

Britain's Safety Arguments: French Nuclear Testing in Algeria during Nigerian Decolonisation (1959-60)¹

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Abstract

France's decision to hold its first nuclear tests in the Algerian Sahara, at a time when the question of the health effects of radioactive fallout was a matter of scientific controversy, gave Africans political as well as scientific arguments to oppose French policy. In 1959, as African anti-nuclear sentiment grew, Britain suddenly faced the unique situation of having to preserve its relationship with France whilst securing post-independence ties with Nigeria, who was soon to become independent. In its attempt to overcome this dilemma, and in the absence of precise information about what the French were planning, Britain produced original technical arguments suggesting that tests in the Sahara would be safe. When fallout from *Gerboise Bleue*, the first French nuclear test, reached Nigeria in February 1960, Britain attempted to consolidate the narrative on the safety of French nuclear tests *ex post facto*, without however furthering its political interests in Africa or Europe. Based on multinational archival documents, this article offers a comparative and connected history of *Gerboise Bleue*, with particular attention to the context of African decolonisation.

Introduction

With its plans to test nuclear weapons near Reggane, in the Algerian Sahara, France positioned itself against several international trends at the end of the 1950s. First, all existing nuclear powers (the United States, the Soviet Union, and Great Britain) began observing a voluntary moratorium

on nuclear testing in 1958. Second, despite the proliferation of expert committees on radiation risk since the mid-1950s, knowledge about the effects of ionising radiation remained limited when set against the questions raised by radioactive fallout (Boudia, 2007: 161; Higuchi, 2020). Finally, the choice of Reggane as a testing site, as published in the *Journal Officiel de l'Algérie* on 24 May

1957, was particularly unfortunate in light of the Algerian War and the strength of anti-colonial sentiment in Africa more generally (Archives Nationales, AG 5(F)/1088-89, 10 September 1959). All this gave Africans political, but also scientific, arguments against French tests. The recurrence of the Saharan tests as a theme in political debates in Africa around this time is all the more striking considering their relative marginalisation in historiographies of decolonisation.

In 1959, as African opposition to French plans grew, Britain was suddenly faced with a unique situation: it had to preserve its relationship with France without sacrificing the prospects of friendship with Nigeria, soon to be independent. In French-speaking circles, the British were accused of seeking to undermine France's atomic programme (CADLC, 60QO16, July 1961; O'Driscoll, 2009: 28-56). Contrary to this belief, however, Britain facilitated the start of French atomic tests.

It is impossible to fully grasp the significance of this episode through the lens of Franco-British, or even Europe-African relations only (See O'Driscoll, 2009; Hill, 2019: 274-289; Vaïse, 1993: 41-53; Pô, 2001; Allman, 2008: 83-102; Gerits, 2023; Skinner, 2015: 418-438; Panchasi, 2019: 84-122; Osseo-Asare, 2019; Cooper, 2022). One must also consider the diplomatic support that France itself sought in French-speaking Africa by co-opting African elites, alongside inter-African dynamics, and the domestic contexts of African countries. Based on multinational archival work in Britain, Nigeria, France, and Senegal, as well as documents from atomic institutions, international organisations, parliamentary debates, press articles, and radio broadcasts, inter alia, this article compares and connects African and European actors, as well as francophone and anglophone ones.

By taking a closer look at the context of African decolonisation, the article reveals the extent and implications of Britain's diplomatic, scientific, and political support for the French as they prepared to conduct their first atomic tests. Most notably, but perhaps also quite peculiarly, British support materialised in the form of arguments suggesting that French tests would be safe. In this respect, the British went beyond what their knowledge of French plans allowed, without however furthering their interests in Europe or Africa. British security

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arguments in favour of French tests emerged from rapid developments on the African scene, from diverging interests within Whitehall, but also from African dissatisfaction with France's own safety guarantees. When fallout from the first test, *Gerboise Bleue*, reached Nigeria in February 1960, the British attempted to consolidate their narrative on the safety of French nuclear tests *ex post facto*.

Through a reconstruction of the tight timeline of the months surrounding the *Gerboise Bleue* test of 13 February 1960, the article follows the evolution of an awkward push-and-pull, from the peak of grassroots anti-nuclear sentiment in the Summer of 1959 and concurrent European attempts to co-opt African elites into reassuring their respective constituencies, to the production of new “technical” safety arguments in September 1959 in response to wavering elite support, to the negotiation around the narrative which would eventually emerge from the finding of radioactive fallout in Nigeria in February 1960. Coming right before the “Year of Africa”, 1959 was the year when radio-anxiety (which can be seen as a precursor to today's eco-anxiety) lent the most momentum to anti-nuclear sentiment in Africa. Thereafter,

the critique of French tests, which continued in the Sahara until 1966, was leveraged mostly on geopolitical grounds, and through a more generalised critique of the nuclear order. Whilst developments in African politics go a long way to explain this shift, the report on French fallout, which was eventually published by the Nigerian government after *Gerboise Bleue*, represented a missed opportunity to carry African anti-nuclear momentum forward at such a defining moment for Africa's role in international politics.

Spring-Summer 1959: Managing African Protests

The Scale of Anti-Nuclear Sentiment in Africa

From Moshi to Ibadan, via Cairo, condemnations of French nuclear plans began multiplying from 1958. Protests were led by independentist organisations such as the Pan African Freedom Movement for East and Central Africa, by actors of the Nigerian diaspora such as the Nigerian Union of Great Britain and Ireland, by women's trade associations such as the Accra Market Women's Association, by political parties such as the Moroccan Istiqlal, and, of course, by trade union, pan-African and nationalist leaders such as Tom Mboya in Kenya or Gamal Abdel Nasser in Egypt (National Archives of the United Kingdom, FCO 141/14223; Gerits, 2023; CADLC, 1809INVA 303, 5 July 1958; Kaduna Archives Nigeria, ASI 165).² Opposition to the tests was broadcast on *Radio Cairo* and in the pages of the Algerian newspaper *El Moudjahid*. For instance, in the first declaration of the Provisional Government of the Algerian Republic (GPRA), the President of the Council, Ferhat Abbas indicated that the GPRA "[...] will welcome any initiative which seeks to [...] prohibit anywhere nuclear experiments that France wants to extend to Algerian soil" (*El Moudjahid*, 10 October 1958: 2).

But it is not all to note the scale of these protests, for each had its own political logic. While the attitudes of many African leaders towards French nuclear tests were perhaps more ambiguous than historians (who often subsume anti-nuclear discourse under anti-colonial sentiment) have so far acknowledged, ruling classes were rapidly drawn in, even after independence, by issues which linked their political legitimacy to their anti-imperialist agendas. Be it in Ghana, Morocco, Nigeria or Algeria, the ability of opposition parties

and civil society organisations to capitalise on the problem of French nuclear tests encouraged newly independent governments to sometimes take spectacular measures. Thus, the chronology of the Saharan tests strangely mirrors the diplomatic timeline of Euro-African relations. After the first Saharan test (13 February 1960), Accra froze French assets, and Rabat recalled its Ambassador in Paris whilst also declaring obsolete the Rabat agreement of 28 May 1956, which stipulated that France and Morocco should align their foreign policies (UK National Archives, FO 371/149551, 13 February 1960; Osseo-Asare, 2019: 19-48; Adamson, 2023: 131-55; *Le Monde*, 29 May 1956). After the third test (27 December 1960), Lagos expelled the French Ambassador to Nigeria (CADLC, 60QO16, 5 February 1961; Bach, 1978: 17-23). After the seventh test (18 May 1963), Algiers requested a revision of the Evian Accords (CADLC, 29QO63, 20 March 1963; Byrne, 2010; Zia-Ebrahimi, 2012: 23-44).

Co-Opting the Elites

Nigeria was still a colony when the issue of Saharan tests was brought for debate at the House of Representatives in February 1959 (Nigeria House, February 1959). Whilst registering the House's discontent, Nigerian Prime Minister Abubakar Tafawa Balewa reminded representatives that the country's external affairs still lay in the hands of the British. London would therefore have to communicate Nigerian opposition to the French on their behalf. This request put London in an awkward position. As O'Driscoll (2009) points out, the British government had by this time accepted French nuclear testing as inevitable. At this early stage of the controversy, the British decided to simply relay protests to Paris, taking care to distance themselves from the feeling in Nigeria. In the months that followed, however, London would be forced to abandon this default wait-and-see line.

On 3 July 1959, Ghana officially asked the French to abandon their nuclear testing projects (UK National Archives, FO 371/140617, 3 July 1959). A leading pan-Africanist figure, Kwame Nkrumah claimed to thereby represent the interests of all Africans (Kaduna Archives, ASI 165: n.d.). The French reaction to this provocation was almost immediate. Following the Executive Council of the French Community held in Madagascar a few days later, francophone African representatives

condemned Nkrumah's intervention, accusing Ghana and Guinea of meddling in their affairs (Kaduna Archives, 10 July 1959). They publicly defended French nuclear testing plans, arguing that a French bomb would also be theirs (UK National Archives, DO 968/700, 10 July 1959). The notion of a francophone African A-bomb may seem strange, but the Constitution of the Fifth Republic stipulated that within the French Community, defence issues were technically part of a set of shared competences (Archives Nationales, AG5(F), May 1959).³ At Tananarive, General Paul Ely, Chief of Staff of National Defence, played on this spirit of unity to encourage African and Malagasy state leaders to champion the French nuclear testing project (Service Historique de la Défense, GR 1 K 233/70, 7 July 1959; Cooper, 2014).⁴ As francophone ranks closed, Nkrumah could no longer claim to speak on behalf of a united Africa – let alone a continent united against French atomic testing. Beyond the issue of nuclear testing, therefore, the apparent consensus of the French Community around the French bomb posed an existential problem for post-colonial projects in Africa because it presented France's reformed empire as a viable alternative to pan-African projects.

In response, Ghana belatedly recognised the Provisional Government of the Algerian Republic (UK National Archives, DO35/9339, 13 July 1959). By August, protests had resurfaced from all sides. Morocco tabled an item on French nuclear tests at the next UN General Assembly (O'Driscoll, 2009: 43). More significantly, the governing party of French Sudan (Mali) joined African opposition to Saharan tests (UK National Archives, FO371/140620, 21 August 1959). This undermined the Community's consensus around the bomb. The French Ministry of Health had previously expressed concerns about the geographic vulnerability of French Sudan in case of fallout in the Sahara (CADLC, 1809INVA 303, 23 Oct 1958). But dissent within the Community followed a political logic primarily. Resurging anti-nuclear sentiment within francophone Africa was a sign that aspirations to full independence had survived the September 1958 referendum establishing the French Community (Bibliothèque François Mitterrand, PH911008972, 27 July 1958; Murphy, 1995: 174). Indeed, the tests had already been condemned in July 1958, by the Constitutive Congress of the *Parti pour le Rassemblement*

Africain (PRA), when Senegal's Léopold Sédar Senghor had called for immediate independence before backtracking in favour of the "Yes" campaign (Bibliothèque François Mitterrand, PH91100897227, July 1958).

This new wave of criticism against French nuclear plans had a knock-on effect on London. In the British Parliament, African protests were relayed by opposition figures such as anti-imperialist activist Fenner Brockway, at a time when African issues already constituted the government's weak point on the eve of elections (Murphy, 1995: 174). In Nigeria, the British were accused of complicity with the French in their testing project. This prompted Balewa to announce a protest visit to London. Within months, therefore, the same African elites whom Europeans had relied on to contain anti-nuclear sentiment began representing a threat, not merely to French atomic plans, but more generally to British and French policy in Africa.

Popular Protests: "Emotional" and "Irrational"? (UK National Archives, FP371/140625, 3 Nov 1959)

The impression in Britain and France that the support of African elites was no longer guaranteed revived European anxieties regarding their loss of control over colonised populations. In August, a Nigerian radio presenter travelled to neighbouring Niger to ask the inhabitants of Maradi what they *really* thought of French nuclear testing in the Sahara. Fearing that this act of subversion might amplify francophone opposition to the tests, the French consul in Kano raged: "There is no use trying to whiten a [N*****], one would only lose their soap", in reference to racist adverts for cleaning products (CADLC, 60QO10, 20 Aug 1959). The British too rendered Africans culpable of their scepticism when they interpreted Nigerian radio-anxiety as a function of irrationality, emotionalism, and superstition (McDougall, 2005: 119-20). British officials prepared to warn Nigerians of forthcoming solar eclipses, which they feared would be attributed to French nuclear tests and create panic (UK National Archives, FO371/140620, 25 Aug 1959).

In short, the British were much more concerned about public order than public health. They broadcast French security assurances without really questioning them – including in Algeria, through the BBC's Arabic service (UK National Archive, FO371/140620, 7 Sep 1959; BBC Written

Archives Centre, 29 Sep 1958).⁵ Rather than addressing the true basis of anti-nuclear sentiment, therefore, the British approached the issue as one of public relations and in effect did much work on behalf of the French. The truth however was that British colonial officials who repeated France's vague safety assurances did not in fact have more information on French plans than the people they were trying to reassure. Sir Hilton Poynton (Under-Secretary of State for the Colonies) admitted as much when he stated that French guarantees were not sufficient to completely rule out a health risk in Nigeria. He urged for the French to present more convincing safety arguments (UK National Archives, FO 371/140620, 14 August 1959).

Meanwhile, the lack of scientific consensus on the exact effects of ionising radiation opened a space for scientists based in West Africa to contribute to the public's understanding of radiation hazard. An article published in the Nigerian press by anonymous scientists based at the University of Ibadan emphasised meteorological factors (Kaduna Archives, ASI 165, 12 July 1959). By pointing out that winds would carry particles hundreds of kilometres away from the testing site, these scientists challenged one of the main arguments of the French defence, which relied on Reggane's remoteness. In addition to bringing scientific authority to African arguments against Saharan tests, this article is significant because it adapted contemporary knowledge about nuclear risk to the geographical and ecological conditions of Nigeria at a time when African data about nuclear risk were underrepresented in the international literature.

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The upsurge in Nigerian protests in the Summer of 1959 was therefore fuelled both by *political* and *scientific* arguments. It would be a mistake to adopt the European interpretation according to which African anti-nuclear sentiment was the result either of the sanitary anxieties of an ignorant population, or of the demagoguery of political elites who capitalised off popular emotion. Considering the context of decolonisation, the political undertone of protests should not surprise us, nor was it confined to political elites. As for scientific arguments, these also caught colonial officials off guard.

September-December 1959: The Production of Scientific Arguments in Favour of French Nuclear Policy

The Harwell Notes

In September 1959, initiatives were launched on both sides of the Channel to rekindle support among African elites. This parallelism was not so much the fruit of close consultation between Paris and London, as it was the result of a shared analysis: the controversy surrounding the Saharan tests was a public relations issue, and the racial factor was important. And so, the British encouraged the French in their pursuit of a “black emissary” who would publicly defend the nuclear test project (UK National Archives, FO 371/140620, 19 Aug 1959).

The Summer's experience in attempting to contain anti-nuclear sentiment suggested that successfully co-opting elites now implied consolidating the scientific basis of reassurances about French tests. In Whitehall, this solution emerged from Departments' diverging interests, more than it aligned with a clearly defined political objective (Hill, 2019: 274-89; O'Driscoll, 2009: 28-56). On the one hand, the Colonial Office worried about the impact of Nigerian anti-nuclear sentiment on their postcolonial hopes for this important country (Lynn, 2001: xxxv-lxxxviii). For the Foreign Office, on the other hand, it was inconceivable that Britain should become “a letterbox for Nigeria's unreasonable approaches” to the French (UK National Archives, FO 371/140620, 18 Aug 1959). So, instead of asking France not to conduct their tests, Britain began to produce safety arguments on behalf of the French.

When Balewa made his protest visit to England in September 1959, his delegation was handed a

document which finally took Nigerian arguments into consideration, only to conclude more forcefully in favour of French safety assurances. Regarding the Harmattan (which blows from the Sahara to West Africa in the Winter), the Harwell Notes argued that this wind could not possibly interfere with any French fallout. Yet, the document ignored the advice of the Ministry of Defence, for whom it was impossible to pronounce oneself on the safety of French tests. In the absence of French information, the British relied on their own experience of nuclear testing in Australia, even though their safety record there was dubious (Arnold & Smith, 2016; Tynan, 2016). Based on this experience, the British assumed that the first French test would yield between 10 to 30 kilotons. Shortly after the Nigerian visit, however, the British learned from a French source that this figure would be closer to 80. By finally sharing information with the British, the French had hoped to present a European front against the 'sombre friends' – an expression which once again implied racial connivance (UK National Archives, CO 968/701, 29 Sep 1959). But the British did nothing with this new information, for factoring in a higher yield would lead Nigerians to "rightly" reject the reassuring conclusions of the Harwell Notes (UK National Archives, FO 371/140624, 22 Oct 1959). The Ministry of Defence had indeed indicated that if the French explosion yielded more than 25 kilotons, fallout might pose a risk to health in neighbouring countries (UK National Archives, DO 35/10482, 7 Aug 1959).

The technical arguments contained in the Harwell Notes were intended to disarm anti-nuclear opposition in Nigeria at the cost of intellectual honesty. Yet Balewa confided in the British that he would rather avoid bringing to his visit more attention than was necessary (UK National Archives, CO 968/701, 22 Sep 1959). The French, on the other hand, were delighted to receive a copy of the Harwell Notes (CADLC, 60QO10, Dec 1959). They found British safety arguments even more convincing than their own.

Guillaumat's Presentation

In parallel to the Harwell visit, the French Minister of the Armed Forces, Pierre Guillaumat, gave a presentation on the 'technical aspects' of the French tests during the September meeting of

the Executive Council of the French Community. Guillaumat laid out before his audience a series of maps which would become a staple of the French defence. These maps compared population density around American, Soviet and French testing sites to suggest that French atomic experiments would be *even safer* than those of the Cold War superpowers. There was in fact little of technical substance about Guillaumat's presentation. Just like in Tananarive, the French government aimed to secure Community leaders' acceptance of their arguments even if this meant misleading them. Prime Minister Michel Debré asserted that he had been presented by previous governments with a "*fait accompli*" and that therefore, he had no choice but to go ahead with the tests (Archives Nationales, AG 5(F)/1104-06, 10 Sep 1959). President Charles de Gaulle added that he was proceeding with such plans with a "heavy heart", given how "expensive" and "lamentable for humanity" this whole affair was. Nevertheless, he said, African leaders "should realise that nuclear research was necessary" for progress in nuclear science (Archives Nationales, AG 5(F)/1104-06, 10 Sep 1959). Thus, the French misleadingly suggested that the Saharan tests would support socio-economic development in the Community.

The minutes of this September Executive Council meeting betray increased resistance from the Community's heads of state. Several took the floor to say that if the tests had to take place in the Sahara, it would be better not to give them any publicity. This was a similarly ambiguous attitude to Balewa's. Others questioned the validity of French safety arguments more directly. For instance, Modibo Keita from French Sudan noted that Guillaumat's assertions about the Harmattan wind were false. There is indeed surprisingly contradictory information about this wind in the French archive. This in itself suggests yet again that so-called technical responses to African arguments were produced mainly to stifle opposition. At the September Council, de Gaulle's patience for deliberation quickly ran out. He ended the debate on the Saharan tests in typical paternalist fashion, by "accepting" as an ultimate argument that of Maurice Yameogo (representing Burkina Faso), who had spoken in favour of French nuclear tests (Archives Nationales, AG 5(F)/1104, 10 Sep 1959).

Technical Arguments at the United Nations

Cynical as they might have been, Guillaumat's presentation and the Harwell Notes foreshadowed Jules Moch's recourse to technical arguments when he defended the Saharan test project in front of the United Nations (UN) General Assembly in November 1959. At the previous year's General Assembly debate on nuclear tests, the French delegate had expressed his unease to France's chief diplomat in the following terms: "But even if I cannot state on Monday that there will be no explosion in Africa, *as I would have liked to do* in order to improve our situation here, it is my duty to draw your attention to my deep conviction that *we cannot conduct tests on this continent*" (CADLC, 1809INVA 303, 17 Oct 1958, own emphasis). The territorial, political, and moral issues which arose from the Saharan tests were therefore perfectly understood in the highest circles of French diplomacy.

Like Guillaumat two months earlier, Jules Moch insisted on the remoteness of Reggane to defend French plans at the UN. Scholars have already highlighted the colonial trope of the *terra nullius* in the history of nuclear testing. (For the Sahara in particular, see Panchasi, 2019: 84-122 and Henni, 2022). But it is important to note here too that few French administrators and politicians thought that these spaces were empty. From the outset, France drew on local labour to develop its first test site at Reggane. When the French decided to transfer their site to In Ecker (still in the Algerian Sahara), they took stock: "the region [...] apparently empty is in fact inhabited by 2,000 people" (Service Historique de la Défense, GR 1 H 4767, 24 Jan 1961). The French army estimated that the terrain around In Ecker would have to be purchased from the Hoggar Touareg for a sum of 50,000 new francs. Pierre Messmer, Guillaumat's successor by that time, eventually offered a mere 5,000 new francs to the traditional leader of the Touareg. The cash was slipped to him discreetly during a ceremony for his award of the French Cross for Military Valour (Service Historique de la Défense, n.d.). Again, the French solution to the controversy they had created was to co-opt elites without considering the harm their tests could cause.

Privately, the British acknowledged that the French overstated how empty the desert was (UK National Archives, DO 35/10482, 15 Sep 1959).

They nevertheless went out of their way to avoid alienating France at the UN. While Prime Minister Harold Macmillan hoped that Britain could abstain from voting, the British ultimately proposed an alternative resolution to that which Morocco had initially tabled. The British argued that their resolution was more constructive, since it called for global disarmament instead of using France as a scapegoat⁶ (CADLC, 1809INVA 304, 1 Sep 1959). The British also justified themselves by saying that a resolution which presupposed the danger of French tests was unacceptable to them – this implied that Britain thought French tests would be safe. In truth, the British had little hope that their resolution would attract many voters; it was purely tactical (O'Driscoll, 2009). The French thanked the British for their efforts, but London's underhanded UN strategy drew criticism from the Parliament and Commonwealth (CADLC, 231QO9, 11 Nov 1959).

After Gerboise Bleue: Consolidating the Narrative of the Safety of French Tests

The Surprise at French Fallout

As noted earlier, France's first atomic explosion, *Gerboise Bleue*, took place on 13 February 1960 in the Algerian Sahara. Representatives of the French Community were present at Reggane during the test. This went against the advice of the French Atomic Energy Commission's Directorate for Military Applications (CADLC, 1809INVA 304, 7 Sep 1959). Once again, public relations took precedence over the reality of health risks. In the National Archives of Senegal, one can find a document sent out after the test to governments of the French Community. It states that *Gerboise Bleue* could not have had "any kind of harmful effect on the inhabitants of the Community" (National Archives in Dakar, FM 117, 22 March 1960).⁷ But there is reason to doubt these categorical assertions given the haste in which the French device was tested (Ailleret, 2011: 9). Perhaps De Gaulle was impatient to see France officially become a nuclear power before Nikita Khrushchev's visit to Paris in March (Buffet, 1989; Gloriant, 2018: 1-19; Hesler, 2006: 33-63).⁸ In any case, Guillaumat's promise to leaders of the Community to only fire the device in ideal weather conditions was not kept.

The Canberra planes which London had sent to Libya to gather information on the French device returned empty-handed (UK National Archives, AIR

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20/11701, 13 Feb 1960). Instead of a radioactive cloud, they spotted American bombers. Thanks to the radioactive fallout monitoring stations installed in Nigeria following Balewa's visit to Harwell, however, the British realised that fallout was greater than expected. Pierson Dixon, head of the British mission at the UN, was disturbed to find that the safety arguments which he had presented in November could now be invalidated (UK National Archives, DO 35/9342, 21 March 1960). Panic in Whitehall only increased when Balewa learned about the fallout in private. Balewa realised that British scientists had been wrong, and he vowed to tell Nigerians the truth about French fallout (UK National Archives, FO 371/149554, Feb 1960).

Exceptional Weather Conditions or Risk of Cumulation?

The publication of a report on the fallout from *Gerboise Bleue* stalled on a disagreement between the British and Nigerian-based scientists who formed the Joint Scientific Committee charged with sampling and analysing French fallout. This disagreement centred on the formulation of the document's conclusion (UK National Archives, FO 371/149554, 26 March 1960). On the one hand, scientists based in Britain were keen to emphasise the exceptional weather circumstances in which *Gerboise Bleue* had been conducted. Privately though, the Ministry of Defence and British atomic scientists acknowledged that regardless of circumstances, the level and pattern of fallout were surprising. But they feared that admitting this publicly would draw attention to their Australian tests, as well as hike insurance costs in the nuclear industry (UK National Archives, EG 1/685, 31 March 1960). This shared interest between nuclear powers encouraged the British to downplay the hazards arising from French nuclear tests. Another reason to insist on the exceptional weather circumstance of *Gerboise Bleue*, of course, was the difficulty to acknowledge that Nigerians had been misled.

On the other hand, the scientists based in Nigeria (which included one Nigerian physicist only)

insisted on the risk of radioactive cumulation in case France conducted further tests. Indeed, no one knew at the time how many tests France was still planning. The very existence of fallout in Nigeria suggested that, depending on the frequency and power of the next explosions, radioactivity in the vicinities of the testing site could in theory exceed the permissible dose defined by international bodies. The respective conclusions offered by the two parties had opposite implications for the French nuclear testing programme: whereas the British side tried to consolidate its narrative on nuclear safety, the Nigerian side urged for the cessation of French tests.

So, the real stake in these negotiations around the report's formulation lay less in the raw data than in the narrative which surrounded it. It should be noted, however, that a shift had occurred since *Gerboise Bleue*, since the debate was no longer about the mere existence of fallout, but rather about the relativity of radioactivity levels to a permissible dose. In addition to legitimising the idea that there could be an acceptable level of radiation, this shift represented a victory for France over African arguments based on sovereignty, and which suggested that the very existence of fallout outside French territory represented a breach of international law.

The division of labour within the Joint Scientific Committee gave the British side a better chance of having the last word on the matter. Whilst the data was collected in Nigeria, samples were analysed at the Atomic Weapons Research Establishment in Aldermaston. The British had chosen this facility over Harwell because, in addition to Aldermaston's military specialisation, scientists were anxious to exclude from their mandate any biological interpretation of French fallout – another sign of the political, as opposed to sanitary, approach to Nigerian protests (Aldermaston Archives, 9 Oct 1959). Following *Gerboise Bleue*, British atomic scientists encouraged the Nigerian party to edit their draft report and accept the British line (Aldermaston Archives, KB1724-U, 18 March 1960).

J.A.T. Dawson, the main British scientist involved in the Joint Scientific Committee accused the Nigerian side of politicising the report, but he downplayed his own complicity with Georges Dando, from the French Army's Technical Section. Together, Dawson and Dando pushed the narrative on the exceptional weather circumstances which had supposedly coincided with the French test. To his partners based in Nigeria, however, Dawson explained that the language barrier had prevented him from communicating properly with his French colleague. All that he had been able to understand was that the French had not expected the wind to bring radioactive particles to Nigeria (Aldermaston Archives, D17/KB1724-U, 18 March 1960). In this way, the British helped to undermine the real question of French responsibility and mistakes in managing the risk of fallout from *Gerboise Bleue*. By the same token, they ruled out the possibility of future mistakes, and suggested that French tests could continue safely.

A Fortunate Combination of Circumstances: Consolidating the Nuclear Safety Narrative

Whilst negotiations about the report were ongoing, African and Asian states called for an emergency session at the UN in light of France's violation of the 1959 resolution condemning its testing project. These states had until 15 April 1960 to gather a minimum of 42 signatures. *Gerboise Bleue* also gave Nkrumah the opportunity to organise a new pan-African summit in Accra. The British began to fear that Nigerians might leak information about the fallout at Nkrumah's conference. London had to act quickly. Macmillan proposed to take advantage of the situation to put pressure on the Americans in Geneva, where talks had come to a halt because Washington thought that Moscow could defy a ban on nuclear testing by conducting small-scale atomic experiments which would go undetected in the current state of seismological science (this was the 'big hole' theory) (Divine, 1979; Walker, 2010).

But pressure from Whitehall prevailed over the Cabinet's views. Whilst it remained out of question to suggest to the French that they should abandon their tests, the British finally resolved to ask them to postpone any test until 15 April – the deadline for collecting signatures at the UN (UK National Archives, DO 35/10482, 30 March 1960). But it was

too late: on 1 April 1960, France launched a second test. This risked compromising actions taken since *Gerboise Bleue* by British diplomats, scientists and colonial officers to limit the collateral damage from that first test.

And yet, by a stroke of luck, the second test turned out to have the opposite effect to what the British feared. *Gerboise Blanche* took most press services in Africa by surprise. At the conference in Accra, the question of French nuclear tests became less urgent after the Sharpeville massacre which had taken place in South Africa on 21 March 1960. In yet another fortunate turn of events for the British, the relatively small yield of the second French test contributed to reinforcing the narrative on the exceptional circumstances of *Gerboise Bleue*, the first test.

The Nigerian report on French fallout was eventually published without mention of the risk of cumulation which the Nigerian side had emphasised (UK National Archives, EG 1/685, 1960). In the official summary of the report, it was stated: "in conclusion, the amount of fallout in Nigeria is far less than that which is likely to be dangerous." One astute British observer commented in the margin: "But any increase in radiation is potentially harmful". Like the Nigerian-based scientists before him, he pointed out that the effects of ionising radiation were cumulative. But, the observer concluded, to add a touch of cynicism to an already cynical affair, there was no point in disputing the report's conclusion since Nigerians seemed to be happy with it (UK National Archives, EG1/685, 1960).

Conclusion

By acting as a diplomatic buffer at the UN and in Africa, the British facilitated the launch of France's Saharan testing programme perhaps more than any other country.⁹ Even more striking than its diplomatic and political support, Britain produced arguments that suggested that French tests would be safe, and the French thanked them for it. This finding may seem surprising given British and American apprehensions at the prospect of a fourth country entering the atomic club. In the case of French nuclear tests, British unease seems to have come from circles closer to colonial policy than nuclear policy. Britain's attitude was largely the contingent result of divergent assumptions

within Whitehall; for the Foreign Office, making representations to the French on Nigeria's behalf was a non-starter, whilst for the Colonial Office, African interests prevailed over European ones.

Following the discovery of fallout from *Gerboise Bleue*, British scientists, officials and diplomats found themselves in the awkward position of having to consolidate their narrative on the safety of French tests *ex post facto*. The report's reassuring conclusions on French fallout in Nigeria impacted Whitehall's bureaucratic memory. By offering an unambiguous and condensed moral to the story, the report's conclusions short-

circuited negotiations which had taken place between Nigeria and Britain around the question of radioactive cumulation. Nevertheless, after the first test, the British were increasingly disposed to distance themselves from Paris. On the African level, British policy suffered directly and indirectly from the hypocritical attitude which London had shown towards French nuclear testing. On the European level, British hopes for closer association were also met with De Gaulle's negative response. Perhaps it is in these political failures on both the European and African fronts that the greatest paradox of this whole episode lies.

Endnotes

- ¹ The author wishes to acknowledge funding from the University of Johannesburg and Open University for the article processing fees. The author furthermore thanks Jim Hershberg, Hope Harrison, Steven Brady and Natalia Telepneva for comments received at the 2023 edition of the Cold War Graduate Conference, and wishes to note that this is an updated version of an article that was published before in French, with the editorial support of Renaud Meltz and Alexis Vrignon.
- ² The author wishes to thank Yasmina Martin for sending her PAFMECA resolutions she found in the National Archives of the United Kingdom. A special thanks also to Nafiu Olatunji Salawu.
- ³ Refer to documents relative to the 3rd Executive Council meeting of the French Community of May 1959.
- ⁴ In reality, the "*domaine commun*" allowed Paris to curb the devolution of competences, and therefore the true autonomy of African members of the Community.
- ⁵ In September 1958, BBC Arabic announced a new series titled 'A.B.C. of Atomic Energy', which garnered much interest amongst arabophone listeners. Reassuring information about French nuclear tests might have been broadcast in a similar programme aimed at popularising nuclear science in Algeria. Many thanks to Alex White.
- ⁶ Britain's alternative resolution was redundant given India's item on disarmament, which had been kept separate from the Moroccan item. In addition, Latin American states watered down the initial Moroccan draft, rendering it more acceptable to voters like Britain.
- ⁷ The author thanks Etienne Badji.
- ⁸ The USSR might have played a double-game here. On the one hand, Moscow supported African opposition to French tests and said these were proof of the West's bad faith at Geneva. On the other, Khrushchev failed to criticise de Gaulle when he had the opportunity to do so in Paris, and in 1963, the Soviet regime violently suppressed African students' anti-nuclear protests in Moscow.
- ⁹ Italy's attitude seems worth looking into.

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