

THE LAST TO DISARM?

The Future of France's Nuclear Weapons

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France still sees its nuclear arsenal as essential both as insurance against future major risks and as support for an independent foreign policy. There is a wide consensus in the country to maintain a nuclear deterrent, both among political parties and the general public. A modernization program is under way that will ensure the continued efficacy of the French nuclear force well into the 2030s, and France has adopted a fairly restrictive interpretation of its disarmament commitments under the Treaty on the Non-Proliferation of Nuclear Weapons. This suggests that the likeliest future direction of France's nuclear policy is conservatism. However, other scenarios remain possible, especially in the domain of transatlantic and/or European cooperation.

KEYWORDS: France; Nuclear weapons; Foreign policy; Nuclear deterrence; Nuclear policies; NATO nuclear weapons

"As long as others have the means to destroy her, [France] will need to have the means to defend itself."

—President Charles de Gaulle, Press Conference, April 11, 1961

"As long as general and complete disarmament will not be realized, nuclear weapons will remain necessary [for France]."

—Prime Minister Lionel Jospin, Speech to the Institute for Higher Defense Studies, September 3, 1998

"As long as risks persist and we have not achieved general and verified disarmament, which does not concern nuclear weapons alone, France will retain the capability to protect itself from any threat to its vital interests."

—President Jacques Chirac, Interview in *Armées d'Aujourd'hui*, January 2000

It is unlikely that France would embark in a military nuclear weapons program today if it did not already have one. However, the country still sees its nuclear arsenal as an essential element of its security and defense policies. To a large extent, the original rationales for the French nuclear program are still considered valid. From the French point of view, potential strategic threats to European security have not disappeared, and the U.S. guarantee through NATO is not seen as more credible than in the past. In addition, Paris now would like Europe to benefit from the same strategic autonomy for Europe than it has had since the 1960s. The underlying idea that nuclear weapons make a nation free and independent still exists in the national strategic culture. When it comes to foreign policy, France's nuclear status seems always to be present in the back of the minds of any French

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president, prime minister, or foreign minister. As President Jacques Chirac stated in 2006: "In light of the concerns of the present and the uncertainties of the future, nuclear deterrence remains the fundamental guarantee of our security. It also gives us, wherever the pressures may come from, the power to be the masters of our actions, of our policy, of the enduring character of our democratic values."¹ One may even wonder: would France have taken the stance it took in early 2003—*actively* opposing war in Iraq to the point of threatening to veto the passing of a UN Security Council resolution—had it not been an independent nuclear power?

This importance of nuclear weapons for the French suggests that the likeliest future direction of France's nuclear policy is conservatism, and the United Kingdom's December 2006 decision to maintain and renew its own nuclear deterrent will probably be seen as additional encouragement to stay the course. However, other scenarios remain possible, especially in the domain of international cooperation.

Current French Nuclear Policy

France has a fairly traditional approach to deterrence. Few contemporary heads of state or government of nuclear-endowed countries would devote an entire speech to nuclear deterrence matters, as Chirac did on January 19, 2006. And the words "nuclear" and "deterrence" are still very much associated in the nation's strategic culture. France's 1994 Defense White Paper expressed considerable reservations about the relevance of "conventional deterrence" as a possible substitute for nuclear weapons.² And there is a traditional defiance vis-à-vis missile defense, for strategic and budgetary reasons.

In his landmark 2006 speech, Chirac described nuclear deterrence as the very foundation of French defense policy: "[Our] defense policy relies on the certainty that, whatever happens, our vital interests will be protected. That is the role assigned to nuclear deterrence, which is directly in keeping with the continuity of our strategy of prevention. It constitutes its ultimate expression."³ He made it clear that nuclear weapons protected France's ability to project its forces abroad. The message was probably addressed to those officers and politicians who question the expense of the nuclear arsenal, given the need to further modernize the conventional forces.

The French conception of nuclear deterrence covers "vital interests." The 1994 White Paper defined such interests as follows: "the integrity of the national territory, including the mainland as well as the overseas departments and territories, the free exercise of our sovereignty, and the protection of the population constitute the core [of these interests] today."⁴ In his 2006 speech, Chirac stated that "the defense of allied countries" could be part of vital interests.⁵ The mere mention of "allies" in a deterrence speech was not new, but previously it was generally associated in French public discourse with the words "Europe" or "Atlantic alliance." The use of the word "allies" without any elaboration left open the possibility that non-NATO French defense partners, such as allies in the Persian Gulf region, could be protected.

Chirac also stated that the "safeguard of strategic supplies" could not be excluded from the scope of vital interests. It seems that the French president wanted to send a

message to anyone who might be tempted to cut off oil and gas to Europe: the strangulation of European economies could affect French vital interests. This scenario is not entirely noncredible; a hypothetical alliance between Russia and several Middle Eastern oil and gas producers deciding to cut off exports to the European Union (EU) could bring Europe to its knees, given its increasing dependence on external imports.⁵ This “economic strangulation” scenario as a potential threshold for nuclear use is fairly original—though at least one other country, Pakistan, also considers it a potential “red line.” (Note that Sen. Richard Lugar, Republican of Indiana, suggested in November 2006 that because “an attack using energy as a weapon can devastate a nation’s economy and yield hundreds of casualties, the [Atlantic] alliance must avow that defending against such attacks is an Article V commitment.”)⁷

An attack on vital interests would bring on a nuclear response in the form of “unacceptable damage” (or “irreparable damage”) regardless of the nature of the threat, the identity of the state concerned, or the means employed. A notable part of Chirac’s 2006 speech was his reference to state-sponsored terrorism: “Leaders of states resorting to terrorist means against us, as those who might consider, one way or the other, weapons of mass destruction, must understand that they risk a firm and adapted response from us. And this response can be of a conventional nature. It can also be of another nature.”⁸ Through this statement, France made it clear that it sees terrorism and weapons of mass destruction as not necessarily a threat to its vital interests, but that it would not hesitate to use nuclear means should the threshold of vital interests be crossed in the French president’s view. However, as Chirac has stated several times since 2001, France’s nuclear deterrent is for states only.

France puts forth two rationales about why it needs to retain and modernize its nuclear force. One is the “life insurance” function. French leaders believe that the world can change rapidly and that the emergence of a new major threat to Europe is not a farfetched scenario. Accordingly, it is deemed prudent to maintain a national nuclear deterrent. Chirac implicitly referred to potential major threats by observing that France is “not shielded from an unforeseen reversal of the international system, nor from a strategic surprise.”⁹ The French strategy has become again global, or *tous azimuts*, to borrow an expression from the de Gaulle years. France believes that a major threat could one day come from far away. Prime Minister Lionel Jospin indicated in 1999 that French deterrence should be able to counter any threat, “even a distant one.”¹⁰ This was interpreted as signifying that the buildup of nuclear arsenals in Asia was deemed a matter of concern for Europe. More broadly, Chirac in his 2006 speech emphasized that the rise of nationalism and the competition between poles of power could trigger new major threats. Even in the absence of such threats today, France reasons that since it already has nuclear weapons, it might as well keep them.

France’s second rationale is to guarantee that no regional power can blackmail or pressure it with weapons of mass destruction. In this regard, the prevailing opinion in Paris is that nuclear deterrence is a better and safer choice than missile defense. The kind of scenario that has French officials worried is one in which, for instance, a country tries to block military intervention by threatening to strike the national territory. This concept could be called “counterdeterrence” or “counterblackmail.” No specific countries of

concern are identified in French discourse—Paris has stopped short of adopting the U.S. practice of naming names—in line with a consistent practice of refusing to establish a sharp distinction between “good guys” and “bad guys” in the international community.

France considers its nuclear policy to be consistent with its international legal obligations, including Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which requires, *inter alia*, that states move toward total nuclear disarmament. The head of the French delegation to the 2005 NPT Review Conference stated that France was “intent on reaffirming its commitments under Article VI of the treaty.”¹¹ France has significantly reduced its nuclear arsenal since the end of the Cold War, and the nuclear share of its defense equipment budget has declined by half since 1990 (from 40 percent to 20 percent). It has reduced the number of nuclear delivery vehicles by two-thirds since 1985, abandoned ground-launched ballistic missiles, and has dismantled its nuclear testing site and fissile material production facilities.¹² It maintains its force at a level of sufficiency (equivalent to “minimum deterrent”) and has chosen “not to equip itself with all the nuclear weapons systems it could have, given the technological resources at its disposal,” according to an official 2005 brochure detailing the country’s contribution to nonproliferation and disarmament.¹³

However, the French have also adopted a very strict interpretation of Article VI, which is not even mentioned in the aforementioned brochure. France is keen to emphasize the multidimensional character of Article VI, including the article’s goals of cessation of the arms race and of general and complete disarmament. It considers its moves toward biological, chemical, and conventional disarmament (including small arms and landmines) as part of its Article VI record—as well as its assistance to nuclear threat reduction in Russia.¹⁴ As far as its own nuclear policy is concerned, the preferred point of reference for French diplomats seems to be the “Decision Number Two” of the 1995 NPT Review Conference, rather than the “Thirteen Steps” of the 2000 NPT Review Conference.¹⁵ (Both texts identified a number of measures to be taken in support of the realization of the goals indicated in Article VI.) Though no explicit conditions for further nuclear reductions have been formalized, France indicated in 2005 that if “the disproportion [between French, U.S., and Russian forces] changed its nature, it could envision to draw consequences” from such a development—that is, if there were major U.S. and Russian reductions, perhaps by an order of magnitude, France could make further cuts in its arsenal.¹⁶

France’s firmness on the Article VI issue has been strengthened by its irreversible decisions of 1996 to dismantle its nuclear testing site and fissile material production facilities. France was also the first of the five NPT nuclear powers to officially support the “zero option” for the Comprehensive Nuclear-Test-Ban Treaty (CTBT)—no nuclear test, no matter the yield—on August 10, 1995. (These measures, along with the decision that same year to dismantle the long-range, ground-launched missiles located at the Plateau d’Albion, were made in part to sweeten the bitter pill of France’s final nuclear testing campaign.) However, more than a decade later, the CTBT is not in force; nor is the Fissile Material Cutoff Treaty, which France also supports. Moreover, the Anti-Ballistic Missile (ABM) Treaty is defunct, and the NPT seems increasingly at risk; France has traditionally viewed these two treaties as pillars of strategic stability. This has led Paris to be even more

cautious regarding nuclear disarmament than it has been in the past. Such is the reason why Chirac stated in 2006: "It is obvious that we will only be able to go forward on the road toward disarmament in the event that the conditions of our overall security are maintained and if the will to make progress is unanimously shared."¹⁷

Because it no longer conducts nuclear tests, France uses a simulation program to help maintain an enduring stockpile without live nuclear testing. It includes in particular a high-power laser (*Laser Méga-Joule*), a powerful X-Ray radiography machine (*Accélérateur à Induction pour Radiographie pour l'Imagerie X*), and a massively parallel computer architecture that aims to achieve a 100-Teraflop-per-second capability in 2010.

On average, France's nuclear defense budget for 2003–2008 (in the five-year defense plan voted by Parliament in 2002) was planned to be €2.8 billion (\$3.8 billion) per year. The 2007 nuclear defense budget includes €3.36 billion (\$4.6 billion) for program authorizations, including €1.31 billion (\$1.8 billion) for the Commissariat à l'Énergie Atomique (CEA), and €3.27 billion (\$4.6 billion) for payment credits, including €1.26 billion (\$1.7 billion) for the CEA.

Since France's 1996 defense review, the number of nuclear-powered ballistic missile submarines (SSBNs) has been reduced from five to four. Three subs are in the operational cycle, making it possible to maintain continued at-sea deterrence with at least one vessel on patrol at all times, or even two at all times should the president so decide. If the force were fully generated, a total of 48 missiles and 288 warheads carried on three SSBNs would be available. France's M45 missile has a range of at least 4,000 kilometers (km) and carries up to six TN75 warheads, each in the 100–150 kiloton range. The fourth and final new-generation SSBN will enter service in 2010, carrying the new M51 sea-launched ballistic missile (SLBM). The M51's range with a full payload of warheads and penetration aids is reported by most sources to be 6,000 km. However, some sources suggest that the missile could have a much greater range (8,000–9,000 km) with a reduced payload, in particular in its M51.2 version, which will enter service in 2015.¹⁸ France also has three squadrons of Mirage 2000N aircraft, and a small carrier-based fleet of Super-Etendard, carrying the Air-Sol Moyenne Portée (ASMP) 300-km range air-breathing missile. Its successor will be the "improved" ASMP-A (ASMP Amélioré), which will enter service in 2008 and is reported by most sources to have a range of 300–400 km. Rafale aircraft will gradually replace both Mirage 2000N and Super-Etendard aircraft after 2008. The official current number of French nuclear weapons is not known; most public estimates, for instance the *SIPRI Yearbook* or the *Bulletin of the Atomic Scientists*, have put it for years around 350.¹⁹ The next-generation warheads, which will enter service in 2008 (for the ASMP-A) and 2015 (for the M51), are "robust" warheads—less sensitive to variations in parameters resulting from the aging of components. This concept was developed during the 1995–1996 final round of nuclear testing. (It is somewhat similar to the U.S. Reliable Replacement Warhead program.) All French weapons are lumped together in a single category of "strategic" systems, providing flexibility in nuclear planning and operations.

To deter a major power, France would rely on the threat of "unacceptable damage of any kind." To deter a regional power, it would rely on the threat of destroying "centers of power." An original French concept is that of "final warning" (*ultime avertissement*), the idea of threatening an adversary (who has misjudged French resolve or miscalculated the

limits of French vital interests) with a single limited strike aimed at "restoring deterrence."²⁰ While the final warning has conceptual equivalents in U.S., British, and NATO doctrines, the originality of the French concept is that the final warning would be just that: a non-repeatable strike followed by an "unacceptable damage" strike if the adversary persisted. French military authorities let it be known in 2006 that the final warning could take the form of a high-altitude electromagnetic pulse strike.²¹

Although specific weapon adaptations have not been made public, it is widely believed that France has diversified its nuclear yield options in recent years. The option of exploding only the first-stage primary may have been exploited, since it is known to be an easy adaptation from a technical point of view.

France has consistently rejected the adoption of a no-first-use posture. This has been manifested by reservations attached to the Negative Security Assurances (NSAs) conferred in 1995 by France, as by other official nuclear powers, to non-nuclear members of the NPT. Paris sees nuclear retaliation as consistent with the right to self-defense recognized by Article 51 of the United Nations Charter, thus prevailing in cases of aggression over commitments of non-use made in peacetime. France asserts that countries that do not respect their own nonproliferation commitments should not expect that the NSAs would apply to them. These reservations to the NSAs were reaffirmed in 2003.²²

Chirac insists, however, that changes to the French posture do not represent a lowering of the nuclear threshold: "Nuclear weapons, for us, are in no way war-fighting weapons. . . . There is no lowering of the nuclear threshold in my statements."²³ In the eyes of French authorities, doctrinal and systems adaptations were necessary to ensure the credibility of deterrence in a wider range of scenarios than in the past. Then-Chief of Defense Staff Henri Bentegeat has let it be known that a minimum yield for new weapons had been fixed in order to make it clear that France was not adopting a war-fighting strategy.²⁴

France is traditionally dubious about the benefits of territorial missile defense. Its defense of the ABM Treaty was motivated by the fear that its demise would prompt Russia and other potential adversaries to bolster their defenses, thus undermining the French deterrent. Budgetary constraints have limited the attractiveness of a French missile defense. However, France has shown an increasing pragmatism in this domain in recent years. In 2001, Chirac confirmed that French forces abroad should be protected against the threat of tactical missiles.²⁵ The Aster family of weapons systems will provide the basis for short-range ballistic and cruise missile defense. In 2002, Paris confirmed its participation in feasibility studies for a European missile defense to protect alliance territory, forces, and population centers against "the full range of missile threats."²⁶ In 2006, Chirac stated that missile defense could be a complement to nuclear deterrence "by diminishing our vulnerabilities."²⁷ France could thus participate in a future NATO theater missile defense system. In light of France's long-standing reservations about territorial defenses, this was a significant evolution.

The Key Players: A “Nuclear Monarchy”

Presidential authority over nuclear matters stems from several features. According to France's 1958 Constitution, the president is “the guarantor of national independence and of the integrity of the territory” (article 5), the “head of the armed forces,” and he “chairs the Defense Council meetings” (article 15).²⁸ The French people directly elect their president. There is evidence that the idea of direct popular suffrage was linked with France's new nuclear status.²⁹ As a biographer of de Gaulle put it, “the nuclear fire is consubstantial to State Gaullism.”³⁰ France may be the only country whose political system proceeds from the possession of nuclear weapons. Its 1958 Constitution had limited the powers of Parliament in order to put an end to the political instability that had characterized the two previous Republics. De Gaulle thought that only direct popular suffrage could give him the legitimacy he needed for his domestic and foreign policy plans; he also thought that France's status as nuclear weapon state gave him a special responsibility. He had the Constitution amended in 1962 through a referendum and was popularly elected in 1965. A 1964 decree gave the president legal authority over the use of strategic air forces, drawing from his capacity as chairman of the Defense Council and as head of the armed forces.³¹

Two institutions are critical to the president's exercise of nuclear authority. One is his private military staff (*état-major particulier*). This small team of four superior officers has acquired considerable importance in French defense policy without having been instituted by any official text.³² A key person in French nuclear matters is the head of this group (*chef d'état-major particulier*, or CEMP), a four-star officer who is the private military adviser to the president. His position in the Elysée protocol (third after the president and the general secretary) is a reflection of his importance. Another institution is the Defense Council, which includes the president, the prime minister, and the ministers of foreign affairs, defense, interior, and finances. Military chiefs normally participate as well, and other personalities (for instance, Ministry of Defense officials) may be required to join the meetings. The authority of the council on nuclear matters was defined by a 1964 decree.³³ Meetings are not announced in advance, and no proceedings are published. A 1996 decree gave the chief of defense staff (*chef d'état-major des armées*, CEMA) overall responsibility for preparing nuclear plans and “ensuring the execution of the order of engagement given by the president.”³⁴

The French Nuclear Elite

French nuclear policymaking has always been the responsibility of a handful of political leaders and officials. Neither Parliament nor the strategic community has significant influence on nuclear decisions.

The key body for nuclear policymaking is the Defense Council. Its meetings are prepared by the general secretariat of national defense (*secrétariat général de la défense nationale*, or SGDN), an interagency body reporting to the prime minister from an organic point of view, but also to the president from an operational point of view. The role of this body in nuclear affairs has varied. It was originally the prime minister's personal military

staff; after the 1962 reform, it had mostly administrative functions. It was rejuvenated during the 1990s and has been on several occasions the key government-level body for nuclear policy coordination.

Policy orientations are made top-down, from the president's Elysée Palace down the bureaucracy. Absent a request from the Elysée, innovative ideas have little chance to find their way to the president's desk, and even less to be adopted. By this author's estimate, nuclear policy in France is made by a group of fewer than 20 people: political authorities and their advisors, military staff, and a few civilians.

The government's role is limited. The defense minister is "responsible for the organization, the management and the conditioning of nuclear forces and their necessary infrastructure," but he or she is not in the chain of command.³⁵ Nuclear actors in the Ministry of Defense include the minister, the minister's private staff, the chief of the defense staff, the chief's nuclear forces division (headed by a two-star officer, it does the actual nuclear planning), the procurement directorate (*délégation générale pour l'armement*, DGA), the policy division (*délégation aux affaires stratégiques*, DAS), and the two nuclear commands.³⁶ The creation of the DAS in 1993 has helped give the ministry a more important role in nuclear policymaking and has allowed civilian experts a say in the process. However, the government plays a useful political role in "shielding" the president: the Elysée generally remains in the shadows when nuclear policy is debated in Parliament (which happens rarely). Only in times of *cohabitation* (when the president and prime minister are of different political parties) would the prime minister and his private office play a significant role. But presidential authority on nuclear policy was confirmed by the three *cohabitations* that have occurred between 1986 and 2002. In 2001, the presidential mandate was reduced to five years from seven, and now presidential elections coincide with parliamentary elections; thus, *cohabitation* is less likely to happen in the future.

Overall, French nuclear policymaking has become more centralized since 1958. France's nuclear system is even more "monarchic" than it was when the expression was forged.³⁷ With the consolidation of all French weapons under a single category of strategic weapons, military commanders have lost their say in nuclear planning. The SGDN is no longer headed by a military officer and since 1978 reports to the president in addition to the prime minister. The CEMP and the CEMA are now the military's only nuclear policymakers, and they are involved from planning to use. The CEA has lost under the Fifth Republic the influence it had under the previous regime, and the once-powerful corps of "armaments engineers" (*ingénieurs de l'armement*, graduates from the prestigious Ecole Polytechnique) has also seen its importance diminishing. Its members have lost the preeminence they had from 1964 to 1993 in defense studies and policy framing. Neither the Ministry of Defense procurement office nor the CEA normally participate in the Defense Council.

Parliament, too, is excluded from most of the nuclear decisionmaking process. De Gaulle set up the military program laws, or five-year defense plans, so that budget continuity to build the French deterrent would be ensured, and also that Parliament would have fewer opportunities to challenge French defense policy. Defense issues do not figure prominently in the two chambers' work. Parliament does report on nuclear policy every year, at the occasion of the preparation of the budget vote, and both chambers produce at

least a short report each on the current state and modernization of the deterrent force, which generally approves government policies.³⁸ A more in-depth debate takes place every five years or so, at the occasion of the preparation of a new military program law, and special parliamentary reports on nuclear deterrence issues also appear on an irregular basis on Parliament's own initiative.³⁹ Majority parliamentarians are sometimes critical of government policy, but if their recommendations are completely at odds with such policy, they have almost no chance of being implemented. (In 2004, a rare criticism of excessive nuclear expenses from the then-chairman of the National Assembly's Defense Committee, Guy Tessier, was met with a firm rebuff by Defense Minister Michele Alliot-Marie.)⁴⁰ However, parliamentary reports do play an important role as quasi-official information documents for the parliamentarians themselves and for the general public, since their authors have access to direct government information. The same can be said for hearings of public officials, as well as answers to parliamentary questions.

The role of experts and think tanks in French nuclear policymaking is limited. Individual influence does exist, but more as a result of informal private contacts than of publications or studies contracts. Reasons include the quasi-absence in France of a "revolving door" through which experts go in and out of government (notably when political majorities change), as well as a lingering suspicion, within the very self-conscious caste of French high-level civil servants, about outside expertise in public policy in general. Several mainstream (non-political) think tanks are nevertheless involved in nuclear policy debates: the Fondation pour la Recherche Stratégique, the Institut des Relations Internationales et Stratégiques, and the Institut Français des Relations Internationales. Smaller outfits such as the Centre d'Études de Sécurité Internationale et de Maîtrise des Armements, the Centre Interdisciplinaire de Recherche sur la Paix et d'Études Stratégiques, and the Institut Français d'Analyse Stratégique also work on such issues. But think tanks generally support the consensus on the need for an independent deterrent. Most op-eds published by experts after Chirac's 2006 speech sought to explain rather than criticize it.⁴¹

There is little to say about the influence of the media. Nuclear issues rarely make headlines, and editorialists seldom use them to make a point or to criticize the government. However, proliferation, deterrence, and other nuclear-related international topics are fairly well covered in France. Articles about nuclear affairs appear in international policy journals such as *Politique étrangère*, *Politique internationale*, *Critique internationale*, *Relations internationales et stratégiques*, *Diplomatie*, as well as *Commentaire*. Information and debates on nuclear issues can be found in the main dailies (*Le Figaro*, *Libération*, *Le Monde*, *Ouest-France*), and in the main weeklies (*Le Nouvel Observateur*, *Le Point*, *L'Express*, *Marianne*). But only a handful of defense correspondents are knowledgeable about nuclear issues. And it is a rare case when issues related to the French deterrent find their way onto the front page. In the past few years, only media outlets specializing in defense—such as *Défense nationale*, *Défense & Sécurité internationale*, *Les Cahiers de Mars*, *Défense*, *Air & Cosmos*, or the *TTU (Très Très Urgent)* newsletter—have followed the significant developments in French nuclear affairs (along with official publications such as *Armées d'aujourd'hui* and *L'Armement*).

The paucity of public debate has actually become a subject of concern to political authorities, who fear that the French strategic and political community is losing its nuclear

culture. In recent years, there has been a deliberate attempt at rejuvenating the knowledge of nuclear weapons issues in the curriculum of military schools and at the Institute for Higher National Defense Studies (*Institut des hautes études de défense nationale*), an institution that does training in defense issues for the French elite, both from the public and private sector. Likewise, French authorities have expressed worries about the lack of debate on nuclear deterrence, which could affect public support and thus the credibility of French deterrence.⁴² (For a discussion of some intriguing parallels in the United States, see Dennis Gormley's article, "Silent Retreat: The Future of U.S. Nuclear Weapons," in this issue.)

In 2006, there was an apparent renewal of interest in nuclear deterrence because of the approach of the presidential elections; several major public debates on the topic were organized in Paris by political forces, think tanks, and NGOs. But it was not expected that the presidential campaign itself, which started in earnest in December 2006 when the two main candidates were officially declared, would leave much room for an in-depth debate on the issue.

Current Nuclear Policy Issues

The French nuclear program initially met fierce resistance from the left, as well as from the Atlanticist center-right. But a consensus on an independent nuclear program gradually coalesced. In the 1970s, there were still heated debates between Gaullists and the center-right, the former arguing that President Giscard d'Estaing was weak on defense. Arguably, the most important event in the birth of the consensus was the Socialist Party's acceptance of French nuclear policy in the mid 1970s (under the influence of Charles Hernu, who would become Defense Minister under President François Mitterrand). Its ally the Communist Party still opposed Gaullist policies, but like the Socialist Party came to accept the French nuclear deterrent. Although supportive of nuclear disarmament, the Communist Party thought that a policy independent from the United States was the lesser of two evils, especially since it meant securing a significant number of jobs for the defense industry.

The Enduring Consensus

The consensus was solidified when the left came to power in 1981, for the first time since 1958, as Mitterrand became the staunchest supporter of a policy that had been designed by his archrival Charles de Gaulle. Since the late 1970s, no major party has challenged the need for a nuclear deterrent. In contrast with its British counterpart (the Labour Party), the Socialist Party remains a supporter of nuclear deterrence. The latest nuclear policy review, conducted in 1998–2000 in a time of *cohabitation*, was a bipartisan one; exceptionally, the government had a direct input in it, at its own request. The review rebuilt the consensus between the main political forces. Thus, in the tradition of Mitterrand, the Socialist Party remains a supporter of an independent nuclear deterrent. The party's platform, adopted in 2006, states that "nuclear deterrence must remain within a logic of forbidding aggression against ourselves and our European Union partners. It rests on independent

procedures."⁴³ A November 2006 "primaries" debate between potential Socialist candidates to the May 2007 presidential election revealed that the consensus was still strong within the party: none of the three candidates questioned the need for a continued independent deterrent. Two of them (Ségolène Royal and Dominique Strauss-Kahn) explicitly stated, in response to a question, that the authority to launch nuclear weapons had to remain a national one. The only criticism that was directed at the current official stance was by Strauss-Kahn, who criticized Chirac's January 2006 speech for being too explicit about the definition of French vital interests.⁴⁴ Royal believes that nuclear deterrence should remain in the "reserved domain" of the president, and that the decision to use nuclear weapons cannot be shared with other countries.⁴⁵

Other significant political forces have rarely expressed themselves on the French nuclear deterrent in recent years, but their positions are well known. The Communist Party supports nuclear disarmament and calls for France to take "significant initiatives" aimed, *inter alia*, at the "elimination of nuclear weapons and all weapons of mass destruction," but has refrained from declaring itself explicitly in favor of the elimination of the French force.⁴⁶ The *Mouvement Républicain et Citoyen*, founded by former Defense Minister Jean-Pierre Chevènement, is a strong supporter of nuclear deterrence.⁴⁷ The center-right *Union pour la Démocratie Française* does not question the existence of the French force.⁴⁸ The *Union pour un Mouvement Populaire's* (UMP) legislative platform for 2007–2012 states the need for "an autonomous nuclear deterrence force."⁴⁹ The *Mouvement pour la France*, founded by Philippe de Villiers, wants to maintain a fully independent nuclear deterrent.⁵⁰ The extreme-right National Front is also a staunch supporter of the French deterrent; it calls for the development of new, more precise, and less powerful weapons, with the goal of reinforcing deterrence.⁵¹ Apart from the Greens, in recent years no significant political force has expressed itself in favor of downsizing France's deterrent.

Popular support for the continued existence of this deterrent remains fairly high. In 2006, to the question, "Could a country like France ensure its defense without the deterrent force (nuclear force)?" 61 percent answered "no," and 34 percent said "yes." The number of those in favor of "modernizing" (44 percent) or "maintaining" (35 percent) the French deterrent has been growing since 2000; conversely, those in favor of "reducing" are now a small minority (16 percent).⁵² After Chirac's 2006 speech, editorial comments by newspapers as different as the center-left *Le Monde* and the center-right *Le Figaro* both commented on the speech without disapproving of it.⁵³

Conversely, France has never had a significant antinuclear movement. The French branches of transnational organizations arguing in favor of nuclear disarmament, such as Greenpeace, are in no way as strong and influential as they may be in other Western countries. Only a small number of grassroots organizations and interest groups devote their work to disarmament. Among them are the *Mouvement de la Paix*, *Action des Citoyens pour le Désarmement Nucléaire*, and the *Centre de Documentation et de Recherche sur la Paix et les Conflits*, a dynamic organization active on the Internet and in the media, and that also operates as a think tank. Twelve of these organizations, including the abovementioned, have launched a public campaign entitled "No to the M51 Missile." About 40 organizations are affiliated with the international Abolition 2000 network. José Bové, France's most well-known "anti-globalization" activist, is "personally in favor of the

unilateral abandonment" of the nuclear deterrent.⁵⁴ The Green Party, which became a governmental force in 1997 in an alliance with the Socialist Party, is the only significant party calling for nuclear disarmament. Its platform calls for a commitment to make Europe a nuclear-weapon-free zone, freeze the nuclear deterrence budget, and cancel the M51 program.⁵⁵ But it tends to focus its criticism of French nuclear policy on the civilian side, as does the *Sortir du nucléaire* network, a federation of 765 local associations. In recent years, due to the evolution of the Holy See's official stance, the Catholic Church has joined antinuclear movements in condemning nuclear deterrence asking for unilateral disarmament.⁵⁶ (Catholicism is the dominant religion in France.) However, bishops remain fairly discreet on this issue, as they do on most public policy matters, due to the strong separation in France between church and state.

A major reason why the French antinuclear movement has never been as strong as in the United Kingdom is that for the French, nuclear weapons remain the positive symbol of an independent foreign and defense policy, in particular from the United States. French political culture has long identified nuclear technology with independence. Also, the withdrawal from the integrated command in 1967 largely insulated French public opinion from the broader Western strategy debate. During the Cold War, the nuclear debate in Europe was linked with the relationship with the United States and NATO: France was largely spared from this, and did not have a massive antinuclear movement. Finally, the French nuclear procurement cycle tends to be spread out over time and rarely lends itself to any critical decision point or moment. The current modernization of nuclear systems is spread out over more than 20 years.

Debating the Future of the French Deterrent

Nuclear controversies do of course happen in France. However, they generally concern refinements of the doctrine or the need for certain weapon systems, rather than the legitimacy of the national nuclear deterrent itself.

A few years ago, David Yost, a knowledgeable observer of the French strategic scene, characterized the national nuclear debate as pitting supporters of a "more existential" approach to deterrence against tenants of a "more operational" approach.⁵⁷ This distinction reflected the lack of passionate debates on nuclear issues; only on exceptional occasions does a heated debate occur. There was disagreement within the left during the Euro-missiles crisis (1983–1987) because Mitterrand supported the NATO decision to deploy Pershing II and ground-launched cruise missiles in Western Europe; however, by 1984 the Communists had left the government, thus limiting the extent of the domestic debate. A more significant debate took place in 1993–1995, when the issue of whether to resume nuclear testing incorporated the debate over the usability of nuclear weapons; it became politically charged because it pitted the Elysée Palace against a government of a different majority. Mitterrand had maintained a moratorium on testing from April 1992 until his departure in May 1995. In the second half of 1995, as newly elected president, Chirac decided to embark on a final series of tests to which there was widespread domestic opposition, especially on the left. Various polls indicated that about 60 percent of France opposed the resumption of testing.⁵⁸ Lastly, in late 1996, a short-lived

controversy took place when a French-German joint text recognized the value of the U.S. and NATO nuclear guarantee.⁵⁹ The debate that took place in Parliament showed that the question of the relationship between the French deterrent and the alliance was still a touchy subject, 30 years after Paris's withdrawal from the integrated military structure.

In 1998, the Elysée initiated a series of meetings on nuclear policy review. Originally, the idea was to finalize the implementation decisions of the 1995–1996 review, but the new Socialist government insisted that it should fully participate in the process. As a result, a two-year full nuclear policy review took place discreetly in 1999–2000. This bipartisan review confirmed that there was still consensus regarding the basics of French nuclear policy. As a result of this review, it was announced in 2001 that France would deter regional powers through the targeting of their “centers of power.”⁶⁰

There are three recurring themes in the French nuclear policy debate. One is the nature and scope of the European dimension of deterrence. Since the early 1990s, there has been a general consensus among politicians and commentators about “Europeanizing” the French nuclear deterrent—taking into account the collective interests of the EU members when making nuclear decisions—yet there are few concrete ideas about how to do that. Some insist on the need for more Europeanization, and others insist that the decision to use nuclear weapons should remain solely a national one. The two stances are not necessarily mutually exclusive; the UMP insists on the continued need for autonomy but states that the deterrent force already covers France's friends and allies, a position echoed by Socialists.⁶¹ The traditionally pro-European UDF believes that the national deterrent, along with the whole defense doctrine, needs to be “rethought in a European framework.”⁶²

A second theme is the fate of air-launched weapons, traditionally called the “second component” and considered by most as being much less important than the SSBN force. Many wonder whether such a capability is critical to the credibility of the French deterrent—especially since France eliminated its land-based missiles in 1996. Critics argue that because the United Kingdom relies only on a sea-based force, France can do the same. Arguments for ditching the air-launched weapons revolve around either the need to save money or the need to send a signal in favor of disarmament and nonproliferation.⁶³ Those favoring the status quo note that the United Kingdom's Trident II D5 ballistic missile is much more precise than France's M45 and M51, and that London's status within the alliance, which maintains its own air-launched weapons, makes the need for an air-based component less salient.⁶⁴

The third theme relates to the near-absolute presidential authority over defense policy and, consequently, over nuclear matters. Though in the recent past such authority has not been challenged, even during *cohabitation*, the 2007 presidential campaign has seen the emergence of a potential debate. UMP candidate Nicolas Sarkozy challenges the very idea of what is called in France the “reserved domain” (presidential preeminence in foreign policy and defense).⁶⁵ Socialist candidate Ségolène Royal believes that nuclear deterrence should remain firmly in the hands of the presidency.⁶⁶

Generally speaking, French nuclear debates do not reflect a clear-cut division between the right and the left. Socialist reactions to Chirac's January 2006 speech testify to that—many approved the general thrust of the speech, though most were skeptical

about the idea that nuclear deterrence could have any role vis-à-vis terrorism and worried about the potential extension of “vital interests” to strategic supplies.⁶⁷ The party’s official position was fairly non-committal; it expressed the fear of a “drift” toward a war-fighting role for nuclear weapons and called for “clarifications.”⁶⁸ Indeed, within the party, some support a reduction of the nuclear budget (Jack Lang, Paul Quilès); a minority would like France to disarm as to encourage nonproliferation (Michel Rocard); and still others explicitly approve current policy (Laurent Fabius, Jean-Pierre Masseret).

Within the conservative UMP, the debate on nuclear deterrence is more muted, since it has been the president’s party since 1995. However, one could perhaps make a distinction between “archgaullists” who maintain a traditional and conservative approach to deterrence, such as Alliot-Marie, and “modernizers” such as Sarkozy, who think that the nuclear force is necessary but that current policy should not be treated as a sacred cow. Sarkozy reportedly believes that Chirac’s January 2006 speech “is not a modern approach to deterrence.”⁶⁹ (Nicolas Baverez, a commentator close to Sarkozy, called France’s deterrence doctrine a new “Maginot Line.”)⁷⁰ However, publicly Sarkozy remains very cautious. He has stated that France should continue to fund nuclear deterrence and that its nuclear strategy “probably” needed to be reviewed.⁷¹

Looking Ahead: French Nuclear Futures

The factors that will determine which path the French deterrent will take in the coming 20–30 years fall into four different categories.

- *Threat Perceptions: Proliferation and Major Powers.* Among potential threats to French vital interests, nuclear and ballistic proliferation in the Greater Middle East will be a topic of particular attention. An overtly nuclear Iran, for instance, would certainly reinforce the general trend toward conservatism and continued modernization. In a worst-case scenario of free-for-all nuclear proliferation, a country of particular concern to the French would be Algeria, for obvious geographical and historical reasons. But the evolution of Russia and China will also be carefully monitored. Despite France’s traditionally good relations with Moscow and Beijing, the idea that one of these two countries could one day pose a major threat to Europe is far from being dismissed in French political circles.
- *The European Dimension.* France’s independent nuclear stance will be harder and harder to reconcile with its drive for a more integrated EU. This has been a recurring theme in French strategic thinking since Mitterrand first raised the question in 1992, when the EU was created, but with few concrete results so far. The sensitivity of the issue in Germany, in particular, seems to have precluded any in-depth public debate. Nevertheless, French leaders have suggested that the country’s nuclear deterrent already plays an implicit role in the protection of Europe.⁷² Paris hopes that Europe could some day benefit from the same kind of strategic autonomy that France has had since the 1960s. In the absence of a single political authority in the EU, France is not ready to share with partners and allies the decision to use its nuclear weapons.

But France is keen to transpose its concept of strategic autonomy through the possession of nuclear weapons to the EU, suggesting since 1994 that Europe will not be fully autonomous without taking into account the nuclear dimension.⁷³ The evolution of the United Kingdom's stance toward the EU, as well the evolution of the "special relationship" between London and Washington, will be key factors; both will determine to a large extent how much and how far bilateral nuclear cooperation with France will be possible. On the French side, some leaders such as Sarkozy will be more inclined than others to explore further French-British cooperation.

- *Domestic Politics and the Evolution of the Consensus.* A new generation of political leaders is emerging in France. The French president elected in May 2007 will be the first of the true "post-Gaullism" generation. The memories of the Cold War are fading, and the number of politicians well versed in nuclear matters is rapidly decreasing. And it is prudent to assume that defense budgets in Europe are now structurally constrained due to high social demands.⁷⁴ The preservation of consensus should also not be taken for granted. The political heritages of de Gaulle, for the right, and of Mitterrand, for the left, are likely to fade as time passes. If the Greens were to become stronger, the Socialists could be forced to compromise on issues of nuclear disarmament in order to ensure the party's support in a coalition government. In any event, maintaining consensus will require political leadership as well as good communication skills. Though nuclear spending has dropped precipitously, many in the armed forces and in Parliament criticize the heavy burden of nuclear expenses.
- *Missile Defense, NATO, and the Transatlantic Relationship.* France will have to take into account the coming of missile defense in Europe. France is a party to the NATO missile defense program, and its location makes it impossible to stay out of any defense against long-range ballistic missiles. It is doubtful that France would not be party to the allied early warning system that will be set up.⁷⁵ The deployment of missile defense in Europe may force France into rethinking the relative roles of nuclear deterrence and missile defense. (A step in this direction was taken by Chirac in January 2006.) Assuming that the defense budget is not increased, any significant entry cost into a NATO missile defense architecture will imply savings on other programs. But the missile defense debate will also be seen through the prism of French-U.S. relations, European-U.S. relations, and the evolution of the Atlantic alliance.

Possible Paths for the Short Term (2007–2012)

France will probably not take major crucial decisions regarding its nuclear deterrence force in the coming decade. The consensus on the continued relevance of possessing nuclear weapons remains fairly strong among politicians and the public, and no decision regarding the future of the French deterrent will be needed before 2020, when the question of replacing the new-generation SSBNs will begin to be seriously raised. Nevertheless, the history of the Fifth Republic shows that every French president has left a

personal mark on the country's nuclear deterrent. Possible adjustments may happen in two different fields.

The first is the international context of the French deterrent. Three possible paths can be imagined: increased Europeanization, increased cooperation with the United Kingdom, or further NATO/U.S.-French cooperation. (See Table 1.)

- *Increased Europeanization.* So far, France has fallen short of declaring that its nuclear deterrence explicitly covers its EU partners. However, as stated, there is today a broad consensus on the idea that the French force covers the security of its EU partners. A "mutual security guarantee" clause was to be included in the failed EU Constitution; it is likely that this clause will be part of any future, more limited treaty involving security and defense. If such a clause were adopted, Paris would have to give its interpretation as to what it means for its nuclear policy.
- *Increased Cooperation with the United Kingdom.* It is possible that future British and French leaders will deem it useful to reinforce their cooperation. Since the early 1990s, bilateral dialogue and cooperation mechanisms have existed between the two countries in the nuclear field. In 1995, John Major and Jacques Chirac stated through the so-called Chequers Declaration that they "could not imagine a situation in which the vital interests of either of our two nations, France and the United Kingdom, could be threatened without the vital interests of the other also being threatened."⁷⁶ In the short run, nothing would preclude a solemn and explicit affirmation by London and Paris that their two nuclear forces protect the EU countries. However, it is unlikely that things could go very much further in the current strategic context.
- *Further NATO/U.S.-French Cooperation.* Another possible direction, not entirely exclusive from the previous one, would be increased cooperation with the United States and/or the NATO integrated military structure. Two different incentives could prompt France in that direction. One would be a deliberate political orientation by an Atlanticist president such as Sarkozy, leading France to reintegrate the NATO military structure. Assuming that such a president benefits from a comfortable parliamentary majority, the domestic political costs for such a decision would be negligible. In such a case, the French nuclear force could be partly or completely assigned to NATO, as the British force currently is. For instance, Paris could decide to assign part of its airborne deterrent to the common existing NATO force. It is likely that such an orientation would be part of a broader policy that would include increased defense cooperation with the United Kingdom. A second type of incentive would be of a technical and budgetary nature. Getting rid of the airborne deterrent for budgetary reasons while simultaneously reintegrating NATO might be a politically elegant way for France to argue that its position vis-à-vis the allied nuclear deterrent should not mirror that of the British. Another rationale might be the cost of the simulation program (€5.8 billion, about \$7.9 billion, at 2006 costs, spread over 15 years). France might decide to scale it down and cooperate more with London and Washington in this regard. Finally, there is the nuclear testing

issue. What would happen in the event that a major defect was found in the weapon design that forms the basis for the two new French warheads, the TNO and the TNA? France would not be able to independently test nuclear weapons anymore, since it dismantled its facilities. The only realistic option would be to use another country's test facilities—in practice, the Nevada Test Site maintained by the United States.

Given France's appalling budget deficit, the French president elected in May 2007 will certainly be tempted to further reduce the defense expenditures, and the nuclear expense may be a target of choice. However, any significant reduction of that expense would imply critical political choices. A decision to cancel the fourth new-generation SSBN, for instance, would imply the termination of the current policy of permanence at sea of at least one SSBN. A decision to scale back the simulation program might encroach on France's ability to independently maintain a viable deterrent for the foreseeable future, and a decision to terminate the airborne component of the nuclear deterrent would mean a significant loss of flexibility in planning and targeting.

Depending on the evolution of "sufficiency" requirements (which would depend on the evolution of threats as well as other parameters, such as the development of missile defenses in unfriendly countries), a reduction in the number of nuclear warheads could be a tempting and relatively cost-free option for a French president who wanted to leave a mark on nuclear policy. The December 2006 British decision to reduce its arsenal from fewer than 200 operationally available warheads to fewer than 160 may be seen as an example, or at least be utilized as a post hoc rationalization in the public debate. It should be noted that because the future French SLBM warhead (the TNO) will be bigger and heavier than the current one (the TN75), each M51 missile will probably carry a smaller number of warheads than the current M45. Thus, after 2010, when the first M51 comes into service, a French president will be in a position to say that France is reducing the number of operationally available SLBM warheads.⁷⁷

TABLE 1
French Nuclear Futures: Some Illustrative Scenarios

Scenarios for 2007–2012	Details
Europeanization	<i>Overtly extended deterrent, no reduction</i>
Cooperation with the United Kingdom	<i>Increased French-British cooperation, reduction in number of warheads</i>
Full integration	<i>Full integration in NATO, suppression of air component</i>
Partial integration	<i>Partial integration in NATO, no reduction</i>
Cost-saving	<i>No change, limited reductions of warheads and missiles</i>
Status quo	<i>No change, no reductions</i>
Scenarios for 2012–2030	
Continuity	<i>Few changes if any, a decision to renew both components</i>
Joint French-British force	<i>Downsizing of the SSBN force, reduction of the number of warheads</i>
European deterrent	<i>Transfer to a federal European authority</i>
Deliberate disarmament	<i>Suppression of one of the two components</i>
Structural disarmament	<i>Non-renewal of at least one of the two components</i>

Possible Paths for the Long Term (2012–2030)

A significant turning point for the future of French nuclear policy may come in 2012, when the international context will lend itself to a renewed debate in Europe on strategic matters. In that year, the United States will, according to currently scheduled milestones, put the final touches on the policies inaugurated by George W. Bush in 2001. The U.S. Nuclear Posture Review and the Moscow Treaty envision, for 2012, a maximum of 2,200 operationally available strategic warheads in the Russian and U.S. arsenals. The first Reliable Replacement Warheads (RRWs) are scheduled enter service, as is, perhaps, the improved conventionally armed Trident II D5 ballistic missile. Finally, missile defense capabilities are scheduled to reach a point of maturity with the entry into service of the initial mid-course interception capabilities and, most importantly for Europe, the NATO theater defense architecture, as well as the U.S. ground-based interception site (to be located in Poland and become operational in 2011). Meanwhile, the 2012 presidential and parliamentary elections in France may be the occasion of a debate on security policy issues and perhaps of a nuclear review, if a new team comes into power.

If the past is any predictor of the future, the most probable scenario for 2012–2030 remains continuity, though there will probably be some adjustments in nuclear posture and in international cooperation. However, other scenarios are possible. One potential scenario could be the evolution of the French nuclear force into a truly multinational one. Three basic options would exist, depending on the state of French-British relations, on the transatlantic relationship and NATO nuclear arrangement, and on the European integration process.

- *A Joint French-British Nuclear Force.* In this option, control over warhead use would remain under national authority. This would entail, for instance, limiting the SSBN forces to three subs each, for a total of six. Both countries would have to agree that their “vital interests” are completely identical, to the point that either of the two could theoretically exercise deterrence in the name of the other. Additional technical and industrial cooperation might be possible, for instance on simulation programs. And the United Kingdom might even consider adopting the French RRW-type design (the TNO) around 2025, when its own Trident warhead becomes obsolete. Finally, there is also the possibility, which will still be open in 2012, for the French and the British to build their next-generation submarines together. (Such a decision might imply that France would need to consider an early retirement of its last two SSBNs, in order to have synchronization between the two programs.) Needless to say, serious French-British technical cooperation on nuclear systems may face the obstacle of existing U.S.-British agreements.
- *“Replacement” of U.S. Nuclear Weapons in Europe with French Weapons.* A serious breakdown in transatlantic relations and the withdrawal of the 200 or so U.S. nuclear air-delivered weapons may offer the opportunity for the French to take up such a role with its ASMP-A missiles, which could probably be adapted to be carried by fighter-bombers such as the Eurofighter or the Joint Strike Aircraft. The use of these weapons by European “host” countries could be a collective decision, though France would retain sole control over its SSBN force as the ultimate guarantee for

Europe's protection, along with the independent British nuclear force. However, as long as existing NATO procedures for the use of nuclear weapons by the alliance are maintained, it is hard to imagine how two systems of consultations in crisis time (one allied, one European) could coexist.

- *A Genuine, Single European Nuclear Force.* This is an extremely improbable scenario for the foreseeable future. This would require a qualitative change in the European integration process, leading to the formation of, say, a federation of 5–10 states (possibly within a broader confederation), with a single political authority and a single foreign and security policy. The management of what would no longer be a French force but a truly European one would be, in a sense, less complex than any other multinational arrangement, since it would more or less reproduce arrangements that exist today in the national context. Ultimately, if the United Kingdom were to join such a federation and bring in its own forces, this would amount to a reduction in the number of nuclear-capable countries, since, by definition, the European federal entity would count as a single one.

Could further reductions be considered? If the United States and Russia went down to, say, about 1,000 nuclear weapons each, it is doubtful that France would immediately feel compelled to reduce its arsenal. France does not have a counterforce strategy, and French political leaders have repeatedly stated that the level of the French arsenal is not dependent upon that of others. Things might be different if there were then a serious proposal initiated or supported by the United States to go for multilateral and proportional reductions. For political reasons, France would probably not stay away from a general trend toward drastic nuclear reductions—especially if British, Chinese, and French participation was a precondition for Moscow and Washington to go in this direction. (As stated, the official government stance is that a change “in nature” in the difference between major and smaller nuclear arsenals would prompt France to review its position.) In such a case, France might then move to a British-like posture: four SSBNs and a stockpile of no more than 150 warheads.

Finally, the possibility of France giving up its nuclear weapons entirely should also be considered, though equally extreme circumstances would be required for it to materialize. A British decision to give up its own deterrent, for instance, would not be enough: the “exemplary effect” that could be expected would be in all likelihood be canceled out by the realization that France would then be Europe's sole nuclear power—probably leading to a sense of responsibility. What extraordinary circumstances might lead to French disarmament? Assuming a very peaceful strategic environment (in which proliferation is being convincingly “rolled back” and Russia has become fully democratic) and the continuation of the U.S. extended deterrent to Europe, a French president could decide to avoid renewing the existing systems when their service lives expire—that is, around 2030–2035—and decide to rely on the U.S. umbrella instead. An even more extreme scenario could be a post–nuclear use environment that leads to a general trend toward nuclear disarmament—a possible but not preordained consequence of such an event.

Conclusion

As this article has demonstrated, French nuclear policy is most likely to remain on a path of prudence, conservatism, and restraint for the next 20–25 years. However, inertia alone will not be enough to maintain this direction. Absent a serious degradation of Europe's security environment, serious political will, as well as significant resources—human, technological, budgetary—will be required in order to stay the course in an enduring fashion. France faces the same problem as other mature nuclear weapon states in retaining adequate scientific, technical, and operational knowledge in the post–Cold War context. The ability to maintain and adapt the French deterrent is weakening. France's missile expertise now rests in the hands of a private multinational company (European Aeronautics and Space Company) for whom nuclear deterrence is more a business than a mission, and the French forces and the CEA are having difficulty attracting the best and brightest scientists, engineers, and officers willing to make a career in nuclear weapons. France's nuclear complex runs the risk of atrophy, with potential consequences for the credibility of the French nuclear posture.

NOTES

1. Speech of President Jacques Chirac during his visit to the French strategic forces, Landivisiau/Île Longue (Brest), January 19, 2006, <www.ambafrance-au.org/article.php3?id_article=1492>.
2. See 1994 Defense White Paper (Paris: Editions 10/18, 1994), p. 99.
3. Chirac, January 19, 2006.
4. 1994 Defense White Paper, p. 4.
5. Chirac, January 19, 2006.
6. By 2025, Middle Eastern countries will provide about 50 percent of European Union (EU) oil needs, while gas imports will come mainly from Russia (60 percent). Nicole Gnesotto & Giovanni Grevi, eds., *The New Global Puzzle: What World for the EU in 2025?* (Paris: EU Institute for Security Studies, 2006), p. 64.
7. Quoted in Judy Dempsey, "U.S. Lawmaker Urges Use of a NATO Clause: He Calls for Mutual Assistance on Energy," *International Herald Tribune*, November 29, 2006.
8. Chirac, January 19, 2006.
9. Ibid.
10. Speech of Prime Minister Lionel Jospin at the Institute for Higher Defense Learning, October 22, 1999.
11. Statement of Amb. François Rivasseau, Permanent Representative of France to the Conference on Disarmament, 2005 Review Conference of the State Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), General Debate, New York, May 5, 2005, p. 7.
12. France's Pacific Experiments Center is now dismantled. Its highly enriched uranium production facility at Pierrelatte will be fully dismantled by 2010, and its plutonium production facility at Marcoule will be fully dismantled by 2040.
13. Ministry of Defense, Secretariat-General of National Defense, and Ministry of Foreign Affairs, "Fighting Proliferation, Promoting Arms Control and Disarmament: France's Contribution," 2005, p. 64.
14. Statement of Amb. François Rivasseau, Permanent Representative of France to the Conference on Disarmament, 2005 Review Conference of the State Parties to the NPT, Committee 1, New York, May 19, 2005.
15. Rivasseau, NPT Review Conference, May 5, 2005.
16. Rivasseau, statement at 2005 NPT Review Conference May 19, 2005.
17. Chirac, January 19, 2006.
18. *Jane's Strategic Weapons Systems*, "M-5/M-51," June 23, 2006; Jean-Dominique Merchet, "Premier tir d'essai 'réussi' du missile stratégique M51" (First Test of Strategic Missile M51 'A Success'), *Libération*, November 10, 2006.

19. See, for example, Robert S. Norris and Hans Kristensen, "French Nuclear Forces, 2005," *Bulletin of the Atomic Scientists* 61 (July/August 2005), pp. 73–75, <thebulletin.metapress.com/content/n8rn0x5567572723/fulltext.pdf>.
20. Gen. Henri Bentegeat, in Serge Vinçon, "Rapport d'information fait au nom de la commission des affaires étrangères, de la défense et des forces armées sur le rôle de la dissuasion nucléaire française aujourd'hui" (Information Report: Foreign Affairs, Defense, and Armed Forces Commission on the Role of Nuclear Deterrence Today), Document No. 36, Ordinary Senate Session, October 24, 2006, p. 29, <www.senat.fr/rap/r06-036/r06-0361.pdf>.
21. See for instance Jean-Dominique Merchet, "Davantage de souplesse dans la dissuasion nucléaire" (More Flexibility in Nuclear Dissuasion) *Libération*, February 9, 2006.
22. See "Rapport de la France sur l'application de l'article VI et de l'alinéa C) du paragraphe 4 de la décision de 1995 sur les principes et objectifs de la non-prolifération et du désarmement nucléaires" (France's Report on the Implementation of Article VI and Item C of Paragraph 4 of the 1995 Decision on the Principles and Objectives of Nuclear Non-Proliferation and Disarmament), Second Session of the Preparatory Commission of the 2005 NPT Review Conference, Geneva, April 30, 2003.
23. Joint press conference (in French) with French President Jacques Chirac and German Chancellor Angela Merkel, France-Germany Meeting, Versailles, January 23, 2006, <www.elysee.fr/elysee/elysee/fr/francais/interventions/conferences_et_points_de_presse/2006/janvier/conference_de_presse_conjoint_e_du_president_de_la_republique_et_de_la_chanceliere_de_la_republique_federale_d_allemande_a_l_occasion_de_la_rencontre_franco_allemande.38681.html>.
24. "We have made sure to limit downwards the yield of the weapons we maintain, so that nobody could ever forget that nuclear weapons are, by their very nature, different." Henri Bentegeat, in Vinçon, "Rapport d'Information fait au nom de la commission des affaires étrangères," p. 25.
25. Speech of President Jacques Chirac (in French) at the Institute of Higher Defense Learning, June 8, 2001, <www.elysee.fr/elysee/elysee/fr/francais/interventions/discours_et_declarations/2001/juin/discours_de_m_jacques_chirac_president_de_la_republique_devant_l_institut_des_hautes_etudes_de_defense_nationale-paris.579.html>.
26. Prague Summit Declaration, Paragraph 4, Meeting of the North Atlantic Council, Prague, November 21, 2002.
27. Chirac, January 19, 2006.
28. France's Constitution of 1958 (in French), <www.conseil-constitutionnel.fr/textes/constit.pdf>.
29. Alain Peyrefitte, *C'était De Gaulle* (Paris: Gallimard, 2002), p. 1,359; Bernard Chantebout, "La dissuasion nucléaire et le pouvoir présidentiel" (Nuclear Deterrence and Presidential Power Capacity), *Pouvoirs*, No. 38, 1986, p. 22; Pierre Messmer, "Notre politique militaire" (Our Military Policy), *Revue de Défense Nationale*, May 1963, pp. 755–765.
30. Jean Lacouture, *De Gaulle Vol. III: Le souverain, 1959–1970 (The Sovereign)* (Paris: Editions du Seuil, 1986), p. 452.
31. Decree No. 64-46 relating to the strategic air forces, January 14, 1964.
32. Henri Pac, *Le droit de la défense nucléaire (The Legal Dimension of Nuclear Defense)* (Paris: Presses Universitaires de France, 1989), pp. 79–80.
33. "The mission, the organization, and the conditions of engagement of the nuclear forces are decided upon by the Defense Council." Decree No. 64-46, Article 1.
34. Decree No. 96-520 (in French), on the determination of responsibilities concerning nuclear forces, June 12, 1996 (revised February 5, 2004), <www.legifrance.gouv.fr/texteconsolide/PAHCY.htm>.
35. *Ibid.*, Article 3.
36. Strategic oceanic force (*force océanique stratégique*) and strategic air forces (*forces aériennes stratégiques*).
37. Samy Cohen, *La monarchie nucléaire. Les coulisses de la politique étrangère sous la Vème République* (The Nuclear Monarchy: The Fifth Republic's Foreign Policy Behind the Scenes) (Paris: Hachette, 1986).
38. For 2007, see: Paul Quilès, "Avis présenté au nom de la commission des affaires étrangères sur le projet de loi de finances pour 2007" (Opinion: Foreign Affairs Commission on the draft budgetary law for 2007), Document No. 3366, Vol. 5–Défense, October 12, 2006; Jean Michel, "Avis présenté au nom de la commission de la défense nationale et des forces armées sur le projet de loi de finances pour 2007" (Opinion: National Defense and Armed Forces Commission on the draft budgetary law for 2007), Vol. 9–Défense, Equipment of the Forces, Space, Communications, Deterrence, Document No. 3367,

- October 12, 2006; and Sen. Xavier Pintat, "Avis présenté au nom de la commission des Affaires étrangères, de la défense et des forces armées sur le projet de loi de finances pour 2007" (Opinion: Foreign Affairs, Defense and Armed Forces Commission on the draft budgetary law for 2007), Vol. 4, Document No. 81, November 23, 2006.
39. A good example is Vinçon, "Rapport d'information fait au nom de la commission des affaires étrangères."
 40. Jean-Dominique Merchet, "Alliot-Marie: Défense de toucher au nucléaire" (Don't Touch Nuclear Weapons), *Libération*, September 8, 2004.
 41. See for instance Bruno Tertrais, "Les vertus de la dissuasion nucléaire française" (The Virtues of the French Nuclear Deterrent), *Le Figaro*, January 21, 2006; François Géré, "Clarifications nucléaires" (Nuclear Clarifications), *Le Monde*, February 16, 2006.
 42. Henri Bentegeat, "Dissuasion," (Deterrence) *Défense Nationale*, August 2004, p. 16.
 43. Socialist Party, "Réussir ensemble le changement. Le Projet Socialiste pour la France" (Achieving Change Together), July 2006, p. 31, <projet.parti-socialiste.fr/tag/le-texte-du-projet>.
 44. "Débat de politique étrangère: M. Fabius offensif, M. Strauss-Kahn classique, Mme Royal inattendue" (Foreign Policy Debate: M. Fabius on the Offense, M. Strauss-Kahn Classical, Mrs Royal Unexpected), *Le Monde*, November 9, 2006.
 45. Ségolène Royal, "Ce que j'ai dit sur ... La Défense" (What I've Said on ... Defense), p. 1, <www.desirsdavenir.org/actions/generate_pdf.php?id=432>.
 46. French Communist Party, "Agir pour un monde de paix" (Acting for a World of Peace), April 6, 2006.
 47. See Jean-Pierre Chevènement, "Préserver la dissuasion nucléaire française" (Preserving the French Nuclear Deterrent), Official Statement, January 19, 2006, <www.mrc-france.org/article.php3?id_article=19>.
 48. Union pour la Démocratie Française (UDF), "La France ensemble. Avant-projet législatif" (France Together: Draft Legislative Plan), p. 8, <www.udf.org/legislatives_2007/avant_projet.pdf>.
 49. Union pour un Mouvement Populaire (UMP), "Contrat de législature 2007-2012" (Legislative Contract 2007-2012), November 2006, p. 10, <viphttp.yacast.net/ump/projet-ump2007.pdf>.
 50. See Philippe de Villiers, "Jacques Chirac veut lutter contre le terrorisme alors qu'il l'a installé chez nous" (Jacques Chirac Wants to Fight against Terrorism, but He Had It Taking Root at Home), Official Statement, January 19, 2006, <www.pourlafrance.fr/communiqués.php?n=160>.
 51. Front National, Party Platform (in French), "300 Mesures pour la France," 2001, <www.frontnational.com/doc_secu_defense.php>.
 52. Ministry of Defense, "Les Français et la défense: résultats 2006 du sondage annuel réalisé par BVA pour le ministère de la défense" (The French and Defense: 2006 Results of the Annual Poll realized by BVA for the Defense Ministry), July 13, 2006.
 53. See Pierre Rousselin, "Une Dissuasion pour l'Avenir" (A Deterrent for the Future), *Le Figaro*, January 20, 2006; and "Chirac et la Bombe" (Chirac and the Bomb), *Le Monde*, January 21, 2006.
 54. Interview with I-TV television channel, "Le Franc-Parler" (Let Us Speak Plainly), October 30, 2006.
 55. The Green Party, "Le monde change, avec les verts changeons le monde" (With the Greens, Let's Change the World), August 3, 2006, p. 78, <www.lesverts.fr/IMG/pdf/prog060803.pdf>.
 56. See the Web Site (in French) of the Commission of Justice and Peace, <justice-paix.cef.fr/>.
 57. David S. Yost, "France's Nuclear Dilemmas," *Foreign Affairs* 75 (January/February) 1996, pp. 108-118.
 58. On June 13, 1996, Chirac announced that up to eight tests would be conducted (though only seven were in fact planned by France's Atomic Energy Agency, CEA). Even though Chirac appeared determined that international and domestic pressure should not detract France from executing this final series until its conclusion, it was nevertheless agreed that the CEA should conduct only the minimum number required for the qualification of the new TN75 warhead and the testing of the new "robust" warhead formula. After the sixth test took place on January 27, 1996, the preliminary results acquired were judged satisfactory by the CEA; this allowed the Elysée to announce the end of the series on January 29.
 59. "The supreme guarantee of allied security is ensured by the alliance's strategic nuclear forces, in particular those of the United States; the independent nuclear forces of the United Kingdom, which fulfil a deterrent role of their own, contribute to overall allied deterrence and security." This sentence was meant to make it easier for Germany to agree on a dialogue on nuclear deterrence. French-German Security and Defense Common Concept (in French), Nuremberg, December 9, 1996, <www.leforum.de/artman/publish/article_465.shtml>.

60. See Chirac, January 19, 2006.
61. "The priority of our foreign and defense policy remain to guarantee the security of our countryfellow and to assure the protection of our vital interests. Our existence as a State and as a Nation depend on it. This security and this protection also cover our friends and allies. They are within the realm of nuclear deterrence and justify that our country continues to have an **autonomous nuclear deterrence force**" (emphasis in the original). UMP, "Contrat de Législature 2007–2012," p. 10. See also Hervé de Charrette, "Ouvrons le débat sur l'arme nucléaire" (Let Us Open the Debate on Nuclear Weapons), *Ouest-France*, December 4, 2006.
62. UDF, "La France Ensemble," p. 8.
63. See for instance Charrette, "Ouvrons le débat sur l'arme nucléaire," and François-Régis Hutin, "Dissuasion nucléaire: l'heure de la décision" (Nuclear Deterrence: Time for Decisions), *Ouest-France*, November 4–5, 2006.
64. See Bentegeat in "Rapport d'Information fait au nom de la commission des affaires étrangères," p. 24; and Bruno Tertrais, "La dissuasion revisitée" (Deterrence Revisited), Notes of the Foundation for Strategic Research, January 23, 2006, <www.frstrategie.org/barreCompetences/prolifDissuasionDefenses/20060123.pdf>.
65. Nicolas Sarkozy, "La France doit porter des valeurs universelles, et les faire vivre" (France Must Carry Universal Values and Make Them Live), Interview, *Le Meilleur des Mondes*, No. 2, Fall 2006, p. 81.
66. Ségolène Royal, "Ce que j'ai dit sur," p. 1.
67. "Nucléaire: les réactions" (Nuclear [Deterrence]: The Reactions), *Le Quotidien Permanent du Nouvel Observateur*, January 19, 2006.
68. Socialist Party, "Dissuasion nucléaire: les déclarations du Président de la République" (Nuclear deterrence: the President of the Republic's Statements), Official Statement of the National Bureau, January 24, 2006, <presse.parti-socialiste.fr/2006/01/24/305/#more-305>.
69. Quoted in "Nucléaire: épargner Chirac" (Nuclear [Deterrence]: Sparing Chirac), Téléphone Rouge, *Le Nouvel Observateur*, January 26, 2006, p. 49.
70. Nicolas Baverez, "Dissuasion, Mon Amour," *Le Point*, January 26, 2006, p. 40.
71. Sarkozy, "La France doit porter des valeurs universelles," p. 89.
72. In June 2001, Chirac stated that any decision by France to use nuclear weapons "would naturally take into account the growing solidarity of European Union countries" (Chirac, June 8, 2001). In January 2006, he stated that "the development of the European Security and Defense Policy, the growing intermeshing of the interests of European Union countries, the solidarity that now exists between them, make the French nuclear deterrent, by its mere existence, an unavoidable element of the security of the European continent" (Chirac, January 19, 2006).
73. Defense White Paper, 1994, p. 98.
74. The French state budget deficit for 2005 was €43 billion (\$58 billion). The projected deficit for 2006 was €59 billion (\$80 billion). (The defense budget for 2006 was €36 billion, or \$49 billion.)
75. A U.S. mid-course ground-based interceptor site is to be set up on Polish territory in 2011; it is not part of the NATO program.
76. Agence France-Presse, "Text of the Joint French-British Statement on Nuclear," October 30, 1995. This was reaffirmed at the bilateral summit of Le Touquet in 2003.
77. The possibility of France *increasing* its nuclear arsenal is dubious. France ended fissile material production in 1996, and the size and weight of the TNO will limit the upload capability of the M51 submarine-launched ballistic missile (unless perhaps the nominal load is reduced to one or two).