentine nuclear program. The major decisions of that decade follow in roughly chronological order: the choice of the second power reactor; the diplomatic tangles with Canada and the United States; the effort to obtain advanced technologies; the choice of the third power reactor; nuclear confidence building with Brazil; and the construction of a secret uranium enrichment plant.

Choosing the second power reactor. At the start of the 1970s, Argentina's nuclear program was still little impeded by Northern nonproliferation diplomacy, so it continued to pursue the traditional mix of expressive and productive nationalist goals. In 1967, as negotiations over Atucha I, the first nuclear power reactor in Latin America, were still underway, the CNEA began a feasibility study for a second nuclear power reactor, double the size of the first. The second power reactor was to be built at Embalse, near Córdoba, the country's second largest power market. In May 1971 the Argentine presidency agreed to hold bids for the reactor at Embalse. The involvement of the military in the decision making process and the eventual selection of the Canadian Deuterium Uranium (CANDU) natural uranium-fueled reactor for Embalse have been seen by many observers as indications of Argentina's nuclear weapons ambitions.²⁵ Newly

24. Quihillalt, personal communication.

25. See, for example, Leonard Spector, *Nuclear Proliferation Today* (New York: Vintage, 1984), 203-4. Natural uranium-fueled reactors are considered more proliferation-prone than enriched uranium-fueled reactors for two main reasons: first, because they tend to produce more plutonium; and second, because few countries can enrich uranium themselves, they remain dependent on "responsible" states.

discovered evidence strongly indicates that this interpretation of Argentine intentions is unjustified.

As had been the case with Atucha I, bids for the Embalse deal poured in from North America and Western Europe. Of these, three bids were considered most serious: a U.S. (Westinghouse) offer of an enriched uranium-fueled reactor, a mainly German (Kraftwerk Union [KWU]-Siemens-Fiat) offer of an enriched uranium-fueled reactor, and a mainly Canadian (Atomic Energy of Canada Ltd.-Italmimpianti) offer of a CANDU natural uranium-fueled reactor.²⁶ Knowing the Argentines' attraction to natural uranium, the Germans also offered a modified version of Atucha I, but in fact they had already formally abandoned their natural uranium line and so placed much greater emphasis on their enriched uranium offering.²⁷ None of these offers was made contingent on Argentina's adherence to full-scope safeguards or to the international non-proliferation regime.²⁸

From the point of view of cost, it was clear that the Westinghouse offer was the superior one, and that the Canadian offer was by far the worst. Not only would the CANDU reactor be more expensive to construct, but, more importantly, its estimated unit cost of electricity was far higher than that of the other two reactors (U.S. \$0.00942 per kilowatt-hour for CANDU, versus \$0.00843 for the German offer and \$0.0083 for the Westinghouse).²⁹ Because of the cost advantages, not surprisingly—except for those who believe that the Argentine military was supporting the nuclear program out of a single-minded pursuit of the bomb—the military president General Alejandro Lanusse initially leaned toward the Westinghouse enriched uranium-fueled reactor.³⁰ A vigorous, public campaign by CNEA technicians and scientists, however, opposed this option for nationalistic reasons.

26. CNEA, "Central Nuclear Córdoba: Ofertas y Tipo de Combustible a Emplear," document marked "Secreto," sent to President General D. Alejandro Agustín Lanusse, Buenos Aires, 23 November 1972 (private archive).

27. An internal 1972 CNEA report frankly stated that of the two natural uranium offerings, only the Canadian offer was "viable." CNEA (Bela J. Csik), "Uranio Natural vs. Uranio Enriquecido," internal document dated 1972, p. 8 (private archive). Also see Poneman, *Nuclear Power*, 82 n. 31.

28. They did include safeguards (of varying duration) on the reactors themselves. The winning bid, from Canada, originally imposed safeguards only for the first 15 years of operation. The Canadians later unilaterally modified this original agreement. See Spector, *Nuclear Proliferation Today*.

29. As for percentage of local participation and financial terms, all offers were quite comparable. CNEA, "Central Nuclear Córdoba."

30. Solingen, *Industrial Policy*, 42. The notion that Lanusse backed the Westinghouse bid because the Westinghouse representative was a retired Army colonel, Carlos Ortiz de Zarate, is incorrect. Lanusse was no friend of Ortiz de Zarate's, as he had essentially had him drummed out of the corps only a few years beforehand. Colonel (Ret.) Carlos Ortiz de Zarate, personal communication with author.

The CNEA's left-leaning *Asociación de Profesionales* acted strongly against the Westinghouse offering. In a broadly disseminated statement of purpose, the *Asociación* reminded the executive that for Argentina nuclear power was about more than mere cost:

From this decision will essentially depend whether the integration of nuclear energy in the national energy schema will constitute a positive support to the technological development of our country or will convert itself into yet another instrument of underdevelopment and political and economic dependency.³¹

The *Asociación de Profesionales*, it is important to underscore, was not a bomb lobby but was rather was a left-leaning organization steeped in the ideology of national nuclear autonomy originally developed by Jorge Sábato.

These actions by the CNEA grassroots, and the support they found at every level of Argentine society, led to the establishment of a handpicked presidential commission to look into the various technologies available. As Argentina was under military rule, the commission naturally comprised one representative each from the army, navy, air force, and the CNEA.³² The commission's reports of the visits to West Germany, Canada, and the United States indicated the framework on which the final CNEA recommendation was made. That framework was based on neither cost nor military utility, but rather on the potential contribution to national technological autonomy.³³ On this scale the U.S. offer came in dead last. The decision between the Canadians and Germans, however, was trickier.

The Canadians were offering a rather mundane set of technologies, but ones which if mastered would give Argentina the competence to design and build its own reactors in the future. The Germans pursued a different tactic. In order to make their enriched-uranium reactor seem more enticing, the Germans offered to satisfy the Argentine desire for autonomy by offering the latest in ultracentrifuge uranium enrichment technology.³⁴ This is one of the most important discoveries made in the case study research. If Argentina had wanted the

31. APCNEA, "Asociación de Profesionales de la Comisión Nacional de Energía Atómica y la Política Nuclear Argentina," press release, Buenos Aires, 11 August 1972 (private archive).

32. These were technically competent individuals, however; in particular, the navy representative was Carlos Castro Madero, who would later become the president of the CNEA.

33. "Informes de la Comisión Interfuerzas a la Junta de Comandantes en Jefe sobre el combustible a utilizar en la central nuclear Córdoba," undated document (private archive).

34. CNEA, "Central Nuclear Córdoba"; and KWU, "Memorandum: Indigenous Uranium Enrichment in Argentina," n.d. (private archive).

bomb, the chance to acquire the secrets of uranium enrichment would have been worth any price.³⁵ Yet Argentina did not opt for the German deal.

The joint commission's reports stressed the need for Argentina's nuclear program to walk before it could run.³⁶ If Argentina went with the German offer, the commission argued, work on the enrichment plant would long "depend on the commercial policy" of West Germany and its European partners, while the ultracentrifuge production facility would need to have "an economy of scale" which Argentine needs could not justify. By contrast, if Argentina went with the Canadian offering, the commission argued, the goal of designing and building CANDU-type reactors in the future was an "accessible" one if Argentina made a "great effort."³⁷ This productive nationalist combination of national ambition and a sense of the possible—combined with a total absence of even hints of a desire for military applications—was seconded in the final CNEA recommendation. In March 1973 President Lanusse announced the decision in favor of the Canadian offer.³⁸

The nonproliferation noose tightens. On 11 April 1974 the Argentine-Canadian contract entered into force. One month later an event on the other side of the world, India's peaceful nuclear explosion, threw Argentina's relationship with its suppliers into disarray. India's action gave form and urgency to the previously inchoate worries in the North about the possible security consequences of the spread of peaceful nuclear technology. For the North Americans especially, any nuclear energy program became highly suspect, and they began to demand adherence to the NPT regime and acceptance of full-scope international safeguards as the price for continuing collaboration.³⁹ As former CNEA president Carlos Castro Madero and Ambassador Estéban Takacs write, "Thus began the period during which previously agreed contracts were unilaterally violated."⁴⁰

35. The Germans would later offer the Brazilians a different uranium enrichment technology, known as jet nozzle, which the Brazilian military promptly adopted for its parallel program. In neither case did the Germans require NPT ratification or full-scope safeguards as a quid pro quo for transferring the enrichment technology. "Informes de la Comisión." For this point in the Brazilian case see Barletta, "The Military Nuclear Program in Brazil."

36. "Informes de la Comisión."

37. "Informes de la Comisión."

38. Poneman, *Nuclear Power*, 76. As Lanusse decided the matter, Solingen's claim that "only the Peronist success in the 1973 elections ensured the maintenance of the traditional (heavy water) course" is therefore obviously in error. Solingen, *Industrial Policy*, 42.

39. The new, more muscular nonproliferation policy developed an institutional character with the founding of the Nuclear Suppliers'-Group (known in Argentina as the "Club de Londres"). Mozley, *The Politics and Technology of Nuclear Proliferation*, 152.

40. Carlos Castro Madero and Estéban A. Takacs, *Política Nuclear Argentina: Avance o Retroceso?* (Buenos Aires: El Ateneo, 1991), 59.

The first sign of trouble was the German insistence that the original safeguards on the Atucha I plant, which were about to expire, be extended to the life of the plant. As Argentina had not yet mastered the techniques of producing the natural-uranium fuel elements necessary, it had to accept the new German conditions.⁴¹ Canada tightened up its policy even more, and in December 1976 the Canadians formally announced their new, much stricter non-proliferation policy. As applied to Argentina this meant the near-total cessation of the technology transfer agreement unless and until Argentina acceded to the NPT and agreed to full-scope safeguards.⁴²

The mid-1970s, then, were a crossroads for Argentine nuclear policies. Argentina was forced to choose between the expressive and productive aspects of its nuclear program. Would Argentina bite the bullet, join the nonproliferation regime and reestablish its productive nationalist tradition of pursuing technological autonomy through close relationships with Northern nuclear suppliers? Or would it resist, maintain its expressive nationalist stance, remain outside the regime, and try to go it alone technologically? For a time Argentina appeared hesitant, but further North American pressure sealed its decision to resist.

Carter, Videla, and the Tlatelolco Treaty. Soon after Jimmy Carter ascended to the U.S. presidency in January 1977, he launched two separate, broad diplomatic campaigns: one concerning nonproliferation, and the other concerning human rights. Both had significant repercussions in U.S.-Argentine relations.⁴³ In the face of these campaigns, the Argentine military junta (known as the *Proceso de Reorganización Nacional*, in power since 1976) looked for some way to soften the confrontation. The Argentines inquired as to what they might gain from showing some flexibility on the nuclear issue.

The United States was particularly insistent that Argentina ratify the regional nonproliferation treaty, the Treaty of Tlatelolco. Argentine president Jorge Videla set up a special interministerial disarmament commission in August 1977 to look into the matter.⁴⁴ By late 1977 the various organs of the state had defined their stances on this question. As shown in the previously unrevealed documents, there was some variety in the responses, but there were two overall themes: first, ratification of Tlatelolco would not pose any serious problems

41. *Ibid.*

42. *Ibid.*, 60.

43. At the time the human rights situation in Argentina had deteriorated significantly. The regime unleashed a vicious campaign of torture, kidnapping, and murder against "subversives." Argentina, Comisión Nacional sobre la Desaparición de Personas, *Nunca más*, 3d ed. (Buenos Aires: Eudeba, 1997).

44. Comisión Interministerial de Desarme, "Acta no. 1," document marked "Secreto," 16 August 1977. Document obtained at Ministerio de Relaciones Exteriores, Buenos Aires.

for Argentine security, but second, Argentina should not ratify the treaty unless it received some significant payoff in terms of nuclear technology. These themes were emphasized in the contributions from most of the more powerful bureaucracies: the CNEA, the air force, the navy, and the Ministry of Planning (*Planeamiento*).⁴⁵ Some of the weaker bureaucracies echoed these points and even seemed to be willing to do without a concrete quid pro quo with the Americans; this was the stance of the *Estado Mayor Conjunto* (Joint Chiefs of Staff, which actually had less power than the individual chiefs), the Ministry of Defense (also a relatively weak body), and the president's Secretariat of Intelligence.⁴⁶ The army, which at the time controlled the presidency, initially took the hardest line, and seemed to desire to delay ratification in order to accumulate plutonium. Two months later, however, in December 1977, it changed its position and supported ratification in order to promote technological development and to achieve Argentina's "consolidation as a country that supports nonproliferation."⁴⁷ All of the submissions considered the issue in the twin contexts of economic development and Argentine-U.S. relations. The security consequences of the decision were hardly discussed, and only the Ministry of Defense considered, obliquely, the ramifications for Argentine-Brazilian relations.

In short, with minor variations, the various bureaucracies were agreed on a classic productive nationalist policy goal. They were willing to offer the United States a diplomatic victory, but only if they could increase their technological autonomy in the process. It must be said that the Argentines were not necessarily giving up much diplomatic ground, because Tlatelolco did not ban peaceful nuclear explosions, and because it would only enter into force after all countries in the hemisphere including Cuba had ratified it.

The main technology that Argentina wanted from the Americans was for the production of heavy water, the crucial missing component in their efforts

45. Notes from Fuerza Aerea Argentina, Comando en Jefe to Ministerio de Relaciones Exteriores, 7 December 1977; Comisión Nacional de Energía Atómica to Comisión Interministerial de Desarme, Ministerio de Relaciones Exteriores, 17 October 1977; Comando en Jefe de la Armada to Ministerio de Relaciones Exteriores, 29 November 1977; Ministerio de Planeamiento de la Nación to Ministerio de Relaciones Exteriores, 7 December 1977. Documents obtained at Ministerio de Relaciones Exteriores, Buenos Aires.

46. Notes from Consejo de Defensa, Estado Mayor Conjunto, to Comisión Interministerial de Desarme, 14 September 1977; Subsecretario de Planeamiento, Ministerio de Defensa, to Ministerio de Relaciones Exteriores, 21 September 1977; Presidencia de la Nación, Secretaría de la Inteligencia del Estado, to Comisión Interministerial de Desarme, 16 November 1977. Documents obtained at Ministerio de Relaciones Exteriores, Buenos Aires.

47. Notes from Comando en Jefe del Ejército to Ministerio de Relaciones Exteriores, 10 October and 5 December 1977. Documents obtained at Ministerio de Relaciones Exteriores, Buenos Aires.

to attain nuclear autonomy.⁴⁸ Initially the Argentines thought that the Americans were offering that technology, contingent on Argentina's acceptance of Tlatelolco and full-scope safeguards.⁴⁹ The two sides, led by the CNEA and by State Department official Joseph Nye, worked out a carefully worded joint communiqué, in which Argentina committed to initiate the ratification of Tlatelolco and the Americans committed to augment the existing accord on cooperation to include the "necessary technology and means" to satisfy Argentine heavy water requirements.⁵⁰ On 15 March 1978 the interministerial commission on disarmament instructed the Treaty Department of the foreign ministry to "prepare the juridical instruments" for Argentine accession. Suddenly, however, the United States blocked the transfer of a Canadian heavy water plant to Argentina, on the grounds that it had not agreed to allow Argentina to acquire heavy water technology, but rather only the means to obtain heavy water.⁵¹

Whether the Argentines had mistaken the U.S. commitment or not, for them this U.S. action was the last straw. Nationalist Argentina had committed publicly to what it saw as a major shift in its diplomatic stance on nonproliferation, representing a significant concession, and then suddenly its negotiating partner had changed the terms of the agreement. As CNEA then-president, Carlos Castro Madero, and Ambassador to Canada Estéban Takacs write in their history of nuclear Argentina, "The conclusion of this different interpretation of a communiqué that had been long and deeply discussed, left many doubts over the good faith with which it had been drawn up.... Our government considered itself liberated from its commitment to ratify the treaty." The Argentines believed that given an inch, the United States was trying to take a mile, and their reaction was that of a proud nation that had been wronged. This diplomatic tangle produced the strongly expressive turn in Argentine nuclear policies in the late 1970s.

Sensitive technology acquisition: the policy of blackmail. After the U.S.-Argentine clash over Tlatelolco, Argentina embarked, in current CNEA president Dan

48. Telegram marked "Secreto" from Subsecretario de Relaciones Exteriores, Ministerio de Relaciones Exteriores, to Argentine Embassy, Washington, D.C., 1 February 1978.

49. There was also talk of Argentina deferring plans to build a reprocessing plant, and of the United States assuring the provision of safeguarded enriched uranium to the small research reactor Argentina was exporting to Peru. Little progress was made on either of these points. Telegram on meeting with Ambassador Smith and Joseph Nye, marked "Secreto," from Argentine Embassy, Washington, D.C. (Embajador Aja Espil) to Ministerio de Relaciones Exteriores, 7 February 1978. Document obtained at Ministerio de Relaciones Exteriores, Buenos Aires.

50. Argentine-U.S. joint communiqué, 21 November 1977, reprinted in Castro Madero and Takacs, *Política Nuclear Argentina*, 157.

51. The United States could block this transfer as the plant was 15 percent U.S.-owned. Castro Madero and Takacs, *Política Nuclear Argentina*, 158.

Beninson's words, on a policy of blackmail. Argentina would threaten to develop unsafeguarded sensitive nuclear technologies in order to force Western suppliers to sell them to it instead.⁵² To this end, in 1978 the CNEA inaugurated a pilot plant for the production of heavy water, and another pilot plant for the production of zirconium sponges (a key technology related to the production of natural-uranium fuel elements). Once Argentina had proven that in any case it had the capacity to acquire these technologies, Western offers to supply them followed.⁵³

The blackmail tactic thus did meet with success in terms of bringing Argentina closer to technological autonomy in the short term. It came at a high price, however, and Argentina's willingness to bear that cost is best explained as an emotional, expressive statement of national pride. The CNEA, during Jorge Sábato's tenure, had understood that there was a difference between technological autonomy and technological autarky. The policy of blackmail may have succeeded in dislodging certain technologies, but it undermined the maintenance of the broader international links that were so important to the future of Argentina's nuclear industry. It took a painful decade for Argentina to begin to recognize this outcome.⁵⁴

The PLAN NUCLEAR and the third power reactor: the policy of bribery. Argentina's decision to resist the United States and the nonproliferation regime was all the more costly because it coincided with a major effort to expand the role of nuclear power in meeting Argentina's energy requirements. Argentine president General Jorge Videla issued a general statement of the need for increased commitment to the peaceful uses of nuclear energy on 19 October 1977.⁵⁵ CNEA president Castro Madero, however, was not satisfied with mere words. His idea was for Argentina to develop a long-term, rationally budgeted nuclear plan, rather than continuing in the pattern of grand ambitions followed by ad hoc decisions. Castro Madero wanted a formal plan not only to construct a series of nuclear reactors but also to master the entire nuclear fuel cycle,

52. CNEA President Dan Beninson, personal communication with author.

53. Castro Madero and Takacs, *Política Nuclear Argentina*, 97.

54. As Roberto Ornstein, CNEA international relations chief, told an Argentine Congressional committee in 1992, "We cannot remain isolated; we need international cooperation.... The hour has come to accommodate ourselves to the new international political context so that our international cooperation can continue as fruitfully as it has up to now." These were strong words, but they came several years too late to save the Argentine nuclear establishment. Roberto Ornstein statement to *Estado y perspectivas de la Actividad Nuclear en la Argentina: Congreso organizado por las comisiones de Ciencia y Tecnología y de Energía y Combustibles de la Honorable Cámara de Diputados de la Nación, Buenos Aires, 14 al 16 de Octubre de 1992* (Buenos Aires: República Argentina, 1994), 261.

55. Poder Ejecutivo Nacional, Decreto 3183, 19 October 1977 (Argentina, *Boletín Oficial*, 24 October 1977).

including its back end: fuel reprocessing.⁵⁶ If Argentina made this commitment, argued Castro Madero to President Videla, within ten years it would be entirely independent of foreign suppliers, a high nationalist priority. Moreover, until that objective could be attained, having a long-term development plan would make foreign suppliers more willing to negotiate seriously with Argentina "equally in commercial aspects as in the application of safeguards."⁵⁷

In short, one may describe Castro Madero's plan as a bribery strategy, one that complemented the blackmail strategy summarized above. Argentina at that time could not hope to build power reactors itself, especially given the effective cancellation of Canada's technology transfer agreement, and it was unwilling to bend to the international nonproliferation regime. Castro Madero's proposed solution, one that was daring and costly, was to offer financial incentives to the Western suppliers in order to weaken their nonproliferation fervor. The *Plan Nuclear* was a costly effort to pursue nuclear development while maintaining the overall expressive thrust of Argentina's nuclear diplomacy.

In November and December of 1978, an "ad hoc interministerial commission" was convened to evaluate the precise legislation and policies to adopt for the long-term *Plan Nuclear*. The rapporteur's summaries of these meetings show that they were dominated by the CNEA and that diplomatic and security issues were not discussed in depth.⁵⁸ It is clear that in late 1978 the CNEA did not see military applications as a goal of the program, nor as a selling point to the military regime. Indeed, the representative of the Ministry of Defense, Colonel Moreno, had to fight to get the diplomatic and security consequences of the plan placed on the agenda.⁵⁹ When he did finally get a chance to speak, he merely reemphasized the strategic importance of an independent energy

56. The idea of mastering the entire nuclear fuel cycle was of course an old one with the CNEA, but the inclusion of an industrial-scale fuel reprocessing plant in the plan was clearly an expressive nationalist action with little short- or even medium-term rationality. Plutonium-fueled reactors were supposed to be just around the corner, but even the CNEA internal reports admitted that in the best case they could only begin to use a reprocessing plant of such a size in 1995 at the earliest (CNEA, "Necesidades de Reprocesamiento en la República Argentina," internal document, 1980 [?], private archive). The public announcement of the intention to build the reprocessing plant came in 1978, and due to its questionable economic justification, it clearly contributed to proliferation fears in the United States and Brazil. These fears, however, were unjustified at least in the short term, since its power reactors were all under international safeguards. David Albright, "South American Bomb Potential," *Bulletin of the Atomic Scientists* (May 1989): 16-20.

57. Note from Carlos Castro Madero, CNEA President, to President Videla, 7 November 1978 (private archive).

58. CNEA, "Informe Preparado por la Comisión Interministerial Ad-Hoc para el análisis del Plan Nuclear. Para su elevación al excelentísimo señor Presidente de la Nación" (internal document prepared December 1978). Document obtained from CNEA, Buenos Aires.

59. *Ibid.*

supply.⁶⁰ The interministerial commission ratified the extremely ambitious goals of the *Plan Nuclear*, and President Videla approved those goals and the money to achieve them in a decree in January 1979.⁶¹

Videla's decree gave a significant boost to ongoing preparations for the third power reactor, to be designated Atucha II and built next to Atucha I.⁶² The first choice to be made was the familiar one of natural versus enriched uranium for fuel. By the late 1970s enriched uranium-fueled reactors had been established as the leading reactor on the market, and only the Canadians continued to offer a reasonable natural uranium-fueled alternative. At the same time, the U.S. monopoly on uranium enrichment had broken down, so dependence on enriched uranium no longer meant dependence on the United States. A March 1978 internal CNEA report, while noting these points, still leaned toward natural uranium for the purpose of "national autonomy."⁶³ It appears clear that the natural uranium choice, once the result of a pragmatic desire for greater national autonomy, had now become a treasured, expressive symbol of that quest for autonomy, and was therefore no longer a matter for serious debate.⁶⁴ In the very call for tender, the CNEA specified that it would only entertain the natural-uranium alternative.⁶⁵

There were two competitors for the contract: Canada (AECL) and West Germany (KWU-Siemens) which, in spite of its commitment to enriched uranium, brought its Atucha-I design out of mothballs in order to meet the customer's preference. At first the two potential suppliers agreed that neither would provide a reactor unless Argentina agreed to adopt full-scope safeguards.⁶⁶ The Argentine bribery tactic, however, did cause a breach in this common front. The Germans, knowing that their reactor was technologically backward and far more costly (\$1.5 billion versus \$1 billion for the Canadian

60. This is the one session for which a rapporteur's summary was not obtained. Colonel Moreno, personal communication with author.

61. Poder Ejecutivo Nacional, Decreto 302, 29 January 1979 (*Boletín Oficial*, 14 February 1979).

62. A third power reactor had already been approved in principle in 1976, but Videla's 1979 decree authorized the CNEA to engage in "final negotiations"—in addition to putting up the money for the reactor. Poder Ejecutivo Nacional, Decreto 302.

63. Ingeniero Jerónimo J. C. Martínez and Capitán De Fragata (Ret.) Waldemar J. P. Maidana, "Uranio Natural y Uranio Enriquecido," informe producido en el Departamento Factibilidad de Centrales Nucleares, CNEA, 17 March 1978 (private archive).

64. This point is made even clearer when one realizes that Argentina in 1978 did have the wherewithal to build a uranium enrichment plant and began to build one in secret. I discuss that plant in detail below.

65. Castro Madero and Takacs, *Política Nuclear Argentina*, 102-3.

66. Poneman, *Nuclear Power*, 79.

offer), relented on their insistence on full-scope safeguards.⁶⁷ On 28 September 1979 the Germans won the contract.⁶⁸

Castro Madero's internal report, entitled "Reasons upon which the Adjudication of the Heavy Water Plant and the Nuclear Power Plant Atucha II was Based," indicated the two main reasons for this decision.⁶⁹ The first, and indeed decisive, consideration was the desire to avoid full-scope safeguards, as Castro Madero bluntly states in the document. The second consideration was the fear of further hassles over the provision of technology, a concern informed by the earlier experience with the Canadians. The priorities emphasized in earlier reactor choices—terms of financing, quality and safety of the reactor, access to advanced technology, degree of local participation, and so forth—were now subordinated to the overriding expressive nationalist priority of rejecting the North Americans and the nonproliferation regime.

While the document makes it appear that accepting full-scope safeguards was never an option, Argentina did inquire with the Canadians about what would follow such an acceptance. Apparently the Canadians' trust of the Argentines had waned so much that they would not commit to serious technology transfer in the heavy water area even if Argentina did accept full-scope safeguards.⁷⁰ This was, at least in part, the result of Argentina's reputation as a nuclear rogue, a reputation that had increased due to its policy of blackmail. Castro Madero and the CNEA, however, took it as an affront to their national pride, rather than as a warning to reverse their policy in order to save the productive aspects of their nuclear policies.⁷¹

In sum, the bribery tactic was effective, in tandem with the blackmail tactic on heavy water, but only to a point. Argentina obtained its power reactor and heavy water plant without having to accept full-scope safeguards. Ten years earlier, however, avoiding safeguards had been relatively cost-free and unproblematic for the attainment of productive nationalist goals. Now Argentina was paying dearly for nothing better than a bigger Atucha I, a reactor that it had received from the Germans a decade earlier essentially as a gift. That reactor was now old technology that had practically been disowned by its supplier. At the same time, Argentina was sinking ever deeper into a diplomatic confrontation with Canada, a country whose reactor it had bought and which remained

67. Carlos Castro Madero, "Razones sobre las que se basó la adjudicación de la planta de agua pesada y la central nuclear Atucha II," CNEA document marked "Secreto," September 1979 (private archive). Also see Poneman, *Nuclear Power*, 80.

68. At the same time the contract for an industrial-scale heavy water plant was awarded to Sulzer Brothers of Switzerland.

69. Carlos Castro Madero, "Razones sobre las que se basó la adjudicación."

70. Castro Madero and Takacs, *Política Nuclear Argentina*, 187.

71. *Ibid.*, 187.

unfinished. Argentina was also in a confrontation with the United States. From a productive standpoint, this course was doomed; yet Argentina persisted with it for an entire decade. This persistence, the newly uncovered evidence shows, was the result of Argentine nonoppositional nationalist pride, and did not stem from a desire to build the bomb. Lacking access to internal policymaking debates, others could be forgiven for interpreting this conduct as a reckless and unjustified attempt to acquire nuclear weapons. Indeed, this was how Argentine behavior was coming to be understood in Brasilia.

Argentina, Brazil, and the bomb. Argentina's main confrontation concerning nuclear technology was with the North Americans. By the late 1970s, however, there was a growing nuclear dimension to Argentine-Brazilian relations as well. The billion dollar 1975 nuclear deal between Brazil and West Germany was "the largest technology package ever to be transferred from a developed to a developing country."⁷² This accord promised to help Brazil advance rapidly from nuclear backwardness to the cutting edge of nuclear technology, including not only nuclear power plant construction but also fuel reprocessing and the latest jet-nozzle uranium enrichment process. In this deal, Brazil was at least partially motivated by the desire to be able to respond quickly in case Argentina developed nuclear weapons.⁷³

Argentina had been viewing the nuclear issue almost entirely in the North-South dimension, but now suddenly it was forced to consider its regional implications. The deal coincided with the deterioration of Argentine-Brazilian relations over exploitation of their shared hydroelectric resources.⁷⁴ In this context it is not surprising that some of the first Argentine reactions to the Brazil-West Germany deal were intemperate.⁷⁵ According to Oscar Camili6n, the former Argentine ambassador to Brazil, at the time the notion of an Argentine-Brazilian nuclear arms race was "not an academic problem," although no Argentine official explicitly expressed a desire for nuclear weapons to him.⁷⁶ Camili6n himself felt that though relations were strained, the Argentine-Brazilian tension was due to a limited rather than an existential conflict of interests, and therefore a nuclear arms race was neither desirable nor inevitable.⁷⁷

72. Adler, *The Power of Ideology*, 281.

73. Barletta, "The Military Nuclear Program in Brazil," 15.

74. Some of the Argentine "geopolitical" school assessments of the security implications of this conflict are referenced and summarized in Contraalmirante Fernando A. Milia, "El Pensamiento Maritimo Argentino," *Bolet6n del Centro Naval* 111, no. 770 (April-June 1993): 385.

75. This includes a proposal in the Argentine Congress to go nuclear—a proposal that was immediately disowned by the Argentine government and the CNEA. See Poneman, "Argentina," 105.

76. Oscar Camili6n, personal communication with author.

77. *Ibid.*

The idea that avoiding an arms race through diplomacy was necessary and possible was shared by prominent Argentine military strategists, such as General Juan E. Guglielmelli and Admiral Fernando Milia.⁷⁸ This is testament to the nonoppositional character of Argentine nationalism.

Appointed ambassador in 1976 by the military junta, Camilión worked to improve relations with Brazil on the nuclear and hydroelectric fronts simultaneously. In early 1977 Jimmy Carter's emissary, Warren Christopher, came to Brazil and harshly criticized the German-Brazilian nuclear deal. At that time Camilión, in his own words, "took the riskiest decision of my diplomatic career: I told the Brazilian press that I had no doubt of the peaceful intentions of the Brazilian program."⁷⁹ Camilión claims that initially he was nearly fired for making this statement, but the internal Argentine reaction to it calmed and instead the statement became the basis for an Argentine-Brazilian nuclear rapprochement. Camilión recruited an eager CNEA president Castro Madero—who had made similar public comments—for informal discussions between the CNEA and its Brazilian counterpart.⁸⁰ This nuclear rapprochement, greatly aided by the Corpus Itaipú agreement which permitted the exploitation of the massive hydroelectric energy resources of the river Paraná, was formalized by an accord signed by the military presidents of Argentina and Brazil in May 1980.⁸¹ The U.S. pressure, ironically, worked in that it angered the Argentines and Brazilians so much that they patched up their differences with each other in order to create a common diplomatic front against the United States.⁸²

The 1980 Argentine-Brazilian nuclear rapprochement necessitated the balancing of the two conflicting imperatives of nationalism and mutual security. The nonoppositional form of nationalism required shunning not only the international and regional nonproliferation regimes, but also any invasive bilateral inspection procedures that could be seen as compromising national sovereignty. The military regimes' 1980 accord was strong on nationalism and weak

78. Juan E. Guglielmelli, "Argentina, Brasil y la bomba atómica," *Estrategia* no. 30 (September–October 1974): 1–15; "Y si Brasil fabrica la bomba atómica? (A propósito del acuerdo brasileño-alemán)," *Estrategia* no. 34/5 (May–August 1975): 5–21; Juan E. Guglielmelli, "Argentina-Brasil: enfrentamiento o alianza para la liberación," *Estrategia* no. 36 (September–October 1975): 1–29; Fernando A. Milia, "Armamento nuclear en el Cono Sur: un dilata estratégico," *Boletín del Centro Naval* 113, no. 777 (January–March 1995): 87–92.

79. Camilión, personal communication.

80. Castro Madero and Takacs, *Política Nuclear Argentina*, 232; Camilión, personal communication.

81. Julio Carasales, *De Rivales a Socios: El proceso de cooperación nuclear entre Argentina y Brasil* (Buenos Aires: Grupo Editor Latinoamericano, 1997), 62.

82. This irony is also noted in Castro Madero and Takacs, *Política Nuclear Argentina*, 232; and in John R. Redick, Julio C. Carasales, and Paulo S. Wrobel, "Nuclear Rapprochement: Argentina, Brazil and the Nonproliferation Regime," *Washington Quarterly* 18, no. 1 (winter 1995): 118.

on security. Instead of an inspection regime, the two sides contented themselves with verbal assurances and some limited technical cooperation between their respective atomic energy authorities.⁸³ These measures were effective in defusing the immediate conflict, but in the long term, trust without verification could take them only so far. This was made very apparent by a stunning revelation that came out of Argentina in 1983.

Argentina's secret uranium enrichment program: genesis and purposes. If Brazil had known in 1980 that Argentina was secretly developing a uranium enrichment capacity, it certainly would not have agreed to the bilateral nuclear rapprochement, and the Southern Cone might have found itself in a nuclear arms race. The secret uranium enrichment plant at Pilcaniyeu was by far the most reckless instance of Argentine expressive nationalist policies in the nuclear field. Yet while reckless, it was not a program to build the bomb, as most U.S. observers have charged.⁸⁴

With the April 1978 passage of the Nuclear Non-Proliferation Act, the United States announced that it would no longer provide enriched uranium for any purpose to those states that had refused to sign on to the nonproliferation regime. In the face of this U.S. initiative, Argentina's adoption of natural uranium fuel for its power reactors suddenly looked prescient. Argentina's smaller research reactors, however, did require enriched uranium. The research reactors were a particular source of pride since Argentina by now was building them itself. Moreover, Argentina had recently won a contract to export an Argentine-built research reactor to Peru; this was to be the country's first significant high technology export. The export in dollar terms was not all that significant, but the CNEA scientists viewed it as a huge step toward first world status. As CNEA physicist Mario Mariscotti put it to me, the Peru reactor was important as a "philosophical question ... a question of pride."⁸⁵ The U.S. cutoff of enriched uranium suddenly put this project in jeopardy.⁸⁶

At this time, the CNEA scientist Conrado Varotto came up with an extremely ambitious idea: Argentina could enrich its own uranium. Such a step would represent by far the most complicated technical feat that the CNEA had ever attempted. Because of the proliferation implications of enriching uranium, it would also be complicated from a diplomatic perspective. After consulting

83. For an analysis of the accord, see Carasales, *De Rivaless a Socios*, 62-69.

84. For instance, Mozley, *The Politics and Technology of Nuclear Proliferation*, 206; Spector, *Nuclear Proliferation Today*, 220-21.

85. Former CNEA scientist and historian Mario Mariscotti, personal communication with author.

86. Argentina was able to acquire enriched uranium from the Soviet Union and saved the deal. The Soviet Union, however, could not be counted on as a stable supplier, so Argentina needed to seek other options. See Castro Madero and Takacs, *Politica Nuclear Argentina*, 80.

with President Videla, however, Castro Madero agreed to undertake the project. The project began in June 1978 under a veil of complete secrecy at *Investigaciones Aplicadas* (INVAP) S.E., a CNEA-run company.⁸⁷

The original report on the enrichment plant project, one of the newly uncovered documents, indicates that the old fashioned gaseous diffusion process would be used to produce up to 500 kilograms of 20 percent enriched uranium per year.⁸⁸ The estimated cost was quite small and could be covered without a special request for additional state funding.⁸⁹ A functioning pilot plant was projected in one year's time, while the industrial-size plant was estimated to need two years for completion.⁹⁰ The report mentions two rationales for building the plant: first, "it permits the CNEA to acquire the capacity to produce its own enriched fuel for research reactors and/or production of radioisotopes," and second, "it permits the country to acquire capacity for international negotiation in a sensitive national security area."⁹¹

The goal of fueling the research reactors was important, especially due to the symbolic importance attached to the Peru contract. There can be little doubt that in proposing the indigenous enrichment of uranium, Varotto was attempting to fill a need created by the U.S. fuel cutoff. This is yet another example of U.S. pressure backfiring when applied to nonoppositional nationalist Argentina.

Clearly, however, something happened between the initial idea and the final plan. The report's reference to "national security" as a goal of the plant is unique in all of the documents reviewed for this study. (Note that this finding makes more credible my assertion that the absence of references to national security in documents on other aspects of the nuclear program actually reflects a lack of interest in exploiting the program for military purposes rather than hidden intentions.) Given the technology involved, the cloak of secrecy, and the explicit stated goals of the uranium enrichment project, this reference is troubling. Even so, the weight of the evidence still implies that the plant was not meant to build fissile material suitable for nuclear weapons.

87. Former CNEA scientist Conrado Varotto, personal communication with author. INVAP was a state company whose shares were held by one of Argentina's provinces, while the board was controlled entirely by the CNEA.

88. CNEA, "Informe DDG 1/78: Informe Preliminar," document produced June 1978 (private archive).

89. Castro Madero and Takacs report that the total cost was \$62.5 million dollars spread out over 5 years. Castro Madero and Takacs, *Política Nuclear Argentina*, 84-85.

90. CNEA, "Informe DDG 1/78."

91. CNEA, "Informe DDG 1/78." Note that one prominent reason given for the project by the CNEA after it was announced, namely the possibility of feeding some enriched-uranium fuel into the natural uranium reactors, was not mentioned at the outset.

The most critical consideration that discounts the idea that the plant was part of a nuclear weapons program is that it was designed from the outset to produce 20 percent enriched uranium, whereas bombs require over 90 percent enriched uranium. Some have argued that although the plant, when eventually discovered in 1983, was found to be configured to produce 20 percent enriched uranium, the ultimate goal of the project might well have been the ability to produce 90 percent enriched uranium. This speculation would be plausible, but the documentary record reveals no such intention. Others have argued that Argentina may have been planning to perform the technically complex task of enriching the same uranium multiple times until the 90 percent threshold was crossed.⁹² This argument is unconvincing. The Argentines were already at the limit of their technical capacities and had no need to increase their difficulties even further in a plant that was meant to remain secret.

The military purpose of the plant, in all likelihood, was to provide Argentina with the capacity to build not a bomb but a nuclear-powered submarine. From a technical perspective, two points suggest this conclusion. First, while 20 percent enrichment is insufficient for a nuclear weapon, it is more than sufficient for a submarine reactor. Second, if one subtracts for various research purposes 100 of the 500 kilograms of 20 percent enriched uranium that the plant was projected to produce annually, this leaves enough fuel for two nuclear submarines.⁹³ Moreover, the archival research shows that nuclear submarines and nuclear propulsion, in contrast to nuclear weapons, had aroused substantial interest in the Argentine military—primarily in the navy, the service with the closest institutional links to the CNEA.

Argentina's submarine dreams. As early as 1970 the CNEA and the navy had engaged in a joint feasibility study of nuclear propulsion along with the Italian atomic energy authority and German and Italian firms.⁹⁴ This study concluded that enriched uranium would be necessary for naval propulsion. It also concluded that foreign provision of such fuel would only be forthcoming for transport ships and would be "practically impossible" to obtain for the purpose of fueling a submarine or fighting ship. Moreover, the report concluded that even if it had enriched uranium fuel, building a submarine or fighting ship

92. Leonard Spector with Jacqueline R. Smith, *Nuclear Ambitions: The Spread of Nuclear Weapons, 1989-1990* (Boulder: Westview, 1990), 228.

93. The relevant technical data can be found in Marvin M. Miller's presentation in *Averting a Latin American Nuclear Arms Race: New Prospects and Challenges for Argentine-Brazil Nuclear Cooperation*, ed. Paul Leventhal and Sharon Tanzer (New York: St. Martin's, 1992). It should be noted, however, that Miller does not directly link his general comments to the Argentine case.

94. CNEA, "Proyecto de Propulsión Naval Nuclear: estudio de evaluación preliminar para la armada argentina," document marked "Reservado," dated 1971. File OP 633/1, Archives of the Escuela de Guerra Naval, Buenos Aires.

would be beyond Argentina's capacities. Not surprisingly, the navy was hardly encouraged by these early studies.

The issue was revived, however, in 1972–73 for at least two reasons. First, in the 1972–73 negotiations over the Embalse nuclear power plant, the Germans tried to sweeten their offer of an enriched-uranium reactor not only with uranium enrichment technology as previously mentioned, but with “close collaboration also in the area of marine propulsion and compact nuclear stations for the generation of energy [for example, reactors for the purpose of propulsion].”⁹⁵ Second, the German offer coincided with greater navy interest in nuclear energy as a result of the 1972 appointment of Carlos Castro Madero as chief of the Navy Research and Development Service (*Servicio Naval de Investigación y Desarrollo*, or SENID).⁹⁶ The German offer failed to convert Castro Madero—who, significantly, was a member of the interservice commission on the Embalse reactor—to the cause of enriched-uranium power reactors. It did, however, bring back the question of propulsion. In 1973 the CNEA and the navy prepared a secret accord in which the navy would provide funds for CNEA research in “compact power reactors, apt for naval propulsion, designed to utilize freely available national fuel.”⁹⁷ This latter determination—not only to study propulsion, but also to acquire the fuel for it “nationally”—is crucial evidence of the link between the navy's interest in propulsion and the uranium enrichment project.

It is likely that little work on propulsion was done in the politically unstable 1973–75 period, but with the appointment of Castro Madero as CNEA president in 1976 and the imposition of military rule in the country, the work resumed with a vengeance. In 1977 the government contracted with the German company Thyssen Rheinstahl for the acquisition of a class of diesel attack submarine, the TR 1700, with operational characteristics similar to that of a nuclear submarine. The Thyssen submarine model had the potential to be

95. CNEA, “Memorandum: Aspectos de una cooperación entre la Argentina y el grupo KWU en el área de propulsión nuclear de barcos y de unidades de pequeña capacidad de generación de energía nuclear,” document dated 3 January 1973 (private archive).

96. Not only was Castro Madero a stalwart in the nuclear energy field, but he was also explicitly in favor of a nuclear submarine capability, in stark contrast to his position on nuclear weapons. See Julio C. Carasales, Carlos Castro Madero, and José M. Cohen, *Argentina y el Submarino de Propulsión Nuclear—Posibilidades y Dificultades* (Buenos Aires: Servicio de Hidrografía Naval, 1992).

97. I cannot confirm whether or not this accord was actually given final approval, but I do have in my possession what appear to be early and final drafts. “Acta Convenio entre el Comando en Jefe de la Armada en adelante ‘La Armada’, representado en este acto por el señor Comandante en Jefe de la Armada almirante Dn. Carlos Guido Natal Coda y la Comisión Nacional de Energía Atómica, en adelante la CNEA, representada por su presidente, señor Contralmirante Ingeniero Dn. Oscar Armando Quihillalt,” document dated 1973 (private archive).

modified to use nuclear propulsion.⁹⁸ The deal was to construct the first two in West Germany and the next four in Argentina.⁹⁹ In that same year, 1977, the CNEA organized a project to build a small, enriched-uranium power reactor capable of supporting propulsion.¹⁰⁰ The CNEA eventually failed to miniaturize the reactor sufficiently to fit it safely in the Thyssen submarine as designed, so the navy never actually decided in favor of building a nuclear submarine. The ambition was definitely present, however, and it was maintained through the 1980s.¹⁰¹

In short, the national security interest noted in the 1978 decision for the uranium enrichment plant at Pilcaniyeu was almost certainly a reference to the ambition to acquire a capacity to build nuclear submarines.¹⁰² The idea of an Argentine nuclear submarine program reflected expressive nationalist goals. An Argentine nuclear-powered attack submarine force might have been useful in the Falklands/Malvinas war or in an eventual shooting war with Chile over the Beagle Channel.¹⁰³ Both of those conflicts, however, were themselves manifestations of nationalism, or at least of a military regime's attempt to use nationalism to counter its growing domestic illegitimacy.¹⁰⁴ Moreover, as Admiral Roberto Pertusio pointed out to me, although a nuclear submarine fleet would have been a military plus for Argentina, so would many other more conventional systems that the Argentine navy still lacked.¹⁰⁵ It was the expressive nationalist search for prestige more than a productive nationalist search for military effectiveness that made the idea of a nuclear submarine attractive to Argentina.

98. Carrea, personal communication.

99. Roberto L. Pertusio, *Una Marina de Guerra: Para Hacer Qué?* (Buenos Aires: Centro Naval, Instituto de Publicaciones Navales, 1985), 219–22; John Redick, *Argentina and Brazil*, 3.

100. This information was confirmed in interviews with former and present CNEA officials including Enrique Mariano, Dan Beninson, Roberto Ornstein, Emma Perez Ferreira, and Antonio Carrea.

101. Admiral Roberto Pertusio, a submariner, was instrumental in pointing out the defects in the CNEA's design in a meeting in the early 1980s. Roberto Pertusio, personal communication with author.

102. Varotto, who headed the enrichment project, refuses to confirm a direct link, but admits that the point is "debatable." Conrado Varotto, personal communication with author.

103. Admiral Pertusio comments that from a military standpoint the nuclear submarine was hardly relevant for Argentina (Pertusio, personal communication). Brazil, however, was making noises about nuclear submarines at the time, and it is possible that the competition between the two for prestige may have played a role in fomenting this Argentine initiative.

104. One of the most eloquent proponents of this view is the Argentine political scientist and historian Carlos Escudé. See for instance Carlos Escudé, *La Argentina: Paria Internacional?* (Buenos Aires: Editorial de Belgrano, 1984).

105. Pertusio, personal communication. This was also essentially admitted by Cohen as well in *Argentina y el Submarino*, 95–96.

Summary: a tumultuous decade. In sum, in the decade of the 1970s, as in the 1960s, Argentina's nonoppositional nationalism led it to abstain from pursuing nuclear weapons. When its policies did come close to fomenting a nuclear arms race with Brazil, the Argentine military junta made serious efforts to avert that eventuality. The 1970s, however, did see a growing expressive theme in decisions on nuclear technology and diplomacy. This evolution was largely the predictable result of heavy-handed Northern pressure on a nationalist Southern state. Indeed, nuclear relations between Argentina and North America in the 1970s entered a vicious cycle. Each new round of Northern pressure would offend the Argentines' pride, leading them to assert their independence with increasing recklessness. In turn, this lack of pragmatism would give the North new evidence that Argentina was seeking the bomb. This would lead to a new tightening of the nonproliferation noose, which set off another Argentine nationalist reaction, and so forth.

THE 1980S: THE PERSISTENCE OF NUCLEAR NATIONALISM

IN 1983, AFTER the crushing defeat in the Falklands/Malvinas War, the military dictatorship accepted a democratic transition. Many expected that democratic Argentina would "cage the nuclear tiger."¹⁰⁶ New president Raúl Alfonsín, however, proved to be a nonoppositional nationalist as well. Although Alfonsín worried about mutual Argentine-Brazilian suspicions and misperceptions, he fundamentally agreed with the autonomist thrust of Argentina's traditional nuclear stance.

Under Alfonsín, Argentina continued actively to pursue the goal of mastering the entire nuclear fuel cycle, including continuing work on the Pilcaniyeu uranium enrichment plant. The 1986 National Energy Plan turned away from gigantic hydroelectric projects while projecting "at a minimum approximately an additional 700 MW" from two nuclear power stations, to be built in 1997 and 2000.¹⁰⁷ This choice was due as much to the desire to maintain Argentina's level of nuclear technology as to provide more energy.¹⁰⁸ Alfonsín's government, however, for all its nationalism, did not pursue nuclear weapons any

106. Cynthia Watson, "Will Civilians Control the Nuclear Tiger in Argentina?" in *On the Brink: Nuclear Proliferation and the Third World*, ed. Peter Worsley and Kofi Buenor Hadjor (London: Third World Communications, 1987), 209-16.

107. República Argentina, Ministerio de Obras y Servicios Públicos, Secretaría de Energía, Subsecretaría de Planificación Energética, *Plan Energético Nacional 1986-2000* (Buenos Aires: República Argentina, 1986), 182.

108. *Ibid.*; and Enrique Mariano, the former CNEA official who helped write the *Plan Energético Nacional*, personal communication with author.

more than its predecessors had. There was the *Cóndor II* missile project, a cooperative venture with German companies that has been thoroughly investigated elsewhere.¹⁰⁹ In the nuclear weapons field, however, Alfonsín demonstrated no more ambition than those previously in power.

On the international diplomatic scene Argentina's policy also reflected more continuity than change. Alfonsín and Foreign Minister Dante Caputo strongly endorsed Argentina's traditional stance against the NPT and the international nonproliferation regime. Moreover, Argentina under Alfonsín launched an aggressive nuclear export policy that succeeded in selling small nuclear reactors (under international safeguards) to such states as Algeria and Egypt—actions that created tension in Argentine-U.S. relations.¹¹⁰

Alfonsín did differ from his predecessors in the degree to which he was willing to contemplate nuclear confidence-building with Brazil. The diplomatic breakthroughs of the 1980s have been carefully documented elsewhere.¹¹¹ It is important to note, however, that the development of an Argentine-Brazilian nuclear confidence-building regime—a process that had actually begun under the military regimes—was a limited breach in the nationalist stance. As in previous decades, Argentine-Brazilian diplomatic collaboration in the 1980s was as much about opposing the global nonproliferation regime as it was about building mutual trust. The creation of a bilateral nuclear regime was hardly seen in Argentina and Brazil as the first step toward accepting the NPT and associated measures; rather, it was seen as a way of fending off pressure to join the international nonproliferation regime. There were even worries in the North that Argentina and Brazil might be planning a collaborative bomb program to replace their suspected national efforts.¹¹² This was mere unsubstantiated speculation, although it is true that Alfonsín made a serious proposal of working together on a nuclear submarine, an offer Brazil declined.¹¹³ In sum, the democratic transition of the 1980s did not result in a significant nuclear policy shift. It was, ironically, the election of the Peronist Carlos Menem in 1989 that did produce the shift the North had been promoting.

109. Daniel Santoro, *Operación Cóndor II: La historia secreta del misil que desactivó Menem* (Buenos Aires: Ediciones Letra Buena, 1992); Martín Granovsky, *Misión cumplida: la presión Norteamericana sobre la Argentina, de Braden a Todman* (Buenos Aires: Planeta Espejo de la Argentina, 1992), esp. chap. 10 and 339–59.

110. Tomás Buch, "La proyección comercial internacional," in *La cooperación internacional de la Argentina en el campo nuclear*, ed. Julio C. Carasales and Roberto M. Ornstein (Buenos Aires: Consejo Argentino para las Relaciones Internacionales, 1998), 147–208.

111. The diplomatic breakthroughs are reported most completely in Carasales, *De Rivaldes a Socios*.

112. Such fears were expressed by North American panelists at the Montevideo conference. Leventhal and Tanzer, *Averting a Latin American Nuclear Arms Race*.

113. Dan Beninson and Roberto Ornstein, personal communications with author.

THE 1990s: CHANGES IN IDENTITY AND NUCLEAR POLICIES

THERE IS GENERAL agreement that Carlos Menem introduced a different spirit into Argentine foreign policy. Although elected on a traditional nationalist platform, Menem quickly moved to reorient Argentina toward friendship with the United States and to open Argentina's economy. In Carlos Escudé's interpretation, "hyperinflation brought the country back to its senses, both economically and with respect to foreign policy: it obsessed leaders and ordinary citizens alike with a desire for both monetary stability and a non-sense foreign policy that would keep the country out of trouble and would be functional to the state's economic goals."¹¹⁴ This new foreign policy stance was termed peripheral realism. In other words, after 1989 Argentina was ready to drop the nationalism that had for so long characterized its geopolitical identity.

The muting of Argentina's traditionally nationalist foreign policy had significant consequences for Argentine nuclear policies. By the time Menem took office in 1989, nuclear policy had become the main source of friction between the United States and Argentina. On this subject Menem seems to have resolved to give the United States everything it wanted, and more.¹¹⁵ He both slashed the budget for nuclear projects and hastened Argentina's acceptance of the nonproliferation regime, a process that culminated in Argentina's ratification of the Non-Proliferation Treaty in 1994. This is not to say that U.S. nonproliferation diplomacy forced Argentina to give in on the nuclear issue. Argentina had successfully resisted that pressure for four decades, even in the late 1980s when the country's economy was in tatters. Rather, it is more accurate to say that once Menem's Argentina dropped its nonoppositional nationalism, the dreams of a nuclear Argentina simply seemed ridiculous. Joining the nonproliferation regime, once a seemingly treasonous notion, suddenly became a small price to pay for the friendship of the United States and a low international country risk rating. The Menem shift in nuclear policies caused few ripples on the Argentine political scene.¹¹⁶ The new consensus for dropping Argentine nuclear nationalism was as wide as the old consensus that built it. In sum, internally driven changes in Argentine national identity rather than external diplomatic pressures best explain the Argentine shift in nuclear diplomacy and technology policy.

114. Escudé, *Foreign Policy Theory*, 4.

115. Granovsky, *Misión Cumplida*, chap. 3.

116. Julio Carasales, "Panorama de la política internacional de la Argentina en el campo nuclear." Buenos Aires, Consejo argentino para las relaciones internacionales, Documento de trabajo no. 28, 1998, 18.

ARGENTINA: NONOPPOSITIONAL NATIONALISM
AND LIMITED NUCLEAR AMBITIONS

I DEVELOPED FOUR general hypotheses at the beginning of this article: First, I argued that states led by rulers marked by oppositional nationalism will likely want to go nuclear, while nonoppositional nationalists will not; second, I argued that a state led by nonoppositional nationalists will likely adopt a policy of nuclear autonomy in terms of technology and diplomacy, while refraining from building the bomb; third, I argued that the more diplomatic pressure placed on a technically competent nonoppositional nationalist-led state to accept the nuclear nonproliferation regime, the more likely that state will adopt increasingly expressive nationalist nuclear policies; fourth, I argued that credible military pressure on a nonoppositional nationalist-led state—for instance the threat of nuclear proliferation by neighboring states—will likely moderate the state's nuclear policies. All hypotheses are strongly confirmed by the evidence from the case of Argentina:

1. Argentine nationalism was long fervent and strong, but it was nonoppositional. Argentina therefore never had any desire to acquire nuclear weapons.

2. Though not interested in building nuclear weapons, nonoppositional nationalist Argentina did develop a major nuclear program. In this development it followed a highly autonomist line both in terms of technology acquisition and in terms of nonproliferation diplomacy.

3. Heavy-handed diplomatic pressure from North America on the nuclear issue backfired, pushing Argentina toward increasingly expressive nationalist nuclear policies through the 1980s. Even when Argentina did change course, this resulted more from a general revision in Argentine foreign policy than from North American pressure in the nuclear area *per se*.

4. Latent or implicit military pressure from Brazil in the nuclear field in the 1970s and 1980s did lead to important bilateral nuclear confidence-building measures. By the time Argentina joined the NPT in 1994, its neighbor had long since concluded that it had nothing to fear from the Argentine nuclear program.

This study contains many lessons for theory and policy. The close fit between the general hypotheses enunciated at the outset with the evidence from the Argentine case suggests a need for a major overhaul in the assumptions of both sides of the Washington debate over nuclear proliferation. As stated at the beginning of this article, the mainstream U.S. nonproliferation community has relied on the Latin American case of nuclear rollback as a key justification for retaining traditional approaches to fighting proliferation. If Argentina

actually never sought nuclear weapons, this makes the case for traditional non-proliferation policies even weaker. At the same time, the main critics of the nonproliferation policy are the advocates of counterproliferation who argue that we must simply adjust to living in a nuclear-armed world. Argentina's lack of interest in nuclear weapons confounds their assumptions as well.

The Argentine case demonstrates the need for more sensitivity in U.S. assessments of the goals of burgeoning nuclear states. Neither the desire for nuclear technology nor opposition to the nonproliferation regime should be taken as clear or unproblematic indicators of nuclear weapons ambitions. Rather, it is necessary to understand the multiple meanings that states may ascribe to the acquisition of advanced and dual-use technologies.

Even if U.S. nonproliferation policy remains supply-side oriented, as it is likely to do, the Argentine case demonstrates that heavy-handed restrictions on technology transfer may often be at best ineffective, and at worst counterproductive. Certain states may prove docile, but others' pride may be offended by such restrictions. Policymakers should work harder to understand the nature of the national identities of the leaders and elites with whom they are dealing.

Perhaps more important than any of the particular lessons of the Argentine case is the broader lesson that there are limitations on the ability to assess the intentions behind many current nuclear programs. A little more modesty, and considerably more historical research, will be required in order to avoid the misunderstandings of the past.