

The French Desire for Uranium
And its Effects on French Foreign Policy in Africa

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Abstract

France is a country that has an enormous need for uranium to run both its commercial nuclear power plants and provide material for its military nuclear weapons program. France would not purchase the uranium it needs on the global market because Charles de Gaulle and other French leaders wanted France to be independent both militarily and economically. Foreign sources of uranium such as Canada and Australia were either seen as being under the influence of the United States or as an unreliable source. France also had extensive influence in Africa because of colonies it held there. De Gaulle used methods such as creating new ministry offices, proposing military defense and technical agreements, and creating a special monetary zone to retain French authority when these colonies became independent. When uranium was discovered in Niger and Gabon, both former French colonies, France now had a reliable and controllable source of uranium. France intervened militarily in these countries whenever the French leaders felt their supply of uranium was in danger. French policy towards her former African colonies was affected by the French need for uranium.

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Introduction

The Fifth French Republic was officially created on September 28, 1958, but the French view of the world and how they fit into it is a result of actions that have occurred long before that date. Past events in French history such as the defeat in the Franco-Prussian war, the events of World War I, the abandonment at Dunkirk and the events of World War II, the Suez crisis, their humiliation in Indochina and the rebellion in Algeria are just a few of the many events that have not only molded the French into what they are today but also have plotted the course of French policy since the creation of the Fifth Republic. All of the above mentioned events are not only well-documented, but also their effects on French foreign policy are easily understood because of the extensive research and examination done on those events and their aftermaths. Harder to examine and qualify are the other types of things that have shaped French policy, the desires and needs that French leaders have felt, insisted, and even demanded France have. This Thesis intends to be an in-depth examination of one such French desire, not only the cause for the desire, but also how the desire was fulfilled, and whether or not the fulfillment of the desire shaped French policy. This Thesis will examine France's need for uranium and the effect that need had in forming French foreign and domestic policy, specifically, France's foreign policy towards its former African colonies.

French involvement in Africa began long before any of the events mentioned above. Obviously France did not become interested in Africa for its uranium, because uranium had not even been discovered when France made her first foray into the African continent. The reason why France invested so much in Africa is tied to some of the events mentioned above and will be examined. Eventually, France became the most dominant European power in Africa. France also held on to its colonies in Africa longer than any other colonial European power. When France finally gave the African colonies their independence, it continued to be extensively involved in a majority of its former colonies. The French believed they had a "special" relationship with these former colonies, one that was mutually beneficial to both the French and the former colonies. But what did France stand to gain from continued financial, military and international support of their former African colonies?

The answer to the above question is tied into the French, and in particular Charles de Gaulle's, desire to be militarily and economically independent from foreign nations, especially the superpowers. One aspect of this desired independence was not to rely on the Americans or Soviets for help in developing military and civilian uses of nuclear energy. French leaders felt the need for the French to be the sole protectors of France, not part of conglomeration of defense forces that might once again abandon France. The easiest way, de Gaulle and the other leaders determined, was to develop nuclear weapons.

It was in the aftermath of World War II that France began to investigate harnessing the atom for civilian uses. The expertise France gained with its civilian nuclear program soon turned to military uses of nuclear energy. Today, France generates over seventy-five percent of her energy from nuclear power and maintains a something

on the order of 450 nuclear weapons for her defense. To run this considerable amount of nuclear power and weaponry requires a significant source of fissile materials, specifically uranium. France exhausted most of her supply of readily extractable uranium while undertaking exploration and mining activities in its colonies in Africa. The only colonies that had suitable amounts of uranium available were Niger and Gabon. When granting independence to its former colonies, France now had a classic quandary, how to get a reliable supply of the special material it needed from Niger and Gabon at an acceptable price. The Thesis will examine the methodology France used in those former colonies to make sure that the flow of uranium did not stop.

This Thesis will also examine several pivotal events involving the French in Gabon and Niger. It will analyze each event, determining the cause of the event, the French role within the event, and the benefits/detriments of the outcome. Some of these events include French military interventions into these two countries, especially the French intervention in the 1964 coup in Gabon.

The picture that will be painted is one of the French desiring a rare resource that had been discovered in some of her former colonies. Rather than having to rely on an unstable world market, France would continue to influence and intervene in those countries in order to make sure the country had all of the uranium it needed to keep up with its civilian and military needs. The French policy towards its African nations might not have been neocolonial in actuality, but it was almost undoubtedly a patron-client relationship.

In the last decade, the French policy towards its former colonies in Africa has begun to change. This change has taken the form of reduced military actions and a reduction in the amount of economic support provided. There are many reasons for this change in policy, one of which is the lack of need for France to get certain raw materials from those countries. With the new willingness of the French to procure their uranium on the world market, France no longer solely needs to depend on its former colonies.

France and Nuclear Energy

To say that France is dependent on nuclear energy would be an understatement. Over 35% of France's total energy requirement and over 78% of French electricity demands are met by nuclear energy. In 1999, France generated 375 billion kWh of electricity from its fifty-eight pressurized water reactors currently in operation. The electrical generation capacity of these plants is 65,702 MW_e. France also operates one fast reactor, which generates 250 MW_e of energy¹. Because of their large operation capacity, the French also export energy, mainly to the rest of Europe, roughly 72.1 TWh per year. This large amount of energy generation allows France to be more energy self-sufficient than most European countries. In fact, France is over 50% able to meet its own energy needs, an incredibly large percentage for a modernized, western country. In comparison, Italy is only 18% energy self-sufficient. This was one of the goals of the French Nuclear program, to decrease French dependence on foreign energy sources².

The French national energy company, Electricite de France or the EDF, runs France's nuclear power plants. The EDF was created in 1946 to alleviate the energy shortage that occurred just after World War II. In the 1950s the EDF provided France with the energy to modernize itself into an industrial power. However like most energy corporations, the EDF relied heavily on hydrocarbon generation up until the first oil crisis occurred. Then it was decided that the EDF should pursue nuclear energy to reduce French dependence on foreign energy³.

The first French commercial nuclear power plant had already been commissioned by 1963. Since then, France has built an impressive and yet relatively young group of reactors. The average age of a French reactor is only thirteen years. With a nuclear power plant life expectancy of forty years, this means French nuclear capabilities have a definite future ahead of them. This also does not take into consideration the possibility of plant life extensions or other means of adding to the viability of a nuclear plant. In addition to the current number of nuclear power plants, France also has four more plants under construction and due to be added to the generation grid in the year 2001. The oldest active French nuclear power plants went critical in 1977 and 1978. The minimum expected, forty-year lifespan of these plants indicates their shut down in the years 2017 and 2018. Currently, France has six new power plants planned. These plants are scheduled to begin their commercial operation in 2014, conservatively estimated to pick up the load from the plants shutting down at this time⁴. This shows that not only is France currently relying on nuclear energy, but it also plans to have nuclear energy be its primary energy source far into the future.

In order for nuclear power plants to operate, they must have a fuel source. The French company COGEMA meets France's nuclear power plant fuel needs. COGEMA was founded after the EDF and at the beginning of France's nuclear power era. COGEMA is now an industrial group that is majority owned by the French government. In fact, the French Atomic Energy Commission owns 82% of the shares of COGEMA, with the other shares owned by an oil company and an engineering firm. In the fiscal

year 1999, COGEMA had sales in excess of five billion US dollars, this coming mainly from the sale of uranium fuel for reactors. It services 25% of the world market for uranium enrichment and conversion, 50% of the world's fuel reprocessing facilities and over 80% of the world's MOX fuel fabrication. In the year 1998, COGEMA manufactured 6100t of uranium into fuel assemblies, which is 18% of the world production for that year. Over 40% of COGEMA's annual production of uranium is exported from France⁵.

In its natural form, uranium is concentrated after mining as yellow cake, which is primarily uranium oxide (U_3O_8). For enrichment, it then must be converted into the form of uranium hexafluoride, UF_6 . From this state, it has to be enriched primarily by one of two methods, either gaseous diffusion or gaseous ultracentrifugation. This takes the 0.71% U-235 content of natural uranium and increases it to the 3-5% range that is necessary in order to run light water reactors. After enrichment, the uranium must then be fabricated in UO_2 pellets, which are then made into fuel assemblies⁶. It is the fuel assemblies which are loaded into nuclear power plants. COGEMA is involved with all the above processes. It owns substantial interests in uranium mining operation around the world. COGEMA operates two plants in France for the conversion of yellow cake to uranium hexafluoride. In addition, COGEMA owns the Georges Besse uranium enrichment plant in France, which has the capacity to enrich almost one-third of the world's annual uranium supply. Finally, COGEMA and FRAMATOME (the French nuclear reactor design and construction company) jointly own several fabrication plants around the world. These FRAGEMA plants currently have 32% of the production capacity of the world's PWRs⁷. Through COGEMA, France has the ability to produce the uranium needed to run its arsenal of nuclear power plants, as long as there is natural mined uranium available.

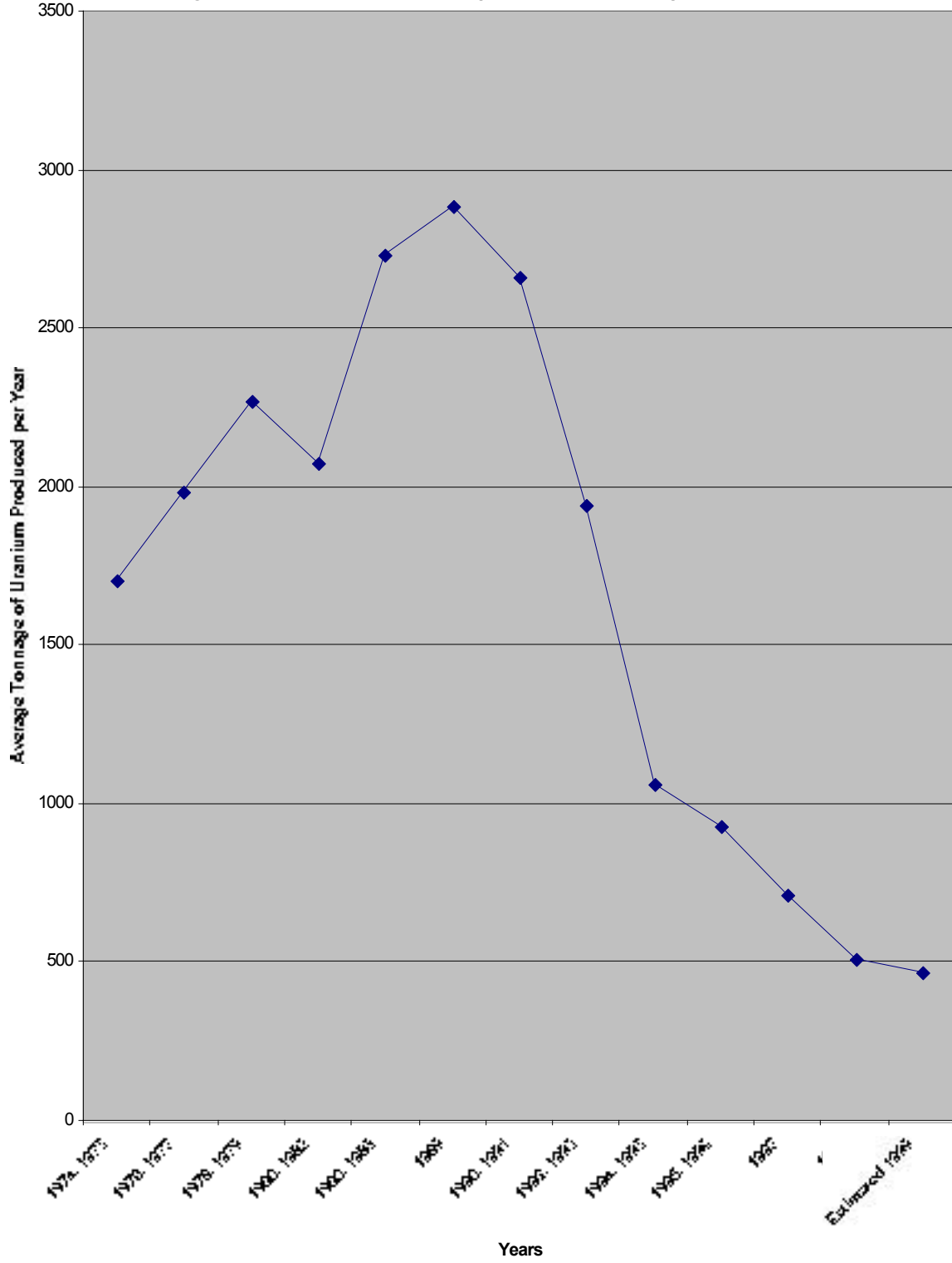
Since the beginning of the nuclear power era in France, the French have mined their uranium, almost to the point of exhaustion. Please see Figure #1 one on the subsequent page for a plot of average uranium produced per year in France. This plot was calculated using data from the various Redbooks produced over the years by the OECD Nuclear Energy Agency and the IAEA. The plot shows the average uranium produced in France per year for the year groupings shown. Currently, over 70,000 metric tons of uranium has been excavated in France. This leaves the French with uranium reserves of around 200,000 metric tons. However, this uranium ore is of very poor quality and is not economically feasible right now to excavate. French nuclear power industrialists have thus turned to other sources around the world for uranium. One of the closest and easiest places for the French to obtain their uranium was their own African colonies. Of particular interest were Niger and Gabon, both of which have extensive uranium deposits⁸. COGEMA realized this and had bought extensive right to several mines in those countries. In Niger, COGEMA owns 57% of the SOMAIR mining operation and 34% of the COMINAK mining operation. In Gabon, COGEMA owns 68.4% of the COMUF mining operation. In addition, COGEMA own 100% of the Cluff mining operation in Canada, 71% of the Christensen Ranch mining operation in the United States, and 3.3% of the Ranger mining operation in Australia⁹. Moreover, COGEMA is involved with new production at five different mining operations in Canada

and is the primary motivator in some recent studies of the feasibility of uranium mining in Kazakhstan, Uzbekistan, Mongolia and Madagascar. Through all of these various sources, COGEMA is assuring France and its clients that it can obtain uranium and thereby supply fuel assemblies for nuclear power plants¹⁰. Because COGEMA is so widely diversified in its uranium acquisition, it has made France less dependent on a particular foreign source for its energy needs. COGEMA's recent spread into other markets for uranium comes at an opportune time.

Originally, the COGEMA drive to obtain uranium focused mainly on the countries of France, Niger and Gabon. It is only recently that COGEMA has turned to other sources, such as Canada, the US and Australia, to obtain its uranium. This is mainly due to the fact that its uranium fountains have dried up in France and Gabon. The French natural uranium status has already been mentioned but the status of the mines in Gabon has not¹¹. COGEMA owned the majority share in the COMUF mining operation in Gabon that mined the Mouana region. In the 40 years that the COMUF mining operation was in production, it mined over 26,650 metric tons of uranium. However, as of 1999 it ceased to produce uranium and was scheduled to be remediated, then decommissioned by the end of the year 2000. This will completely exhaust the COGEMA mining operations in the country of Gabon. In the country of Niger where COGEMA owns two mining operations, the SOMAIR and the COMINAK, production is becoming unstable. For the year 1999, these mines produced around 3000 metric tons of uranium, which is half of COGEMA's production for the year. But the economic situation of Niger is very difficult and thus Niger is not as reliable of a uranium source as it used to be¹². COGEMA has begun to diversify itself into other uranium markets because of the difficulties it has found in obtaining uranium from its historical uranium supply.

Figure #1- Average Production of Uranium in France vs. Time.

Source: *Uranium 1999-1975 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.



French Colonialism in Africa

The first significant French colonial military foray into Africa occurred in Algeria in 1830. The French king at the time, Charles X, sent his army to occupy the town of Algiers in response to the dey of Algiers striking and calling the French consul names. The invasion eventually led to the announcement in 1848 that Algeria was part of the republic of France, making Algeria the first French colony¹⁴. This led to the eventual creation of one of the largest and longest lasting colonial empires in history.

While this initial excursion into Africa was intended to be an act of revenge, the purpose for continued French expansion into Africa quickly changed to increasing French prestige, both abroad and in Europe. Towards the end of the nineteenth century, French colonies began to appear across the entire globe. However because of fierce competition with other European colonizers, much more of France's expansionist energy was being spent in Africa rather than other parts of the globe.

As France started to expand its colonial role, two major factions sprang up at home; the first favored continued expansion while the other renounced it. The proponents of French colonization in Africa believed that France could increase her perceived power in Europe by increasing French presence and authority abroad. The anti-expansionist French believed that the money, time and effort being spent on colonization would be better utilized protecting and entrenching French interests in Europe. However, the pro-expansionists eventually won over the minds of the French political elites who decided France's course¹⁵. Thus, colonization would not only occur but would increase.

Perhaps the largest factor that influenced and increased French colonial ideals and efforts was the French defeat at the hands of Germans in the Franco-Prussian war of 1870. After this demoralizing defeat, and the consequent loss of the valuable territories of Alsace-Lorraine, French officials realized that one way to win back the support of the French people was to envision France as it "should be." In fact, Chipman states that, Charles Renouvier, a popular French philosopher at the time, believed that France's defeat in 1870 was due to the "loss of the ideals of freedom and backwardness in the pursuit of science." Renouvier encouraged Frenchmen to believe in a new ideal, based upon morality and reason, which could be found in the idea of civilization. French leaders quickly adopted this, making it an "official doctrine of the French State," thereby making it an integral part of how France defined her power in the international arena.

The idea of spreading civilization soon became the official reason for further French colonial acquisitions. In fact, "*mission civilisatrice*" as it soon came to be known in France, was intended to spread French culture, thereby increasing French influence abroad. Another result of this increasing influence abroad, was increased authority in Europe. The idea of raising up others to the French standard and way of life was such an endearing one to the French population that *mission civilisatrice* soon became the rallying cry for French expansionism right up until decolonization¹⁶. However, the idea did not

die there. Instead it became one of the factors that led to France's almost neocolonialistic policy towards its former territories in the post WWII years.

Using *mission civilisatrice* and another new idea called *rayonnement*, which literally means lighting the way for others, France expanded its holdings in Africa to include the present day countries of Algeria, Morocco and Tunisia. These made up the French colonies in North Africa, which most Frenchmen considered more prominent than the French holdings in Black or Sub-Saharan Africa. France was also the primary owner of colonies in West Africa, had some holdings in Equatorial Africa and held the present day country of Gabon. These were the primary area of France influence in Africa.

It was within these colonies that France began to pursue a policy of assimilation. This assimilation ideal, based upon the concept of *mission civilisatrice*, was aimed at making the citizens of the colonies an "integral part of the mother country." In effect, the French tried to make Africans into model French citizen without any regard for the culture and history of the indigenous peoples¹⁷. Eventually, this idea of assimilation was replaced with a more realistic goal of association. Association was the idea that Frenchmen would try to instill French pride and love of the mother country in Africans without forcing them to abandon all native ideas and culture. Ironically, assimilation would not work because colonial administrators feared forcing people to become French would produce resentment and revolution; and those same French administrators made association also unsuccessful because of very heavy-handed and sometimes brutal direct ruling of the colonies¹⁸.

Despite the attempts at assimilation and association, the average African colonial did not think of themselves as part of the French empire. Nor did the average French citizen think much of their African counterparts. This changed with the advent of World War I. During the Great War, the French colonies supplied over 500,000 soldiers to fight in the trenches in Europe and over 200,000 workers to keep war industries running. By supplying troops, workers and raw materials to defend the French Empire, the colonies had begun to prove themselves useful. This silenced many of the French critics who had believed that the colonies were a waste of resources¹⁹. More important was the beginning of the integration of France's African colonies into the mainstream French empire.

After the war, two new terms arose in France and Europe to describe relations with Africa. These terms were *France-Afrique* and *Eurafrique*. *France-Afrique* was described as "the need to ensure that African materials and human resources could be developed to meet France's needs." On the other hand, *Eurafrique* was explained as the idea that Europe could co-operate in Africa and that France could lead European activities in Africa because of massive amount colonies owned by the French there²⁰. The frequent use of these terms shows the beginning of increased beliefs that both France's and Africa's futures were linked together and that French colonies in Africa were becoming more important in French society and in Europe.

French Colonialism In Africa Post-WWII

The beginning of the end of French Colonialism in Africa resulted from Charles de Gaulle coming to power in and the creation of the Fifth French Republic in 1958. In fact in a quote from an interview with a US ambassador to Gabon and Jacques Foccart, whom is considered the father of France-African relations, Foccart states:

General de Gaulle foresaw political independence in 1958. The General viewed the Community as a step in the process rather than an end in itself. De Gaulle anticipated granting independence in 1965 or 1966; the fact that independence came only two years after the formation of the Community surprised the General.

The Community that Foccart spoke of was the second of two plans de Gaulle had in mind for French African colonies in the post World War II era²¹.

Initially, de Gaulle had tried to force the African colonies into two separate conglomerations, one consisting of those colonies in West Africa and the other of those in Equatorial Africa. This plan was resisted and eventually evolved into the *Communaute* or Community. De Gaulle envisioned the member states of the Community as believing in one president (the president of France), one senate and one nationality. The president would have decision-making powers over such critical areas as defense, economy, foreign relations, currency and the procurement of strategic minerals²². The nation-states would have a large amount of internal power, but submit and bend to the will of the president. Every former colony of France in Africa except for Guinea accepted and embraced the terms of the Community. Incidentally, Guinea was completely cut-off from all French aid and to this day the debate still rages over whether this course of action or those taken by all other French colonies was better²³.

However, as the quote above mentions, it was a very short time until the member states of the Community began to demand their own independence. After 1960, only Djibouti remained a colony of France while all other Sub-Saharan holdings had become independent. In what became one of de Gaulle's legacies to France, he made the continuation of strong relationships with the former African colonies a primary concern. This "special relationship" with the former colonies was preserved even after de Gaulle left office. In fact it has continued well into the 1990's and only recently has it begun to fade. Thus, de Gaulle concentrated his efforts on keeping France as the primary influence in Africa while also making sure that the former colonies were independent enough to satisfy themselves²⁴. To this end, de Gaulle pushed for and ended up with "co-operation" agreements with every former French colony in Africa, except Guinea of course.

In order to facilitate of the needs of these "co-operation" agreements with the numerous former colonies, de Gaulle created the Ministry of Co-operation in 1961. This ministry was specifically designed to be distinct from the Ministry of Foreign Affairs. This was intended to show the former African colonies that they were not going to just be

viewed as nations, but as nations with special ties and relationships with France²⁵. In fact the Ministry of Co-operation was only the first of many steps taken by France to ensure that it would have continued influence over its former colonies after their independence.

One special status that former African colonies of France have is in the economical realm. After World War II, the French created the Franc Zone to help the burgeoning economies of its African colonies. The Franc Zone consists of a currency co-operation agenda between France's Ministry of Treasury and fourteen African countries. In fact, the Franc Zone, which uses a currency called the CFA franc, is regarded as, "The first pillar on which France rested its neo-colonial structure." The Franc zone's design was to incorporate three major elements: first the ability to easily transfer funds; second the ability to easily convert currency at a fixed rate in the zone; and finally to centralize all of the monetary reserves of the African colonies in one location, namely the French Treasury. Because of these elements the Franc Zone gives three main advantages to its constituents: one, an increased amount of currency stability which results in decreased inflation rates; two, a direct conduit that allows foreign trade; and three, it increases the amount interdependence that the African countries have due to the common currency²⁶.

On the other hand, the Franc zone did have some drawbacks. These drawbacks mainly stemmed from the fact that the CFA franc, as time went on, became more and more overvalued. This in turn caused massive trade deficits in the African countries and was a fiscal drain on the French budget. This increasing overvaluation of the CFA franc finally resulted in a devaluation of the currency by 50% in 1994. This devaluation was devastating to the economies of the African countries that depended on the CFA franc but was necessary to appease the IMF and World Bank²⁷. The French Treasury has continued and most likely will continue to play a pivotal role in the administration of the Franc Zone because it allows the French to retain some economic ties to their former colonies and it is a prime factor in making the former colonies achieve some kind of economic reform.

While there were other institutions created in order to continue de Gaulle's plan of French-African interdependence, none were as effective and as long lasting as the Ministry of Co-operation and the Franc Zone. These were the primary tools used to influence the former colonies and bend them to the will of the French. However, de Gaulle also used military interventions in order to show the African colonies and the world that just because France did not have colonies in name, she was still protecting, controlling and using her former colonies. Interestingly, most of the interventions presided over by de Gaulle came after a dramatic decrease in French soldiers stationed in Africa. Due to the monetary requirements of the creation of its nuclear weapons program and because the training and outfitting of African military forces produced suitable replacements, France reduced its conventional forces in order to not exceed its military budgets. This is evident by looking at the number of French soldiers stationed in Africa in 1962, which was approximately 70,000 and then examining the number stationed in Africa in 1964, which had dropped to approximately 21,000. The decrease did not end here, because by 1970 there were only 6,500 French military members stationed in Africa²⁸.

While the French continued to decrease its military presence on the African continent, it did not shirk away from its responsibilities, both perceived and actual, via its defense agreements with the former colonies. In fact the reduction in military presence coincided with the creation of a special military command whose sole purpose was fast reaction and deployment to Africa whatever the need may be. In practice, the French military forces that were active in Africa under de Gaulle's tenure were mainly used to defend African governments that were being endangered by revolutionary movements. De Gaulle sent in French troops to aid governments in Cameroon in 1960-1961, Mauritania in 1961, Gabon in 1962, Congo in 1960 and 1962, Chad between 1960 and 1963, Niger in 1963, and following a brief period of non-intervention, missions in 1967 in CAR and 1968 in Chad²⁹. Perhaps the most astonishing military action that occurred under de Gaulle was the French support of the separatist Biafrans in Nigeria in 1968.

During this rebellion, the Biafrans tried to secede from Nigeria and take with them the primary oil-producing region of Nigeria. France, and de Gaulle in particular, viewed the splitting of one of the major powers in Africa as a good thing, and encouraged the Biafrans by sending them food, supplies and weaponry. The Biafran secession eventually was defeated and the conquered territory taken back. This occurred in 1970, shortly after the resignation of de Gaulle, partly because of his support of the Biafrans, and the appointment of Georges Pompidou as President of France.

French Involvement in Gabon

France was not the first European to take an interest in and control of the territory that is the current day country of Gabon. Before the French became involved, what is now Gabon was visited and partly occupied by both the Portuguese in the 1400's and 1500's and later the Dutch in the 1600's. However, tempted by the gold, ivory and precious wood trade, the French soon began to establish a sphere of influence in Gabonese territory. Just like all the other European powers at this time, France's interest in Gabon then became concerned with the slave trade³⁰.

After decades of conflict with Great Britain over naval activities along the coastal waters of Africa, France still entered into the Treaty of Vienna in 1815. This treaty, which prohibited the slave trade, led to the French Navy being deployed along the coast of Gabon to interdict slave ships. Not only did these anti-slavery patrols disrupt the slave trade, they also protected legitimate French cargo ships from attacks from the coastal residents of Africa³¹. The presence of these French naval vessels led to the first permanent presence of France in Gabon.

During the naval patrolling, several French officers signed alliances with local chieftains, thereby gaining tracts of land where French forts and re-supply bases could be located. In fact, slaves freed by a French naval vessel went on to found (under the direction of the French) the town of Libreville in 1849³². The founding of Libreville gave the French control of much of the coastline of present day Gabon.

The French were content with their holdings of this portion of the coastline of Africa for the next 40 years. During this time there was economic competition between France, Great Britain and Germany. However, neither Paris nor London felt that the Gabonese territory was valuable enough to fight over, so the conflict remained economic, and not military. It took the French defeat in the Franco-Prussian war and the subsequent loss of the rich territories of Alsace and Lorraine to motivate the French to explore the interior of Gabon³³.

After many attempts, French explorers finally mapped out the interior of Gabon in the mid-1880's. The official creation of the colony of the French Congo occurred in 1885. The French then enacted several laws making any trade that did not occur under the French flag illegal³⁴. Gabon remained titled the French Congo up until 1910 when it's name changed to French Equatorial Africa or AEF (Afrique Equatoriale Francois). This change lumped Gabon with several other French African colonies, who were all controlled by one governor. The next development for Gabon was the loss of financial independence in 1934. This was followed by re-separation back into its own colony, with its own governor, in 1937. The next to last change in the colonial status of Gabon came in 1946 when it was awarded financial independence³⁵.

The decision to give the colony of Gabon financial autonomy and its own administration was the result of the Brazzaville Conference. Charles de Gaulle adjourned the conference in 1944³⁶. However, it was not until 1946 that the French citizens passed a national referendum that gave Gabon representation in the French National Assembly and its own spot in the French Empire³⁷. It was during this time period that Leon Mba first gained notoriety in Gabonese politics.

Initially appointed by the French into a minor position of power in Libreville, Leon Mba soon came into conflict with the French clergy in Gabon, who viewed his association with Bwiti tribesman and religious figures as a challenge to their secular-derived influence in the territory. He was consequently imprisoned for three years; but after his release became a civil servant in Brazzaville where his fame grew³⁸. Upon returning to Libreville, Mba consolidated his power and became the first Gabonese elected mayor in 1956. Using the prestige from his election, Mba allied himself with some other key Gabonese political figures who were not necessarily welcomed by the French, but rather tolerated³⁹. The result of Mba's political machinations was the eventual position of president of the Gabonese council of government⁴⁰.

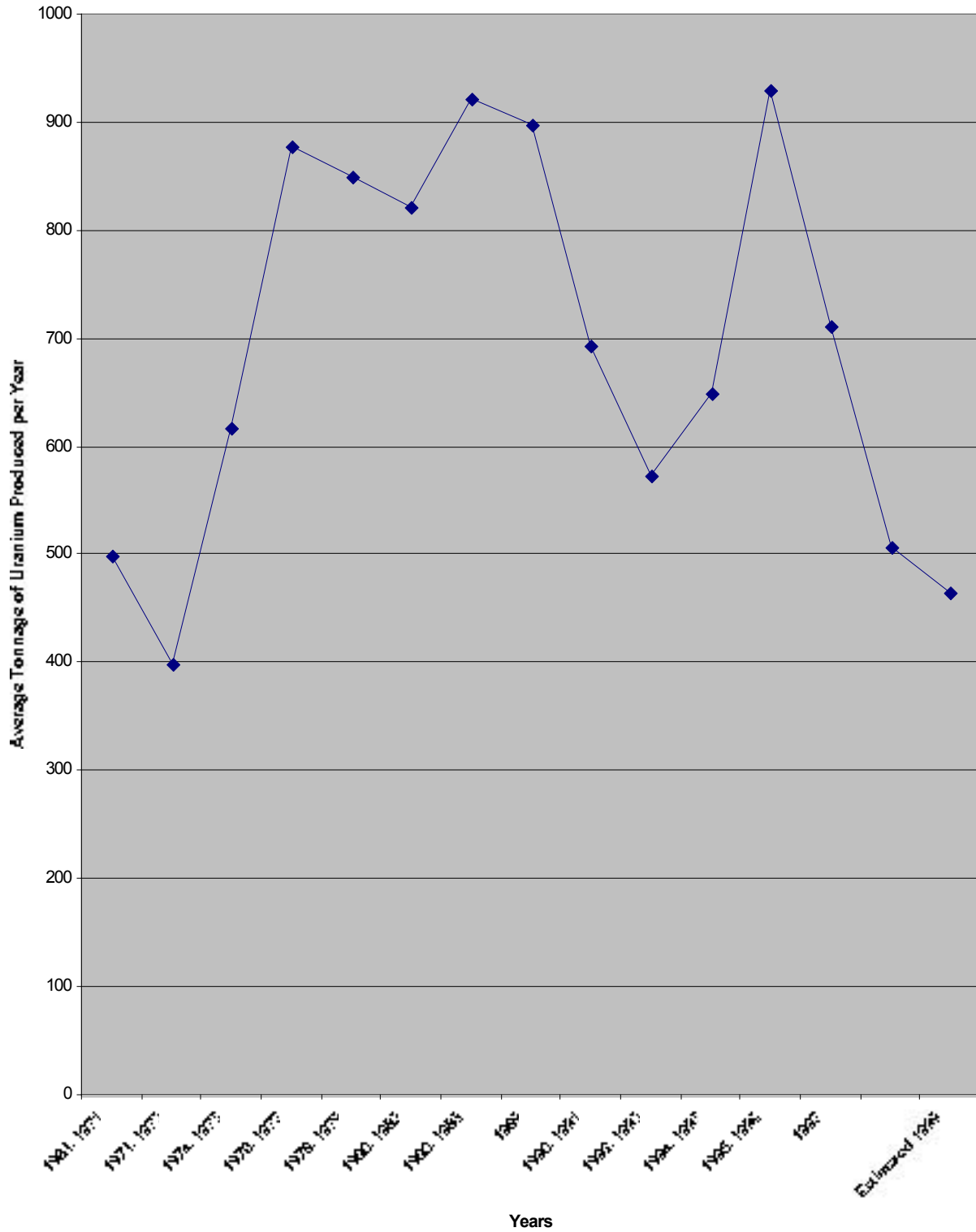
Gabonese independence from France did not occur until after the Algerian revolution of 1954 to 1962, the return of de Gaulle to power, and the establishment of the Fifth French Republic in 1958. One of Charles de Gaulle's first acts was to offer a referendum to the French colonies in Africa⁴¹. This referendum put to the colonies the question of continued membership in a French Community, which was similar to the British Commonwealth. As noted above, Gabon voted for membership in the new French Community. France openly welcomed its new territories into this conglomeration, but as previously mentioned, punished Guinea for their refusal⁴².

The leaders of Gabon witnessed the effects in Guinea of losing French support and openly declared their desire to remain part of the French Community. However, de Gaulle's brainchild was not to last long. On August 13th, 1960, Gabon became politically independent with Leon Mba elected Prime Minister. Mba, knowing his country could not survive without French support, had initiated and signed fifteen cooperation agreements with the French in the month before Gabon became autonomous. These agreements covered national defense, technical consideration, economic support, access to certain materials and national stability⁴³. Coincident with the independence of Gabon happened to come the first interest in the raw materials Gabon had to offer to the world, including uranium and petroleum.

It was in 1961 that the Gabonese company COMUF (Compagnie des Mines d'Uranium de Franceville) began to actively mine uranium in the Mounana region of Gabon. Production in the Mounana region stayed at around 500 tonnes per year for over ten years before a sharp drop-off in 1972. Production then steadily increased to a peak of about 1100 tonnes per year by 1979. Please see Figure #2 on the following page for a plot showing the average production of uranium per year in Gabon. This plot was calculated using data from the various Redbooks produced over the years by the OECD Nuclear Energy Agency and the IAEA. The plot shows the average uranium produced in

Figure #2- Average Production of Uranium in Gabon vs. Time.

Source: *Uranium 1999-1975 Resources Production and Demand. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.*



Gabon per year for the year groupings shown. The primary customer of COMUF is COGEMA, the state run nuclear fuel company of France. COMUF also supplies uranium to Japan, Italy and Belgium⁴⁵.

The burgeoning uranium and other industries that had begun to grow in Gabon helped to consolidate Leon Mba's power base. Starting in 1961, Mba began to remove any and all opposition to his regime. The first to go was one of his old allies, Paul Gondjout, who had first helped him get elected to the Gabonese council of government. Through more political maneuvering, in 1964 Mba effectively removed the only remaining threat to this power, his long time nemesis Jean Hilaire-Aubame. This was accomplished by Mba's dissolution of the National Assembly of Gabon, his calling for new elections, and his prohibition of anyone running who was not in his own political party⁴⁶. However, this action proved too much for some in Gabon.

On February 17th, 1964, Leon Mba's chief of staff, Albert Bernard (later Omar) Bongo, informed the now President Mba of Gabon of some abnormal deployments of troops and officers in Libreville. Mba chose not to heed this warning and was promptly ousted by a coup d'etat, which was led by several Gabonese military officers⁴⁷. Only one day later, Jean Hilaire-Aubame was put in charge of a new coalition government. However, Aubame's rule was destined to be a short one, thanks to the French.

French Intervention in the 1964 Coup In Gabon

As previously stated, late in the evening on February 17, 1964, Leon Mba was ousted from office and then detained, practically kidnapped, and held at various locations for two days. It took a French military intervention to return and restore Mba to power. The French justified the intervention under the enactment of clauses in the Franco-Gabonese defense treaty⁴⁸. A closer look at the events that occurred during the coup d'etat paints a different picture.

Once Mba and the rest of the national council were imprisoned and removed from power, it was less than a day before the military leaders of the coup set up a provisional governing council under the direction of Jean Hilaire-Aubame. This council consisted of several key Gabonese figures, including the only M.D. from Gabon and a famous Gabonese actor⁴⁹. The provisional council ruled for less than another day because French military forces then arrived in Libreville.

Interestingly, the information that the French received about the coup did not come from the French Ambassador to Gabon, Paul Cousseran, but rather from Omar Bongo, the Gabonese Chief of Staff. Bongo informed the local French military commander, which gave Bongo some standing with the French⁵⁰. The information traveled up the French chain of command and resulted in the dispatch of French troops to Libreville under the command of General Kergaravat. The first fifty French troops arrived at 10:50 AM the morning of the 18th of February. More French troops arrived throughout the day until more than 600 soldiers were located at the Libreville airport⁵¹. These troops easily captured the provisional council at its headquarters but did face resistance from the officers who initiated the coup. These officers and their soldiers had fortified the army base at Baraka and required a heavy pounding from ground and air forces to be dislodged. Eventually, they gave way to superior force and the coup was over. The total cost in human lives was 2 French soldiers, 25 Gabonese soldiers and numerous civilian casualties⁵². The effects on Gabon and on France in the international arena are harder to quantify.

After the coup was defeated, Mba was located and restored to power by General Kergaravat. There were many demonstrations against Mba's return to power throughout Gabon, but the French military and the national police quickly quelled them. Leon Mba, however, turned very vindictive and ended up handing down (through the courts of Gabon) several harsh prison sentences to those involved in the coup. All of the surviving Gabonese military officers involved received twenty years of hard labor. The members of the provisional government, including the doctor and the actor, received ten years internment, while Mba's old nemesis Jean Hilaire-Aubame received ten years hard labor followed by banishment from Gabon⁵³. In the end, the elections promised before the coup still happened; however with most of the opposition jailed the elections were hardly fair. Even with this advantage, Mba only won 50.38% of the vote, and it is very probable that the elections were fraudulent in some locations⁵⁴. So Mba still retained power despite the dubious nature of the whole incident.

More interesting than the coup d'etat and its aftermath was the reason the French intervened at all. Barnes writes,

The French government justified its intervention as a legitimate response to a request made by the Mba government for assistance under the terms of a mutual defense pact concluded at the time of Gabon's independence. Mba explained that Vice-President Paul-Maire Yembit requested assistance from the French ambassador, Paul Cousseran, who relayed the request to Paris.

However, several sources indicate that Yembit's request of assistance could not have possibly occurred until the day after the French troops had landed. This is due to the fact that Yembit was not even in Libreville the day the coup occurred and was in fact visiting a new Peace-Corps-built school with the American ambassador to Gabon, Charles Darlington.

On the morning of February 17th, 1964, Charles Darlington and an aide left Libreville, heading to N'Dende to officially open a school built by the Peace Corps. Early the next morning he met with Vice-President Yembit, who was finishing up some campaigning in the mountain regions of Gabon. The Vice-President and Darlington then gave speeches at the ceremony. According to Darlington, the Vice-President and himself parted ways at 12:15 PM on February 18th. Obviously there is some contradiction here because French troops had already landed before Yembit could have possibly contacted the French ambassador⁵⁵. Darlington explains,

We know what the Vice-Presidents movements were after I left him on Tuesday at 12:15 PM. The fact that his appeal to France was made after all the troop movement and all the shooting were over may raise questions in the minds of some as to just how legal the French Government's action was. If it were not legal, then I suppose it would have to be called an act of internal aggression.

So if the French decided to intervene on their own during the coup d'etat, what were their possible motivations?

Overall, there are many reasons why the French would risk international condemnation over their actions in Gabon. Gabon was one of the most affluent of all of France's former African colonies, and it provided a large amount of income to the French economy. French investors had significant investments in Gabonese petroleum, manganese, iron and wood industries. Also at issue was Charles de Gaulle's personal affection for Leon Mba and his desire to see his old friend unhurt and restored to power. However, the key reason for the intervention must be seen as France's, and specifically, de Gaulle's, need to have access to the uranium that only Gabon could provide at this time. Charles de Gaulle needed the uranium that was being mined in Gabon in order to develop and bring to fruition his plans for the *force de frappe*. De Gaulle desired France to have nuclear capabilities independent from all other countries (which he could not control), and to do this he needed the uranium that was mined in Gabon. When something threatened his supply, he sent troops in to defend it. Similar sentiments are

echoed by Darlington, “No other state possessed the uranium that de Gaulle needed for his *force de frappe*, with which he planned to make France ‘independent’.” Gardinier writes of France’s intervention, “It definitely did so to protect French interests, particularly the uranium, which was essential for securing an independent atomic force...” Decalo describes de Gaulle’s position thus, “feared the loss (to America) of Gabon’s uranium, needed for France’s independent *force de frappe*.” The parenthetical (to America) begins to show why France did not want to rely on American uranium or the uranium that France owned a share of in Canada. The French viewed Canada as acquiescing to any U.S. demands concerning uranium export or production. The French intervention in Gabon might not have been entirely about uranium, but a motivating factor must have been de Gaulle’s plans for *force de frappe*.

French Involvement in Niger

While Niger became independent from France around the same time as Gabon did, it has not seen the level of development and investment that Gabon has seen. Niger was given self-government by France in 1958. Only two short years later, Niger was granted independence from France. On August 3, 1960, the French indirectly gave Diiori Hamani the Prime Minister position and his political party, the *Parti Progressiste Nigerien* or PPN, gained predominance over the other main political party in Niger. In only one year, Hamani and the PPN managed to completely oust and exile this *Union Nigerienne Democratique* party and give Diiori Hamani complete control of Niger⁵⁶. This laid the groundwork for the turmoil and strife that has plagued Niger ever since it became a nation.

Without any serious political opposition, Diiori Hamani easily won election to the presidency of Niger in late 1960. Niger and Hamani had an extremely close relationship with France, and this resulted in continuing heavy French involvement in the country after independence. This contrasted with the gradual evolution of somewhat weaker relationships between France and some of the other former French colonies. France and Niger also signed a defense agreement, one that allowed France to intervene in Niger if the head of the state requested it. In return, France got permission to have a garrison located in Niamey. In addition, France kept most of its governmental officials in Niger to help run the new country. It was very fortunate for Hamani that the French troops were placed in Niamey because he was forced to call on them during his first term in office.

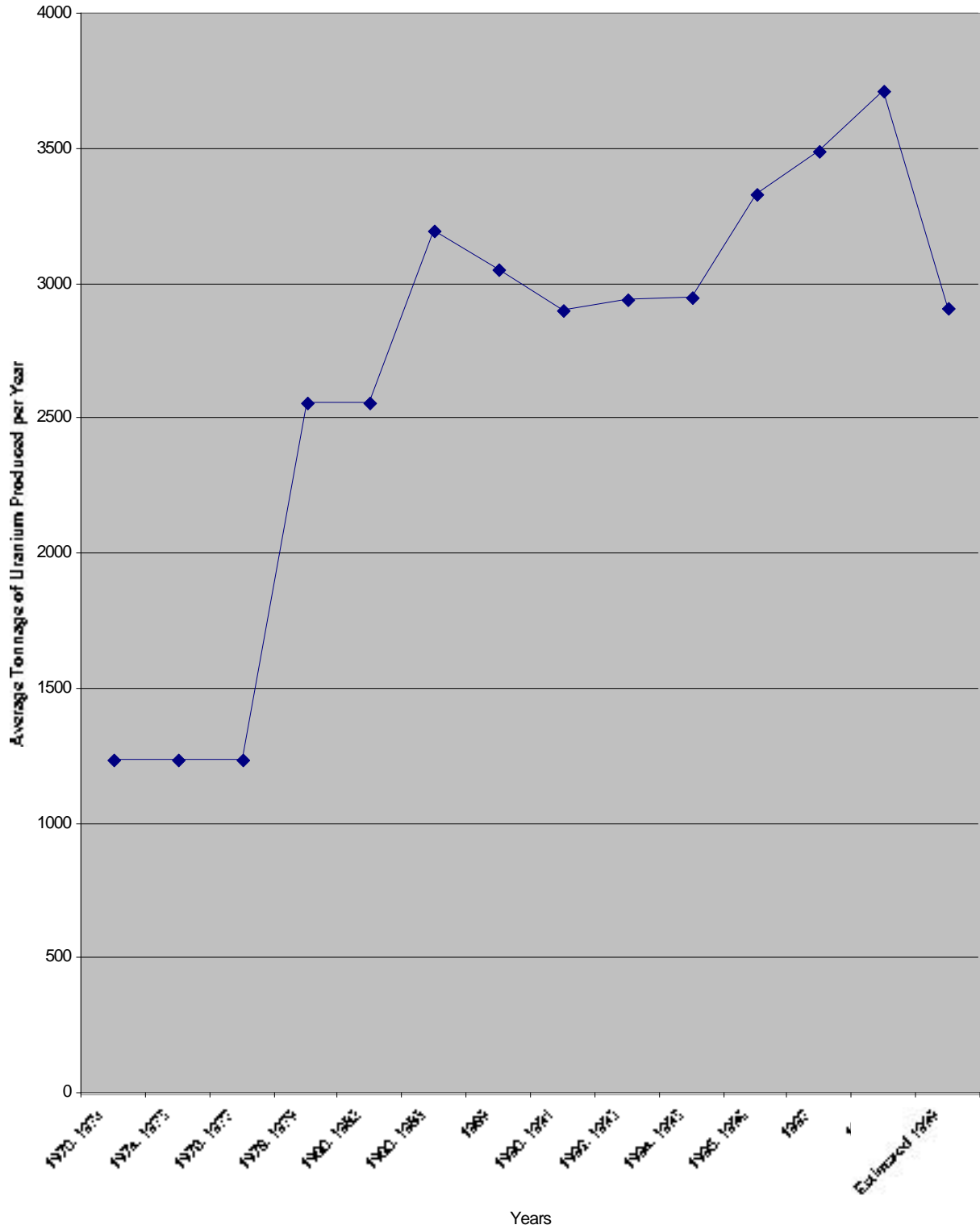
Given how Hamani came to power it was not surprising that he faced a military uprising during his first term. Late in 1963, one of the military companies station in Niamey rebelled after discovering its commander was being transferred. The uprising was put down with help from the French forces stationed in Niamey. Politically, the action had no ramifications for France or Niger except for the fact that France once again had intervened in one of its former colonies. Less than a month later France intervened in Niger again, this time to quell a border dispute between Niger and Dahomey⁵⁷. This was to be the last French intervention in Niger, but not the last instance of instability in Niger.

In the presidential election of 1965, Diiori Hamani ran unopposed and won the presidency again. Five years later in 1970, Hamani again ran opposed and won re-election. It was at this time that the first uranium was commercially mined in Niger. However, exploration for uranium in Niger had been conducted since before Niger's independence, suggesting that the potential for uranium production was known during the aforementioned events.

In 1956, the French Commissariat a l'Energie Atomique (CEA) began exploring Niger for uranium. This task was taken over by COGEMA when the fuel company was created. The first commercial mining was in 1970 by the SOMAIR group and occurred in the Arlit area of Niger. Please see Figure #3 on the following page for a plot showing the production of uranium in Niger. This plot was calculated using data from the various

Figure #3- Average Production of Uranium in Niger vs. Time.

Source: Uranium 1999-1975 Resources Production and Demand. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.



Redbooks produced over the years by the OECD Nuclear Energy Agency and the IAEA. The plot shows the average uranium produced in Niger per year for the year groupings shown. The SOMAIR group is 37.5% owned by COGEMA with an additional 19.4% owned by the CFM in France. Later in 1978, the COMINAK group began uranium mining in the Akouta region of Niger. COMINAK is 34% owned by COGEMA⁵⁹. Both the COMINAK and SOMAIR mines continue mining operations to this day.

During Hamani Diori's second and third terms was when Niger began to have increasing civil disobedience for a variety of reasons. Starting in 1968, there was an extreme drought in the Sahel region of Africa that lasted until 1974. Because of its length, this drought increasingly damaged the economy. In addition, after lengthy discussions with French officials Diori succeeded in removing all of the French soldiers stationed in his country. His goal in doing this was to gain more influence, and lessen France's, over the new burgeoning industries that had sprung up in the last couple of years. Without readily available French troops to quell dissent and during a severe drought, civil tension was at a peak. It was during this time in 1974 that strong rumors of corruption began to circulate concerning the PPN and its senior officials. The proverbial straw that broke the camel's back was the finding of several caches of food supplies and other expensive items at several governmental ministers' home residences. This caused a military uprising led by Lt. Col. Seyni Kountche, who replaced Hamani Diori in a coup d'état. Diori was subsequently sent to prison where he remained until 1980. Kountche and his followers set up a Supreme Military Council (CMS) to rule the country⁶⁰. The big question is why did France choose to not intervene militarily to restore Hamani Diori, who was handpicked by and extremely loyal to France? After all, under similar circumstances a decade earlier in Gabon France had intervened forthwith.

The answer to the question of French inaction during and after the coup that displaced Hamani Diori is probably one of bad timing. The coup occurred in 1974 only a few months after one of the surprise events of 1974, the sudden death of Georges Pompidou. Pompidou had won election in 1969 after Charles de Gaulle had resigned. Even though Pompidou was a Gaullist, there was a marked decrease in the amount of interest France had in Africa during his reign. After Pompidou died, there was an interim before the next French presidential election took place. It was during this temporary period of uncertainty in France that the coup that replaced Diori happened. Chipman thinks that, "French forces which might have been expected to support Diori, stayed at home," because of this unsure time in France. The next French prime minister, Giscard d'Estaing, was noted for leading France back into a more active role of intervention in Africa⁶¹. However, because of the lack of action by France in 1974, Diori remained imprisoned and Kountche and his CMS remained in power in Niger.

Under the rule of Kountche and the CMS Niger has prospered but also faced major internal problems. In March 1976, Kountche defeated his first coup attempt, by a former major in the Niger army, and all participants in the coup were put to death. Another drought reared its head in 1978 and again caused civil disturbances. Later in 1982, the government detained fourteen terrorists who were trying to damage the

uranium mines at Arlit. While the president of Niger was attending a Franco-African summit in France in 1983, Kountche's ministers had to put down another coup attempt. Next, there was a conflict with Nigeria that lasted from April 1984 until March 1986 because the Nigerians shut down the border between the two countries. Then in December 1986, Kountche had a brain hemorrhage, which led to his eventual demise in November 1987⁶². However, running the country of Niger would not get any easier for his successor, Col. Ali Saibou.

One of the first official actions of the new head of state in Niger was the release of most of the political prisoners that had been incarcerated during the previous administration. This did not however, placate the opposition for less than two months in office; Saibou faced a political crisis when over 3000 students attending the University of Niamey refused to attend classes for twenty-two consecutive days. The students were complaining about the decrease in state grants that the new government had instituted. A contrasting bright spot for Niger was the decision to draft a constitution which the Niger national assembly began work on in July 1988. The constitution was completed by January of 1989 and sanctioned by the national assembly in September of 1989. Thus the "Second Republic of Niger" was born⁶³.

Just because Niger had a brand new constitution, however, did not mean that the country remained free from internal turmoil and strife. In February of 1990 the students of the University of Niamey again protested, but this time the government was not so peaceful in its efforts to calm the people. Instead, four students were killed and twenty-five wounded, and the University was indefinitely shut down. This did not stop the students who returned to the demonstrations in April of 1990, which in turn resulted in the arrest of over forty dissenters. This time though, the students were not alone; for the largest labor union in Niger, the USTN, protested with them. To calm the mobs, the government decided to hold meetings to examine the student and union grievances. The government did not move quickly enough to enact reforms because at the bequest of the USTN there was a five-day strike across Niger, which effectively stopped the mining of uranium and other crucial industries⁶⁴. The result of this strike was the announcement in late November that in April of 1991 Niger would finally become a multi-party democracy.

By April of 1991, there were over ten major political parties registered in Niger. The first test of these parties strength was in the first free national election to be held in February 1993. In this election the candidates for president were narrowed to two, who were then voted on in March 1993. At this election, Mahamane Ousmane was narrowly elected the president of Niger. Even this civilian rule did not last long, coups occurred in 1996 and 1999, but finally a change back to a civilian government happened in December 1999.

Niger has been a country that undergone many changes since its independence from France. From its initial French set-up government, to its multiple coups and finally the transition back to civilian rule, Niger has struggled to become a more developed nation. As to be expected commercial interest in Niger has been slow coming, due to the

instability of the country. Only the uranium industry has shown much consistency over the years and even that is in decline. The number of uranium workers in Niger has dropped from over 3000 in 1990 to under 2000 last year⁶⁵. Niger will have to work to discover new commercial enterprises in order to compete with other developing countries.

Charles De Gaulle and the Force de Frappe

One of the predominate motivations for French policy toward nuclear weapons and French international policy in general stems from Charles de Gaulle and his idea of an independent nuclear striking force or *force de frappe*. Initially, it was de Gaulle's Provisional Government that laid the grounds for development of nuclear weapons with the creation of the Commissariat a l'Energie Atomique (Atomic Energy Commission) in late 1945⁶⁶. This set the stage for later decisions by de Gaulle about France and her defense strategy.

Charles de Gaulle firmly believed that France needed to remain politically independent from all other countries. He also believed that in order for a country to truly remain independent it needed a strong defense force. More importantly, the defense force must also be independent. To support this claim, Gough has quoted de Gaulle as saying, "The defense of France must be French." It was this type of reasoning that led de Gaulle to be a driving force for the independent development of nuclear weapons, even when he was not in office, in order to have an independent nuclear force.

Charles de Gaulle was not put back into a position to lead France and the Fifth Republic until June of 1958. However, this does not mean he was not influential in the dealings of French politics. In fact it was at de Gaulle's and a few other key military officials' insistence that France formed a committee to examine the feasibility of nuclear explosives. The same group of officials also proposed the building of a prototype nuclear weapon and a prototype nuclear submarine. The situation in the Suez and its aftermath prompted the French government to speed up its plans to develop nuclear weapons. This acceleration took the form of the construction of a nuclear isotope centrifuge project for separating isotopes and several nuclear development labs⁶⁷. The Atomic Energy Commission had already constructed several experimental nuclear weapons by the last months of the Fourth Republic. With all of these steps completed, France was set to detonate its first nuclear weapon.

It is rather fitting that the person credited with starting the French nuclear program was also the person to authorize the detonation of the first French nuclear weapons. Back in power again in 1958, Charles de Gaulle set the detonation of the nuclear device for the first quarter of 1960 in the Sahara. After the test was completed, there was immense criticism at France and de Gaulle in particular. This criticism revolved around three central ideas. The first was that France was not a prominent enough nation to complete a strategically effective nuclear force. The second was that France was already protected by the US and NATO in particular. The final criticism was based on the general belief that there was no foreign country which was directly threatening France alone⁶⁸. In addition, France broke a global moratorium on nuclear testing that was in effect at the time. Charles de Gaulle responded to these criticisms with some of his most well-known and profound statements.

In response to the attacks stating that France would never have comparable nuclear program to those of the US and USSR, de Gaulle simply responded that France will not need that many nuclear weapons. During a press conference in July of 1964, Bernstein quotes de Gaulle as having said,

It is obvious that the megatonnes which we could employ do not match the numbers which America and Russia could unleash. But once a certain nuclear capacity is reached and in regard to our direct defense, the size of the respective arsenals does not have an absolute value. For since a man and a country can only die once, deterrence exists once one has the means to inflict mortal damage on a possible aggressor, the determination to use them and the confidence in one's ultimate decision.

To his critics, de Gaulle was basically saying that the amount of nuclear weapons they have would suit the defense of France and prevent any potential aggressors from attacking.

The second charge against the French development of nuclear weapons was that France and the rest of Western Europe were already protected by NATO and the US and therefore did not need an independent source of nuclear weapons. However, de Gaulle had seen the lack of U.S. support during the Suez crisis and this and other historical reasons led him to be reluctant about relying on U.S. for support. Drawing on U.S. action, or more precisely, inaction during the Suez crisis, de Gaulle was not going to rely on the U.S. to bail France out of trouble if the Soviets attacked. This fear of de Gaulle's was only reinforced with the announcement of the U.S. policy of flexible response. Under this new policy, the United States and presumably, the U.S. led NATO would not respond to a Soviet invasion with full-scale nuclear retaliation but with a more proportional response. This change in policy occurred in 1961 and left de Gaulle and France fearing that the U.S. would use this new policy to abandon Europe and France in the face of a Soviet attack⁶⁹. Charles de Gaulle believed that the U.S. was unreliable when it came to the defense of France and used this belief as motivation for continued nuclear weapon testing and development.

De Gaulle's concerns about French political independence even with respect to its own allies can be variously attributed to grand heritage from Charlemagne through Louis XIV to Napoleon, the general's own egocentric reaction to his marginalization during World War II, and perhaps exaggerated emphasis on the exigencies of *realpolitik*. Whatever the reasons for it, France's single-minded drive towards nuclear independence under de Gaulle and beyond clearly drove both its exhaustion of its cheaper domestic uranium resources and its neocolonialistic policy concerning African uranium resources.

Ironically, as important as the perceived decline in the defensibility of France due to the U.S. policy of flexible response was the actual decline in the defensibility of France due to the French withdrawal from NATO in early March 1966. There has been much study into the reasons why Charles de Gaulle elected to remove France from NATO and most scholars conclude that the primary reason for the French withdrawal

was due to de Gaulle's and the majority of French leaders' feelings that NATO and its command structure really was just a way for the U.S. to be in control. Charles de Gaulle abhorred the idea of the French military and defense forces not being controlled by Frenchmen and that led to several French proposals to try and change the structure of NATO. This is hardly surprising for a country with a long heritage as a dominant power, e.g. as reflected in the strong difference between U.S. and Canadian attitudes towards putting their own troops under foreign command.

Also attributed to the French withdrawal was increasing tension between the United States and France over the French independent nuclear strike force. It started with a French General, General Norstadt, refusing to disclose to de Gaulle the location of American nuclear forces stationed in France when de Gaulle returned to power in 1958. De Gaulle responded by ordering the removal of all NATO stockpiles of nuclear weapons from France. After a speech by senior US government official Robert McNamara denouncing independent nuclear forces at a 1962 NATO summit, de Gaulle withdrew French nuclear forces from NATO⁷⁰. Finally, in 1966 France formally withdrew from NATO and under the circumstances, the act came as no surprise at all. Thus it was not only French recalcitrance but also U.S. heavy-handedness on the question of an independent French nuclear force as the final guarantor of the inviolability of the French homeland that contributed to the French break with NATO.

The final criticism that the French received about having no country threatening them and thus not having a need for nuclear weapons seemed ludicrous to de Gaulle and the rest of France. De Gaulle and the French military believed that because the two world superpowers were at an impasse, that it made it more important for France to have nuclear weapons in order to still have a voice on the global stage. They also believed that because their state had nuclear weapons, it could not be ignored during any conflict where French interests were concerned. Finally, the French did not build its weapons to counter any known certain threat, but rather to counter any potential threat. This shown by a quote of de Gaulle's in 1961, "I can only confirm to him France's intention of becoming a nuclear power. For her, it is the only way of ensuring that no one can risk killing her without risking his own death." This quote was in reference to discussion de Gaulle had with John Kennedy about French nuclear designs⁷¹. Overall, the French and Charles de Gaulle were not too concerned with the thoughts of the rest of the world and continued with their plans for the *Force de Frappe*.

Once de Gaulle and France were free from what they felt was American micro-management of their defense forces, they began to construct the French independent nuclear strike force. Initially, the French military chose its Mirage IV bomber to be the instrument of choice for the delivery of the nuclear weapons for the *Force de Frappe*. In 1967, the *Force de Frappe* was officially created with sixty-two Mirages, each capable of delivering a sixty-kiloton nuclear bomb. Later in 1967 the first French nuclear submarine was built. In 1968 the French detonated their first hydrogen bomb in a new testing site in the Pacific. Before he left office, de Gaulle also started plans to replace the older Mirage planes with newer ballistic missiles. These missiles did not become operational until 1971, after de Gaulle had resigned, but they gave real power to the *Force de Frappe*

because now the French nuclear submarines could launch nuclear missiles undetected and the French ballistic missile sites were less susceptible to pre-emptive strike than the Mirage planes had been⁷². While de Gaulle did not remain in power long enough to see the full potential of the *Force de Frappe* realized, he was instrumental in not only creating it but also making it into a sizable independent military force.

France, Australia, and the Comprehensive Test Ban Treaty

While it has been explained above why France chose not to obtain uranium from the United States or Canada, those reasons do not apply to Australia. Australia was distant enough from the United States both spatially and politically that the U.S. did not have as much influence over Australian decisions on uranium exports. Australia has an abundance of uranium for sale at prices lower than the cost of mining uranium in Niger and Gabon, not to mention the cost of developing mining infrastructure in those countries. However, some reason kept the French from relying on Australia for the uranium, and that reason is tied into France's nuclear testing in that region of the world and the Comprehensive Test Ban Treaty.

France aroused global anger by performing a series of above ground nuclear explosions in the South Pacific in late 1995 and early 1996. See Table #1 on the following page for information on the series of French nuclear tests performed at that time. Moreover, France had been testing nuclear devices in the South Pacific for over thirty years, and for countries located in South Pacific this has been an inflammatory issue⁷³. One country in particular, Australia, instead of relying on rhetoric actually took action against the French. The form of this action was a type of economic boycott in that Australia refused to deliver contracted uranium to France⁷⁴. Uranium had been discovered in Australia right after World War II but it was almost thirty years before any was exported. In 1975, Australia commissioned a report to examine the issues surrounding uranium mining in Australia and the issues surrounding potential export of uranium. After two years, the government in Australia agreed to proceed with commercial uranium mining and exportation with some stringent safeguards. These safeguards were designed to avoid any attempts to use Australian uranium for non-peaceful uses. Incidentally, these safeguards have remained unchanged since their inception and still exist today⁷⁵.

Then in 1983 the Labor party came to power in Australia. One of the first acts of this new government was the creation of the "three mines" policy. It was this policy that authorized but limited uranium mining in Australia to three mines, namely the Ranger, Naberlak and Olympic Dam sites. All other proposals for uranium mines were summarily set aside and not approved. Shortly after the formation of the three mines policy, the new Labor government took another, and more drastic measure that was a direct result of the French nuclear weapon testing in the South Pacific, a ban on the sale of uranium to France.

Before the creation of the three mines policy by the Australian government, France had contractually agreed to purchase uranium from Queensland Mines Ltd., the company which owned and operated the Naberlak mine. After creating the three mines policy, the Labor party in Australia then banned the sale of the ordered uranium to France. Instead, the Australians bought the surplus uranium and added it to their own governmental stockpile. Later in 1986, the ban was removed and Queensland Mines began exporting uranium to France. A year later, Electricite' de France negotiated a

Table #1- Information on the Final Nuclear Tests Performed by France in Late 1995 and Early 1996 at the Mururoa Test Site in the South Pacific⁷⁶.

French Nuclear Test Number	Date of Test	Time of Test	Latitude of Testing Location	Longitude of Testing Location	Seismic Body Wave Magnitude	Yield (calculated by seismic data)	Test Code	Number of Seismic Waveforms
193	9/5/1995	21:29	21.850S	138.840W	4.8	5 kt	416284	71
194	10/1/95	23:29	22.250S	138.740W	5.4	40 kt	432410	133
195	10/27/95	21:59	21.890S	138.980W	5.4	20 kt	448714	71
196	11/21/95	21:29	21.880S	139.030W	4.8	5 kt	468959	97
197	12/27/95	21:29	21.880S	138.970W	5.1	10 kt	522408	80
198	1/27/96	21:29	22.240S	138.820W	5.3	40 kt	556512	105

French Nuclear Test Number- This is the numerical number of the test as it corresponds to all nuclear explosions tests performed by France.

Date of Test- Calendar date test occurred.

Time of Test- Time test occurred local testing site time.

Latitude of Testing Location- Latitude of the Mururoa testing site.

Longitude of Testing Location- Longitude of the Mururoa testing site.

Seismic Body Wave Magnitude- Value calculated from seismic data from event. Used in calculating yield.

Yield- Energy yield of the nuclear device in kt as calculated by the seismic data from known independent sources.

Test Code- Event identifier number.

Number of Seismic Waveforms- The number of seismic waveforms recorded by seismic stations around the world. Used to calculate the yield.

contract with the Energy Resources of Australia Ltd. (ERA) to obtain uranium from the Ranger mine⁷⁷. This was not to be the end of this conflict between France and Australia over nuclear testing in the South Pacific, however.

Once again, in 1988, the Australian Labor party moved to restrict the French access to Australian uranium. This time, the Labor party passed a resolution that would prevent any more uranium contracts with France from being authorized. On a side note, the Labor party also revoked the three mines policy at this time and allowed the possibility of new mines being developed at additional sites in Australia. The resolution concerning sales of uranium to France changed in September of 1994, when Australia decided to deny any more uranium contracts with France only until France signed and ratified the Comprehensive Test Ban Treaty (CTBT). Even with a change in government from the Labor party to a coalition government did not change the Australian stance on this issue.

The next step in this progression was the decision of France to not only sign and ratify the Comprehensive Test Ban Treaty, but to openly embrace it and become a major proponent of it. The announcement by the President of France Jacques Chirac on June 13th, 1995, that France would perform up to eight nuclear tests was packaged with the decision that France would sign the CTBT. Chirac claimed that French scientists needed that data that the tests would provide in order to complete simulation and computer software that would model nuclear explosions and allow French scientists to keep the current French arsenal operational. The French claim this data was needed before they could sign the CTBT⁷⁸.

So, France initiated five nuclear tests starting in late 1995 and ending in early 1996. These tests caused riots around the world against French symbols such as French embassies and cultural centers and a boycott of French wine worldwide. The French partially withstood the torrent of political wrath, capitulating and reducing the number of tests from eight to five, and then began the process of signing the CTBT⁷⁹. On September 10th, 1996, France officially ratified the CTBT. France also agreed to halt its refinement of fissile materials for weapons use. In turn, Australia lifted the ban on contracts with France for the sale of Australian uranium. Less than three months later Electricite' de France negotiated a lasting contract for the procurement of uranium from Western Mining Corporation Ltd. which operates the Olympic Dam mine.

French officials knew all of the issues surrounding the French nuclear testing in the South Pacific and its effects on relations with Australia and other nations in this region. France knew that it could not rely on Australian uranium for the very reason that it was testing nuclear device in Australia's backyard. This prevented France from relying on Australian uranium meaning the French had to seek different sources of uranium to keep French military and civilian nuclear programs running. Thus, France had to turn to Niger and Gabon. In 1996, however, all of this changed, potentially removing a key impediment to serious reassessment of France's African policy.

Changes In French Policy Towards Africa

Over the last decade there has been significant changes in French foreign policy towards its former colonies in Africa. The most major change was the absorption of the French Ministry of Co-operation into the French Ministry of Foreign Affairs. Other changes include the reduction of French military and technical presence in Africa and the reduction of economic benefits that France provides to her former colonies in Africa. There are many proposed reasons for these various changes, but the fact that France need no longer rely on Niger and Gabon for a significant amount of uranium cannot be overlooked.

Perhaps the most major change in French policy towards Africa is the revocation of the independent status of the French Ministry of Co-operation. The French have restructured their Ministry of Co-operation into something that the French say is more appropriate to the increasing amount of globalization in the world. Digging through the French rhetoric, the new change involves the Ministry of Co-operation being absorbed into the Ministry of Foreign Affairs⁸⁰. Thus, what was once a separate governmental agency for strictly dealing with France's foreign colonies in Africa is now lumped together with the governmental agency that oversees all French foreign relations. This now puts the former colonies in Africa, who were once distinctly separated from other foreign countries, into the same position as the rest of the world when it comes to French foreign policy.

In addition, there has been a drastic reduction of French military and technical personnel posted in Africa. Militarily, France has planned to reduce the number of French troops stationed in Africa from 8,000 in 1997 to 5,600 in 2002. Corresponding to this is reduction in French civilian personnel, who operate the various technical agreements France has with her former colonies, from 7,669 in 1988 to 2,919 in 1998⁸¹. These reductions show that France has begun to pull back her interests from Africa. French troops will no longer be stationed in Africa and as the technical agreements between Africa and former colonies expire, the French civilians in charge of fulfilling those agreements are returning to France.

In addition there was the French involvement in the genocide that occurred in Rwanda in 1994. There has been much debate over the amount of blame France should accept over its role in the genocide⁸². Ultimately, it was an attempt by France to provide a clear distinction between the Francophone areas of Africa and the Anglophone areas. In attempting drawing that line, France armed the Hutu forces that did the majority of the killing. While France would not have sold the arms to the Hutus if the French knew the eventual usage of the weapons, it does not change the fact that the French supplied the Hutu's. This type of politically damaging event is something which would not occur now, with the creation of a unified European spokesperson and European defense force. These unified commands will treat Africa with a common European policy towards Africa, not just the French policies toward Africa. The change from a distinct French

policy towards Africa to a common European policy towards Africa will lead to a definite change in the relationship between France and her former colonies.

Finally, there has been a decrease in the level of economic support that France has been supplying to its former colonies in Africa. This decrease has taken the form of devaluation of the CFA franc. In January of 1994, the value of the CFA franc was decreased by over fifty percent. The French Ministry of Treasury decided to pursue this devaluation in order to end the French involvement in the Franc Zone. This was probably necessary in order for France to become integrated within the forming European Union monetary zone. Without the separation of the CFA franc from the French franc, the CFA franc would then be tied into the euro. This could mean that European Union monetary policy would affect Africa. There is little motivation for the countries forming the European Union to link their new monetary unit to Africa, it would put limits on the fiscal decision making ability of the EU. Thus the devaluation of the CFA franc and the resulting split with the French franc was probably a necessary step for the monetary unification of Europe.

The Franc Zone was another tie between France and Africa that was indicative of the “special relationship” between France and its colonies. Furthermore, the amount of money that French Office of Developmental Assistance (ODA) has been given from the French government has decreased substantially. From 1995 to 1998, the budget of the French ODA has shrunk approximately seven and a half billion francs. The former French colonies in Africa were the recipients of the majority of this money. Thus, the amount of developmental aid that the former colonies in Africa are going to receive from France has also decreased significantly. The change in the economic and financial assistance that France gives to Africa is indicative of the change in French policy towards Africa.

The reasons for the changes in French foreign policy towards Africa have been explained in many different ways. Some of the main reasons proposed include the deaths of key figures that embodied the special relationship between France and Africa, the international embarrassment the French received from their involvement in the Rwanda genocide, and the creation of the European Union, which provided France with links to countries in Europe that are stronger than the links between France and Africa⁸³. However, one reason that is easily overlooked is the change French desire for uranium from its former African colonies, specifically Niger and Gabon. In the last decade, COGEMA has begun to diversify its uranium interests. No longer does COGEMA solely rely on obtaining inexpensive uranium from Niger and Gabon. Now, COGEMA gets its uranium from Canada, the United States, Australia, Niger and a little from France. While the French surely did not decide to pull back from Africa because they can get uranium elsewhere, it was a factor in their decision. Not having to depend upon Niger and Gabon for uranium removed a potential stumbling block from the French withdrawal from Africa. While it was not a deciding factor, it probably played a significant part in allowing the French to change their foreign policy in Africa.

Analysis

Trying to determine how much French foreign policy in Africa was affected by the French desire to obtain uranium is a difficult task. There was no recorded decision by the French leaders who formed the French African policy that can be related to uranium extraction rates. Instead the historical facts, rhetoric, and events and their outcomes must be investigated. By examining the history relating France to its former African colonies, one can only surmise how much French foreign policy was influenced by the uranium needs of the country. Any such analysis revolves in a large part around Charles de Gaulle.

If there was a key player that had shaped French foreign policy, not only African but also all French foreign policy, then it had to be de Gaulle. He not only helped to build the Fourth Republic after World War II; he was instrumental in the construction of the Fifth Republic. All French leaders since de Gaulle have trod in his footsteps and followed his lead on most issues, until at least very recently. It was de Gaulle's decision that led France to first begin exploring nuclear power, with his establishment of the French CEA in 1945. The French CEA was the governing agency that not only brought civilian uses of nuclear energy to France, but also allowed France to develop military uses of nuclear energy.

However, de Gaulle's influence on France and Africa did not stop with the simple creation of the CEA or any government agency: he had a much greater impact. It was de Gaulle who realized that France was going to eventually have to release its colonies in Africa. It was de Gaulle who decided on a course of action that would not only ease the transition of the African countries from colony to independent nation, but also would allow France to keep some influence in these countries. Thus came de Gaulle's idea of the Community. Through the Community, France would lead its former colonies to independence while also retaining some authority with these nations. The Community would not last long though.

With the collapse of the Community and the subsequent independence of most of the former colonies, France stood poised to lose its influence over these countries. However, under de Gaulle several long-lasting ties between France and these new independent countries were established. These ties took different forms but one of them was the various defense and technical agreements between France and the colonies. Another was a special French governmental office, the Ministry of Co-operation. Instead of lumping relations with the new African countries into the Ministry of Foreign Affairs, de Gaulle created an entirely new Ministry office to handle the former African colonies themselves. However, this was not the largest string that attached France to her former colonies.

Perhaps the most binding creation between the French and her former colonies was the establishment of the Franc Zone. This monetary conglomeration was tied into

the French Ministry of Treasury. The Zone allowed the newly developing countries to have increased currency stability, decreased inflation rates, direct conduits to trade, and increased the interdependence of the African colonies on each other. However, what were the advantages to the French that they would keep such an operation running, especially with it being so draining to the French treasury? Obviously, the French knew that with the creation of the Franc Zone, they now had an extremely strong economic link to these African countries. Thereby, France could obtain the goods and raw materials they desired from these African countries before any other countries had a chance to purchase them. While the benefits of the Franc Zone to the former African colonies were enormous, the benefits that the French gained are not to be overlooked.

But the direct influence that he gave and the decisions that Charles de Gaulle made on French foreign policy was perhaps his most lasting contribution to France and her relationship with her former African colonies. De Gaulle's foreign policy towards the rest of the world had been the subject of many books and articles. One thing that clearly resonates from all of de Gaulle's actions, speeches and publications is his desire for France to avoid dependence on other major powers. He wanted France to not have to rely on either superpower for defense, economic support, or bargaining power. Things that De Gaulle encountered before returning to power in 1958 only strengthened this stance. The lack of American support during the Suez crisis was only the first event that de Gaulle witnessed that made him want to cut the ties between France and the US.

The next main event that deepened de Gaulle's mistrust of the U.S. as an ally was the change in United States', and the U.S. dominated NATO, policy in case of a Soviet attack into Western Europe. The old policy had been one of massive retaliation, and the French felt this was a great deterrent to any Soviet aggression. However, under President Kennedy, the U.S. changes to a flexible response scenario that would only punish the Soviets with a proportional response to their invasion. France and de Gaulle felt like this policy allowed the United States to abandon France if the United States felt this was necessary. This was one of the major events that led de Gaulle to the conclusion that France must build her own defense force.

Furthermore, de Gaulle felt that NATO was no more than a convenient cover that allowed the United States to be in control of foreign country's military forces. De Gaulle and the rest of France felt that Frenchmen, and not Americans, should control the French military forces. It was this thinking that prompted de Gaulle to remove France from NATO in 1966. This removal required France to develop her own defense force to remain a power on the world stage.

In the background of all these events was the burgeoning French nuclear arsenal and its development. It was once again de Gaulle who urged the government of the Fourth Republic to begin developing nuclear weapons. De Gaulle had returned to power in 1958 and was the one who ordered the first French nuclear weapon to be detonated. Using the arguments that France needed to be able to defend itself against any threat, de Gaulle envisioned and set to working on creating the *force de frappe*. This would afford the French not only international respect, but also allow the French a bigger chip at the

bargaining table as well as providing for France's ultimate defense in case of attack by any foreign country. Before he left office, de Gaulle laid the groundwork for an upgrade to the *force de frappe* to make it more deadly and respected. No longer would the nuclear arsenal of France have to be delivered by jets; now it would be deliverable by ballistic missiles. De Gaulle resigned from office soon after the decision to strengthen the *force de frappe*, but he left an enduring mark on French nuclear policy.

One aspect that needs to be mentioned is the growing French need for uranium. With de Gaulle's insistence on the development of the *force de frappe*, France needed uranium. But more important to the French need for uranium than the military uses of nuclear energy were the civilian uses. The civilian and military nuclear programs were managerially integrated, and both represented thrusts in the general direction of political independence from allied military power and other countries' energy resources, respectively. France had an increasing number of nuclear power plants under order and under construction. France itself had a moderate amount of uranium for military purposes, but it would not be enough to meet the needs of France's upcoming fleet of commercial reactors. Thus France needed to find more uranium than it had at home, but there was a small catch. De Gaulle and other French leaders did not want to depend on any other major foreign country for this uranium. Political independence from allied sources precludes reliance on North American sources, and Australian unease with nuclear testing in the Pacific made it a potentially unreliable source. Thus France needed a source of uranium that it could control so that its supply would always remain uninterrupted. To solve the French dilemma, French leaders began to look to her African colonies.

In particular, two of the French colonies looked extremely promising in the acquisition of uranium, Niger and Gabon. It was in 1956 that uranium was actually discovered in Gabon, exploration for uranium had begun there years earlier. It was also in 1956 that exploration began in Niger for uranium, mining began there in 1970. With these two countries, France now had a reliable source of uranium, until independence came along.

With France having to give the African countries of Niger and Gabon their formal political independence, the French were in a bind with regard to uranium. However, the French used the ties it would create with all of its former colonies to make sure that it would continue to receive uranium from both Niger and Gabon. This is evident in that all of the companies that were mining uranium, SOMAIR and COMINAK in Niger and COMUF in Gabon, were majority owned by COGEMA, the French nuclear fuel company. The French now had what they wanted, a source of uranium for its military and civilian nuclear energy programs that was very reliable. But how stable were the countries of Niger and Gabon?

As it turns out, because of the French, Gabon was very stable. The only major event that has marred the stability of Gabon, was an unsuccessful coup in 1964. It was during this coup that, some Gabonese military officers ousted Leon Mba, the French installed leader of Gabon, from power. A new provisional government was created but it

lasted only a day. France sent in some of its military forces to restore Leon Mba to power. The French claimed that the Vice-President of Gabon enacted the French-Gabonese defense agreement and France had sent troops in under those auspices. However, this could not have possibly happened because the same Vice-President was with the American ambassador to Gabon until after the French troops had landed. Why would the French break international law and risk international wrath for the under-developed country of Gabon? Perhaps France wanted to keep its supply of uranium constant and unaffected.

On the other hand, Niger has been one of the most unstable countries in Africa since its independence. When Niger faced a coup d'état in 1974 that deposed its French chosen leader, Hamani Diori France was notoriously absent. There was no French military intervention to restore Diori to power. At this time, Niger had begun to produce uranium for France, were the French not concerned with this turn of events?

However, the answer is a simple one, the French were facing their own political crisis at the time. The coup occurred during the period of time after the death of Georges Pompidou but before a new President of France was elected. So military intervention could have occurred but the French were preoccupied with the upcoming election. By the time that the election was completed and Giscard d'Estaing was entrenched in power in France, Colonel Kountche was also firmly entrenched in Niger. Col. Kountche also pursued a close relationship with France, attending Francophone Summits and keeping Niger's uranium flowing to France. So in this special case, the fact that the French were facing their own political crisis and the fact that by the time it was over the new government in Niger had become trusted in France was the cause for the lack of deployment of French troops to overturn the coup in Niger in 1974.

Overall, the desire for uranium from a dependable market source that the French could control led to the French actions in Niger and Gabon. Charles de Gaulle's main philosophy was for France to be independent from all other countries, especially the superpowers. This meant militarily and economically independent. In order to be militarily independent France developed the *force de frappe*. France also was to be energy independent and thus began construction of a vast number of nuclear power plants. Both the *force de frappe* and the new power plants needed uranium to become active and viable. Thus in order to be independent France needed uranium. To buy this uranium from the US or any other country France could not control would defeat the purpose of acquiring the uranium at all. So France turned to her former colonies where she still had means to influence the governments in power there. In Niger and Gabon, France was able to obtain the uranium it needed to be independent, but more importantly, France could control these sources of uranium through the Ministry of Co-Operation, the defense and technical agreements, and the Franc Zone. If something threatened the stability of those governments, but more importantly the mining operations, France sent in troops to intervene. It is inconceivable to think that the need for uranium that France felt did not play a role in determining French foreign policy in Africa.

Conclusion

France and Africa have been intertwined for over the last three hundred years. Of all the European colonizing nations, the French have held their former African colonies closer than the British, Dutch, Germans or Portuguese have. One of the many commodities that has bound the French to their former African colonies of Niger and Gabon has been uranium. France has needed uranium not only for its nuclear weapons development and maintenance but also to run the numerous reactors that provide the country with the majority of its energy. Some larger non-nuclear weapon states, notably Japan and Germany, have bought the excess uranium that they have needed on the open market, France was reluctant to do so because of policies shaped by its own version of a turbulent history.

In particular, historical events have shaped the French leaders who have determined the course of French military and foreign policy. The one French leader who has dominated the nuclear course that France has trod was Charles de Gaulle. De Gaulle's insistence that France remain independent both militarily and with respect to economic strategic materials, is due to events in French history. These events, such as the British abandonment at Dunkirk, the lack of U.S. support during the Suez crisis, and change in NATO and U.S. policy in case of an invasion of Europe by the Soviets, caused de Gaulle and France to strive for military and energy independence.

Because of a desire for a higher level of military and energy independence than other European NATO members, France needed a reliable source of uranium that it could control. This was achieved through the many links that connected France to her former colonies of Niger and Gabon. These countries allowed COGEMA, the French nuclear fuel company, to maintain majority control in the companies that mined uranium in Niger and Gabon. Thus, France's supply of uranium would remain steady and unaffected by any fluctuations in the market price of uranium.

However, when events arose in Gabon in 1964 that could affect the procurement of uranium from Africa, France intervened. Not only would they intervene, they would do it without the request of anyone in the country in question and in violation of international law. At the least, these interventions were seen as French tampering with the internal politics of a foreign nation. In 1974, a temporarily distracted France stood by during instability in Niger, but as it turned out this instability did not lead to a halt in the flow of uranium from Niger to France. In any case, the uranium flow to France from Niger and Gabon could not be allowed to cease. The French needed the uranium for their nuclear weapons and their nuclear power plants.

After examining the events surrounding France, Africa (Niger and Gabon particularly), uranium mining, Charles de Gaulle and French foreign policy only one conclusion can be drawn. French foreign policy towards Africa was affected by the desire of France to stay militarily and economically independent, and thereby the need to obtain uranium. However, the degree or extent to which the need for this commodity

shaped French foreign policy can only be speculated upon. While the need to procure uranium was probably not the most influential factor in shaping French foreign policy towards Africa, given the larger economic and cultural issues a stake it did play a key role and cannot be neglected.

Recently, the French foreign policy towards Africa has changed. This change in policy has resulted in the combination of the French Ministry's of Co-operation and Foreign Affairs, the withdrawal of French soldiers and civilians from Africa, and the reduction in financial assistance from France to her former colonies. These minor changes in policy could be indicative of a larger change in French foreign policy towards Africa.

Now it is possible for France to evolve beyond its traditional neocolonial policy towards its former colonies in Africa. Four key events have allowed the French to begin to develop a new policy. First, the French now have the ability to obtain uranium from the global market. For various reasons the French were either unable to unwilling to do this in the past. Second, there has been a generational change of French politicians. The death of Jacques Foccart, who is considered to be the father of the Francophone system in Africa has allowed France to move away from its traditional policy towards those Francophone countries in Africa. The third event is France's increasing participation in coordinated European foreign policy. No longer does France have free reign with their African policies, now France must coordinate its foreign policy in Africa with that of the rest of the countries in the EU. Finally, the French involvement in the genocide in Rwanda has tremendously affected French policy towards Africa. The pressures felt by French leaders both internally from France and externally, over the French role in the genocide has affected how the French will deal with African countries in the future. As stated, French access to global uranium markets was necessary step in order to allow the French to change their foreign policy towards Africa. What is unclear is how much change in French foreign policy will occur. Nevertheless, the French access to global uranium markets needed to occur before any change in French foreign policy towards Africa could occur.

Notes

1. *Elecnuc. Les Centrales Nucleaires Dans Le Monde*. Commissariat a l'energie atomique. Gif-sur-Yvette, France, 2000.
2. Electricite de France. <<http://www.edf.fr/htm/en>> 2001.
3. Ibid.
4. *Elecnuc. Les Centrales Nucleaires Dans Le Monde*. Commissariat a l'energie atomique. Gif-sur-Yvette, France, 2000.
5. *Annual Report 1999*. COGEMA Inc. <http://www.cogema.com/index_gb.html> 2001.
6. *Uranium 1999 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.
7. *Annual Report 1999*. COGEMA Inc. <http://www.cogema.com/index_gb.html> 2001.
8. *Uranium 1999 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.
9. *Informations Utiles*. Commissariat a l'energie atomique. Gif-sur-Yvette, France, 2000.
10. *Annual Report 1999*. COGEMA Inc. <http://www.cogema.com/index_gb.html> 2001.
11. Ibid.
12. *Uranium 1999 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.
13. Ibid.
14. Chipman, John. *French Power in Africa*. Basil Blackwell, Inc. Cambridge, Massachusetts, 1989.
15. Ibid.
16. Ibid.
17. Saxena, S.C. *Politics in Africa*. Kalinga Publications. New Delhi, India, 1993.
18. Webster, J.B, Boahen, A.A, and M. Tidy. *The Revolutionary Years. West Africa since 1800*. Longman Group Ltd. Essex, England, 1980.
19. Chipman, John. *French Power in Africa*. Basil Blackwell, Inc. Cambridge, Massachusetts, 1989.
20. Ibid.
21. Rouvez, Alain. *Disconsolate Empires. French, British and Belgian Military Involvement in Post-Colonial Sub-Saharan Africa*. University Press of America, Inc. Lanham, Maryland, 1994.
22. Chipman, John. *French Power in Africa*. Basil Blackwell, Inc. Cambridge, Massachusetts, 1989.

23. Duignan, Peter and Robert H. Jackson, Ed. *Politics and Government in African States 1960-1985*. Hoover Institution Press. Stanford, California, 1986.
24. Clark, John F. and David E. Gardinier, Eds. *Political Reform in Francophone Africa*. Westview Press. Boulder, Colorado, 1997.
25. Chipman, John. *French Power in Africa*. Basil Blackwell, Inc. Cambridge, Massachusetts, 1989.
26. Rouvez, Alain. *Disconsolate Empires. French, British and Belgian Military Involvement in Post-Colonial Sub-Saharan Africa*. University Press of America, Inc. Lanham, Maryland, 1994.
27. Ibid.
28. Chipman, John. *French Power in Africa*. Basil Blackwell, Inc. Cambridge, Massachusetts, 1989.
29. Rouvez, Alain. *Disconsolate Empires. French, British and Belgian Military Involvement in Post-Colonial Sub-Saharan Africa*. University Press of America, Inc. Lanham, Maryland, 1994.
30. Saint-Paul, Marc Aicardi de. *Gabon, the Development of a Nation*. Routledge. New York City, New York, 1987.
31. Barnes, James F. *Gabon, Beyond the Colonial Legacy*. Westview Press. Boulder, Colorado, 1992.
32. Saint-Paul, Marc Aicardi de. *Gabon, the Development of a Nation*. Routledge. New York City, New York, 1987.
33. Barnes, James F. *Gabon, Beyond the Colonial Legacy*. Westview Press. Boulder, Colorado, 1992.
34. Saint-Paul, Marc Aicardi de. *Gabon, the Development of a Nation*. Routledge. New York City, New York, 1987.
35. Ibid.
36. Barnes, James F. *Gabon, Beyond the Colonial Legacy*. Westview Press. Boulder, Colorado, 1992.
37. Ibid.
38. Ibid.
39. Gardinier, David E. *Historical Dictionary of Gabon*. The Scarecrow Press, Inc. Metuchen, New Jersey, 1981.
40. Saint-Paul, Marc Aicardi de. *Gabon, the Development of a Nation*. Routledge. New York City, New York, 1987.
41. Barnes, James F. *Gabon, Beyond the Colonial Legacy*. Westview Press. Boulder, Colorado, 1992.
42. Ibid.
43. Decalo, Samuel. *The Stable Minority: Civilian Rule in Africa, 1960-1990*. Florida Academic Press Books. Gainesville, Florida, 1998.
44. *Uranium 1999-1975 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.
45. Saint-Paul, Marc Aicardi de. *Gabon, the Development of a Nation*. Routledge. New York City, New York, 1987.

46. Barnes, James F. *Gabon, Beyond the Colonial Legacy*. Westview Press. Boulder, Colorado, 1992.
47. Saint-Paul, Marc Aicardi de. *Gabon, the Development of a Nation*. Routledge. New York City, New York, 1987.
48. Decalo, Samuel. *The Stable Minority: Civilian Rule in Africa, 1960-1990*. Florida Academic Press Books. Gainesville, Florida, 1998.
49. Gardinier, David E. *Historical Dictionary of Gabon*. The Scarecrow Press, Inc. Metuchen, New Jersey, 1981.
50. Decalo, Samuel. *The Stable Minority: Civilian Rule in Africa, 1960-1990*. Florida Academic Press Books. Gainesville, Florida, 1998.
51. Darlington, Charles and Alice. *African Betrayal*. David McKay Company, Inc. New York City, New York, 1968.
52. Gardinier, David E. *Historical Dictionary of Gabon*. The Scarecrow Press, Inc. Metuchen, New Jersey, 1981.
53. Barnes, James F. *Gabon, Beyond the Colonial Legacy*. Westview Press. Boulder, Colorado, 1992.
54. Gardinier, David E. *Historical Dictionary of Gabon*. The Scarecrow Press, Inc. Metuchen, New Jersey, 1981.
55. Darlington, Charles and Alice. *African Betrayal*. David McKay Company, Inc. New York City, New York, 1968.
56. Barde, Ibrahim. *Mahamane Ousmane, Power and Democracy in Niger*. RAI Communications. Kano, Nigeria, 1996.
57. Rouvez, Alain. *Disconsolate Empires. French, British and Belgian Military Involvement in Post-Colonial Sub-Saharan Africa*. University Press of America, Inc. Lanham, Maryland, 1994.
58. *Uranium 1999-1975 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.
59. Ibid.
60. Barde, Ibrahim. *Mahamane Ousmane, Power and Democracy in Niger*. RAI Communications. Kano, Nigeria, 1996.
61. Chipman, John. *French Power in Africa*. Basil Blackwell, Inc. Cambridge, Massachusetts, 1989.
62. Barde, Ibrahim. *Mahamane Ousmane, Power and Democracy in Niger*. RAI Communications. Kano, Nigeria, 1996.
63. Ibid.
64. Ibid.
65. *Uranium 1999 Resources Production and Demand*. Nuclear Energy Agency and Organization for Economic Co-Operation and Development. Paris, France, 2000.
66. Gough, Hugh and John Horne, ed. *De Gaulle and Twentieth Century France*. Routledge, Chapman and Hall, Inc. New York City, New York, 1994.

67. Berstein, Serge. *The Republic of de Gaulle, 1958-1969*. Cambridge University Press. New York City, New York, 1993.
68. Gough, Hugh and John Horne, ed. *De Gaulle and Twentieth Century France*. Routledge, Chapman and Hall, Inc. New York City, New York, 1994.
69. Cerny, Phillip G. *The Politics of Grandeur*. Cambridge University Press. New York City, New York, 1980.
70. Chuter, David. *Humanity's Soldier, France and International Security, 1919-2001*. Bergham Books. Providence, Rhode Island, 1996.
71. Gough, Hugh and John Horne, ed. *De Gaulle and Twentieth Century France*. Routledge, Chapman and Hall, Inc. New York City, New York, 1994.
72. Berstein, Serge. *The Republic of de Gaulle, 1958-1969*. Cambridge University Press. New York City, New York, 1993.
73. Prototype International Data Centre. Center for Monitoring Research. Arlington, Virginia. <<http://www.pidc.org/web-bin/bycountry?fra>> 2001.
74. Uranium Information Centre Ltd. Corporate Website. GPO Box 1649N, Melbourne 3001, Australia. <<http://www.uic.com.au/index.htm>> 2001.
75. Ibid.
76. Prototype International Data Centre. Center for Monitoring Research. Arlington, Virginia. <<http://www.pidc.org/web-bin/bycountry?fra>> 2001.
77. Uranium Information Centre Ltd. Corporate Website. GPO Box 1649N, Melbourne 3001, Australia. <<http://www.uic.com.au/index.htm>> 2001.
78. Sancton, Thomas. *Trouble in Paradise*. Time Magazine. Volume 146, No. 12. Time Inc. Sept. 18, 1995. <<http://www.time.com/time/magazine/archive/1995/950918/950918.weapons.htm>> 2001.
79. Ibid.
80. Martin, Guy. *France's African Policy in Transition: Disengagement and Redeployment*. University of Virginia, 2000.
81. Ibid.
82. Kolodziej, Edward A. *The Great Powers and Genocide: Lessons from Rwanda*. Program in Arms Control, Disarmament, and International Security. University of Illinois at Urbana-Champaign, March 2000.
83. Martin, Guy. *France's African Policy in Transition: Disengagement and Redeployment*. University of Virginia, 2000.

VITA

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