

## "It's like a child you saw being born": the Omega infrastructure in the Indian Ocean

1965-1975

Landing in Réunion Island today, you could be forgiven for thinking that the Indian Ocean shining next to the runway was the Mediterranean Sea. Driving from the airport on the well-kept dual carriageway, advertisements for European companies and supermarkets line the road, which is filled with newly imported French cars. The familiar French road signs and Post Office symbols are everywhere. If you switch on the radio, it is possible to pick up Europe 1 and France Inter, broadcasting the weather for Belgium and Paris. Change the channel however and Créole radio programs discuss sega and maloya music, Indian Ocean politics and cyclone warnings. Formerly a colony run by French planters to produce sugar for European consumption based on slave and later indentured labor, since 1946 Réunion has been a *Departement Outre-mer* (DOM): a French overseas territory. Réunion is legally and politically part of France and the European Union.<sup>1</sup> From having an economy largely based on agriculture, over the last thirty years 90% of the island's population has shifted to living in an urban environment. The island currently has about 40% unemployment and a financial system largely underpinned by handouts from France and the European Union.<sup>2</sup>

However at the end of the Second World War, the situation could not have been more different for Réunion Islanders. Until the 1960s, Réunion Island was a predominantly rural society, suffering all the structural inequalities of a small, distant, politically

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<sup>1</sup> There is an important political distinction between the French *Departements Outre-mer* (DOM) and the *Territoires Outre-mer* (TOM). Whilst the DOM are politically and legally part of France, the TOM are associated with France each having different political statutes. For ease of reading in English, I sometimes translate 'Departement Outre-mer' as 'Overseas Territory'.

unimportant French island colony which received most of its income from a declining sugar cane industry. A handful of rich families held the economic power, whilst over half the working classes were illiterate or poorly educated, lived in miserable housing conditions and frequently suffered and died from malnutrition or malaria. Although the ethnic makeup of the population was very similar to the above table, in 1948 the Réunion Island population was 250,000 and had hardly increased since the end of the 19<sup>th</sup> century.<sup>3</sup>

The enormous change in status came through the postwar relationship between France and Réunion. From the early 1960s, the French government developed a policy of “integrating” Réunion Islanders and other inhabitants of French Overseas Departments into the French Republic through technological, social and military changes. The aim was threefold. French investment in modernizing infrastructure in Réunion increased Réunion Islander’s loyalty to the French nation, and discouraged them from declaring autonomy or independence from France. Maintaining these overseas territories helped to safeguard France’s status as a global power in the Cold War era at a time when France had lost almost all its colonial territories and was in danger of becoming a second-class, politically unimportant country. Finally, the continuing relationship between France and the DOM-TOM enabled Metropolitan France to maintain strategic military and scientific interests in territories geographically distant from Northern Europe.

This paper aims to investigate the implications of the French policy of “integrating” Réunion Island into the French nation through the examination of one artifact of technological and military change which was built in Réunion Island in the middle of the 1970s: the Réunion Island Omega transmission station and antenna. Omega was a United States military infrastructure, which transmitted very low frequency radio waves

<sup>2</sup> INSEE Réunion, *TER 2004-2005* St Denis : INSEE, 2005, pp28-29

<sup>3</sup> Gauvin, Gilles. *Michel Debré et l’Île de La Réunion (1959-1967)*. Paris : L’Harmattan, 1996 p.27

worldwide from the early 1970s to the late 1990s. It was used by military aircraft, ships and submarines in the US, France, Britain and other allied countries during the Cold War era and also by commercial aircraft such as Pan-Am, Air France and Brazilian Airways throughout the 1980s. Eight towers 1600 feet high in different locations around the world emitted radio waves which could be picked up through a receiver and used to fix positions in navigation.

A 1600-foot Omega antenna was built on Réunion Island in the Indian Ocean in 1974. By investigating how the Omega infrastructure was used and understood differently by US strategists, local and national politicians, and Réunion Islanders, I aim to approach the transformation and modernization of Réunion through an anthropological and historical perspective, but one different than some conventional analyses about the island which often only highlight the relationship between Metropolitan and Overseas France, and reproduce the dominant colonial relationship between France and Réunion Island in Réunion's history, erasing other contributing factors to the history of Réunion.<sup>4</sup> In addition, this paper aims to understand the awkward simultaneities which are revealed when a globally used military infrastructure is analyzed through different national lenses. The goal of both approaches is to interrogate the silences between different versions of colonialism to ask how colonialism was enacted after an era of global decolonization.

France's defeat in the Second World War was followed by the gradual loss of its colonial empire. However in 1946 four of France's oldest colonies - Réunion Island, Martinique, Guadeloupe and French Guyana - voted to become French Overseas Departments. This was a new status, and theoretically transformed the DOMs from having a colonial status to

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<sup>4</sup> See for example the special issue of *Ethnologie Française* devoted to the DOM-TOM: *Ethnologie Française* Paris: PUF, 4:2002

becoming “France”, an integral part of the French Republic, with their inhabitants having all the same rights as people living in the “Metropolitan” France of northern Europe.

Throughout the 4<sup>th</sup> French Republic (1946-1958) the Overseas Departments languished, receiving very little aid from the Metropole and their citizens benefited from few of the promised rights. From the late 1950s France took an increasing interest in the DOMs as the rest of the country’s colonial empire in Africa and Southeast Asia fought for liberation. The French constitution was rewritten in 1958 partly in response to this colonial crisis and the newly-elected General de Gaulle attempted to keep France as an independent political force on an international scene now dominated by the USA and the USSR. For President de Gaulle and his supporters, this was to be undertaken through a politics of emphasizing French achievement and ensuring France’s national sovereignty in economic, cultural and above all technological arenas. “The French people must be prosperous ... because if France is not prosperous ... she will not be able to play a part in today’s world.”<sup>5</sup> Inside France – which included the DOMs - this was translated through the traditionally Jacobin ideology of a ‘unified and undivided’ country.<sup>6</sup>

This ideology was particularly important to help France “combat the crisis of grandeur brought on by the decolonization of its empire” in addition to the “encroaching economic and cultural colonization of France by the United States” and the shameful period which had extended from 1940 and France’s defeat to the end of the 4<sup>th</sup> Republic.<sup>7</sup> One of the primary justifications for this “Gaullist” policy and its style was that “post-war France was demoralized and could only be redressed by recovering a certain amount of

<sup>5</sup> Becker, Jean-Jacques. *Histoire Politique de la France depuis 1945* Paris : Armand Colin, 1988. p.103

<sup>6</sup> This republican ideology of “la France une et indivisible” promotes a centralized (Paris-based) governmental system. This has historically played an important role in limiting local government power – seen as reactionary – by bringing the ‘provincial’ areas outside of Paris into line with centralized French state policies.

respect in the world. The feeling of national sovereignty was necessary for national achievement.”<sup>8</sup>

This political strategy was strongly concerned with the improvement of France’s economic situation. Ross helps to capture the feeling of what is known of in France as the *trente glorieuses*, the ‘thirty glorious years’ of Metropolitan French sustained economic growth. This included an unprecedented increase of urbanization, national wealth, industrialization, and consumption in Metropolitan France.

Modernization is … not an event but a process made up of slow and fast-moving economic and social cycles. But in France, the state-led modernization drive was extraordinarily concerted....French postwar modernization was … headlong, dramatic and breathless. … French society was [suddenly] transformed after the war from a rural, Empire oriented Catholic country into a fully industrialized, decolonized and urban one.<sup>9</sup>

The transformation was palpable: from 1951 to 1976 the numbers of cars on French roads increased from 1.6 million to 15.9 million for example.<sup>10</sup> However Ross’ statement also needs to be qualified, particularly in its assumption that these processes of modernization were ever unambiguously ‘completed’ and ‘finalized’. The increases which she describes did not immediately reach Overseas France and even at the beginning of the 21<sup>st</sup> century, the powerful rhetoric of French financial aid to Réunion Island is still linked to “modernizing” it and bringing it in line with Metropolitan France.

Both Lebovics’ study of the French state’s cultural politics and Hecht’s study of France’s technological “radiance” in the post-war period demonstrate the power of nationalist rhetoric in promoting a wide range of policies during this period, even if the cultural, economic or technological realities were far from being as nationally grounded as

<sup>7</sup> Hecht, Gabrielle. *The Radiance of France : Nuclear Power and National Identity after World War II*, Cambridge: MIT Press, 2000, p.39

<sup>8</sup> Gordon, Philip H. *A Certain Idea of France: French Security Policy and the Gaullist Legacy* Princeton University Press, 1993, p.14

<sup>9</sup> Ross, Kristen. *Fast Cars, Clean Bodies. Decolonization and the reordering of French Culture*. Cambridge: MIT Press, 1999 p.4

the ideologies claimed.<sup>11</sup> For French political discourse at this time, however, national accomplishments helped define geopolitical power. This was primarily manifested in France by technological concerns over creating the country as an independent and sovereign military power with its own nuclear weapons and atomic energy.

De Gaulle considered the nuclear program to be the jewel in France's technological crown. He attached special importance to the development of a nuclear strike force. He did not harbor the slightest doubts on this score. In 1963 he declared: "The question [in the 1950s] was . . . whether we ourselves would possess these means of dissuasion and these new ferments of economic activity, as we easily could, or if we would hand over to the Anglo-Saxons our chances of life and . . . death on the one hand, and . . . our industrial potential on the other. This question is settled."<sup>12</sup> Whilst Hecht tracks the power of the nationalist atomic energy rhetoric in France and its technical applications, it is important to briefly consider the role of the nuclear in military planning, and the direction of French military planning during this time.

The mid-1960s was a significant time in French international diplomacy because President de Gaulle withdrew France from the North Atlantic Treaty Organization (NATO) in 1966. For de Gaulle, NATO jeopardized French national sovereignty and its control of the country's troops. However this "nationalist" policy contained many ambiguities since France's practical military contribution to NATO had been small to start with, partly because a minimized military presence in Europe was a result of France's decolonization process.<sup>13</sup> France had deployed large numbers of men to fight guerilla

<sup>10</sup> Jones, Joesph. *The Politics of Transport in Twentieth Century France* Montreal : McGill-Queens University Press, 1984 p.194

<sup>11</sup> Lebovics Herman. *Bringing the Empire Back Home: France in the Global Age*, Durham: Duke University Press, 2004; Hecht, *The Radiance of France*

<sup>12</sup> Hecht, *The Radiance of France*, p.94

<sup>13</sup> Gordon, *A Certain Idea of France*, p.29

liberation movements in North Africa and Indochina. France's withdrawal from NATO came at the same time that the country was looking to increase national military resources, including the development of the country's first nuclear submarine, and recover from the losses of the colonies.

After de Gaulle left power in 1968 he was replaced by President Georges Pompidou. As the minister of Defense in France between 1969 and 1973, Michel Debré was an important part of military planning in France under Pompidou's regime. Always a loyal supporter of de Gaulle's ideas, Debré was involved in continuing the Gaullist defense policy of *la dissuasion nucléaire* – in which France was considered to have an inferior defense capacity than the USA or the USSR, but should have enough to at least retaliate and therefore “dissuade” any adversaries from attacking. During his mandate Debré was responsible for the military part of France's 6<sup>th</sup> “National Plan”. In this period the primary goal was to promote policies which aimed towards nuclear dissuasion through atomic submarines. *Redoutable* was the first of the three French nuclear submarines built before 1973. “In the most direct way possible the Navy must concentrate its resources on its primary mission and bringing units into service which work towards this: keeping ballistic submarines in permanent operational patrols” Debré said in a speech to French Parliament in 1970.<sup>14</sup> Although nothing was specifically mentioned in the military budget Debré presented to the French Parliament, the Omega navigation system was one element in enabling ballistic submarines as well as hunter-killer submarines to fix their positions whilst remaining underwater, and therefore less easily detected.

During the late 1960s, the same period that France was constructing its first nuclear submarines, it was engaging in dialogue with the United States in order to build an Omega

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<sup>14</sup> Assemblée Nationale Française. ‘Equipements Militaires de la Période 1971-1974’ 6 October 1970 p.4110

antenna on French soil. In 1966 the MWDDEA agreement N66F 66.23 was passed between the US and France in relation to a proposed Omega transmission station and antenna to be constructed on Réunion Island.<sup>15</sup> The nuclear submarine *Redoutable* was launched in 1967, and by 1973 all of France's submarines had Omega receivers on board.<sup>16</sup> France went on to become one of the biggest users of Omega technology in its armed forces after the USA through subsidizing the development of Omega receivers by the Sercel and Crouzet companies.<sup>17</sup> Nevertheless, the French national rhetoric promoted the French military as an autonomous military force, outside of dependent military, cultural and economic relationships to the USA.<sup>18</sup> It is the interlocking of these two developments – their awkward simultaneity - which constitutes one of the paradoxes of French national interest in this period: that French military modernization was a national project which involved certain kinds of military dependency on US technology and infrastructure.

This process of French military modernization and its beginning use of nuclear submarines aimed to drive France's technical, military and cultural independence from the USA and the USSR. However, an analysis which only concentrates on the way that French military modernization and independent nuclear *force de frappe* was strongly influenced and dependent on US military technology shadows the fact that the US Omega antenna put up in Réunion Island was impacted by broader French national projects of independence and military strength which also had bearing on US political decisions, even if in a smaller way. In the memoirs of John Alvin Pierce the chief engineer of the Omega system, Pierce

<sup>15</sup> *Mutual Weapons Development Data Exchange Agreement* was a procedure instigated by the USA in 1963 in order to exchange technical scientific or military information with foreign allied countries.

<sup>16</sup> Wilkes, Owen and Nils Petter Gleditsch. *Loran-C and Omega: A Study of the Military Importance of Radio Navigation Aids*, Oslo, Norwegian University Press, 1987, p.165.

<sup>17</sup> Gibbs, Graham. *Teaming a product and a global market: a Canadian Marconi company success story* Reston, VA, American Institute of Aeronautics and Astronautics. 1997 p.66

claims that the USA did not want to put an Omega tower in one group of French islands because US diplomats protested that “installations are planned with which we do not care to be associated.” Pierce interpreted this as “meaning atomic bombs, not our own!”<sup>19</sup> Although Pierce is not explicit about the island group’s location, we can reasonably infer that the issue was about putting an Omega antenna in French Polynesia, a group of islands in the Pacific ocean where the French were carrying out nuclear testing of which the USA and the international community did not approve.

French Polynesia was one of France’s *Territoires Outre-mer*, territories which had a political relationship with France, but on a slightly different basis than Réunion and the Caribbean areas. After Algerian independence in 1962, which had forced the French to look to the Pacific for a nuclear testing site to replace the Algerian desert, the DOM-TOM started to receive increasing investment in social infrastructure and technology, ten or fifteen years after modernizing projects had first been undertaken in Metropolitan France. These projects in the DOM-TOM ranged from health and education provision to electrification, the creation of centers of scientific expertise and military bases, all provided through a discourse of nationhood and progress. The aim was to bring their standard of living closer to that of Metropolitan France, and decrease the chances of these territories seeking independence.

Although French Polynesia had a different status than Réunion Island, nuclear testing was undertaken on the atoll of Mururoa from the late 1960s onwards. This significantly affected relations between French Polynesia and the Metropole, not least because of the sudden modernization and investment in only certain areas which served the French military. Chesneaux and Maclellan describe how this “fantastic explosion” of

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<sup>18</sup> Wilkes and Gleditsch. *Loran-C and Omega*, p.165.

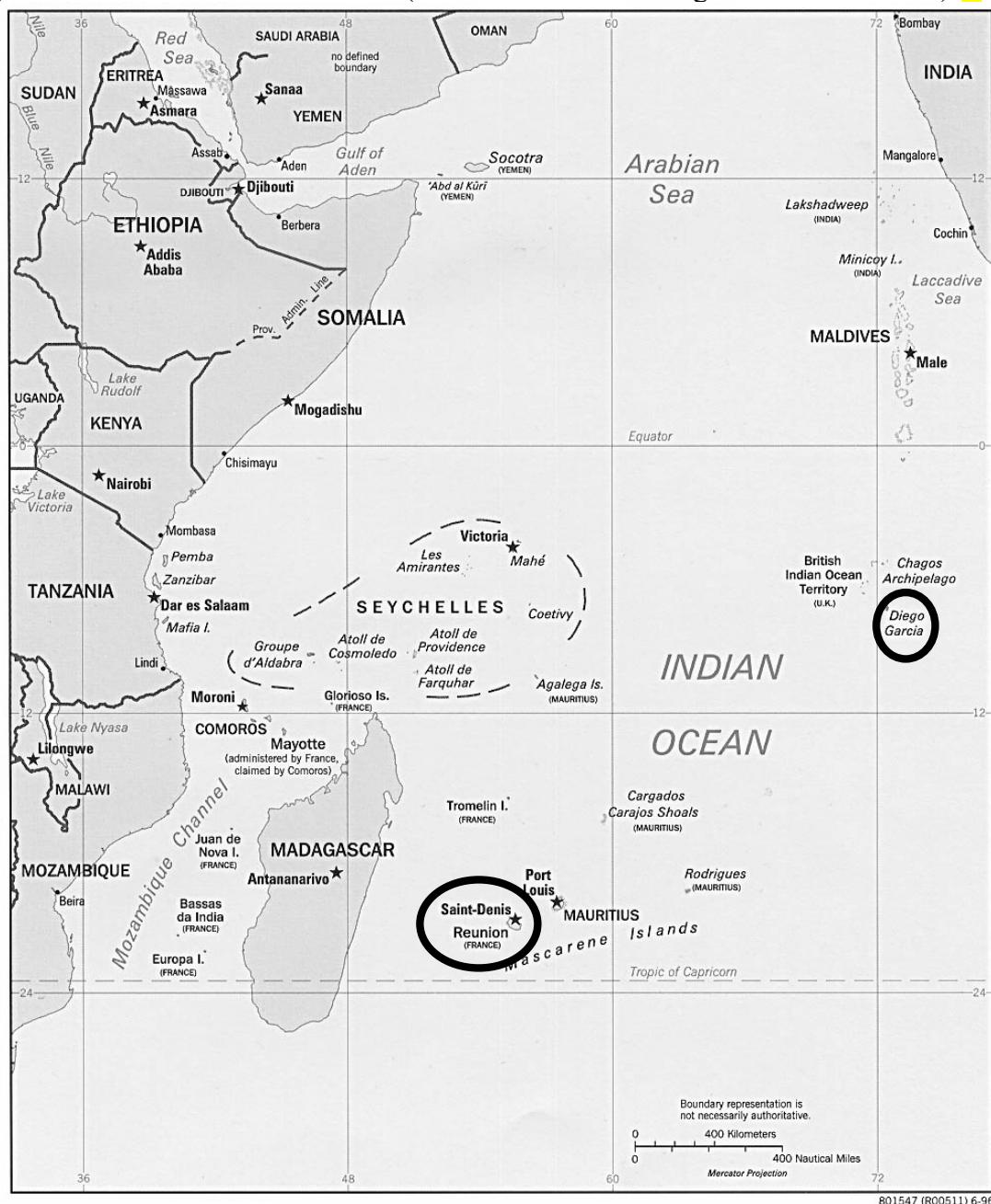
consumption increased GDP seventy four times between 1962 and 1982, and the minimum wage increased fifteen times. However, this increase of riches hid the fact that 99% of energy and 85% of food were imported and the lack of training and infrastructure meant huge disparity between the very rich and the very poor.<sup>20</sup> Similarly Redfield has examined how French Guyana underwent significant technological and social transformation after its change in status to an Overseas Department. In particular he demonstrates the juxtaposition between Metropolitan French and French Guyanese expectations over the construction and function of European Space Station which was set up in Kourou, French Guyana at the end of the 1960s.<sup>21</sup>

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<sup>19</sup> Pierce, John Alvin. 'Technical Extracts from the Memoirs of Dr J. A. Pierce' (ed) Walter F. Blanchard In *The Journal of Navigation* 55:3 September 2001 pp337-382

<sup>20</sup> Chesneaux and MacLellan, *La France dans le Pacifique: de Bougainville à Moruroa*, Paris : Editions La Découverte, 1992, p.125

<sup>21</sup> Redfield, Peter. *Space in the Tropics : From Convicts to Rockets in French Guiana*. Berkley: University of California Press, 2000 Chapter 9

Figure 1: Western Indian Ocean area (Réunion Island and Diego Garcia are circled).<sup>22</sup>

With no original indigenous population, and only 1000 miles square, Réunion Island's inhabitants were descended from many different areas of the Indian Ocean world. From the African side, Mozambique, Madagascar, Comoros Islands, Mauritius, Zanzibar and the Seychelles historically contributed to Réunion's ethnic makeup. From the north, Réunion Islanders could have been descended from indentured laborers or economic

<sup>22</sup> [www.lib.utexas.edu/maps/indian\\_ocean.html](http://www.lib.utexas.edu/maps/indian_ocean.html)

migrants from Gujarat or Tamil Nadu in the Indian subcontinent. There were also people of Chinese and Malaysian origin, and a significant European French population – some from centuries ago, some more recent immigrants.

Table 1: Estimations of ethnic group affiliation 1966-1974<sup>23</sup>

<i>Ethnic origins</i> <sup>24</sup>	<i>Estimate 1 – 1966</i>		<i>Estimate 2 – 1968</i>		<i>Estimate 3 – 1974</i>	
	%	Number	%	Number	%	Number
Mixed race	44.11	183,000	<b>40.18</b>	<b>180,000</b>	41.96	200,000
Kaf	25.0	104,000				
Malbar	24.04	100,000	<b>22.33</b>	<b>100,000</b>	25.18	120,000
Petit Blanc			<b>29.01</b>	<b>130,000</b>	23.98	114,300
Zorey	2.04	8,500			1.19	5,700
Chinese	3.6	15,000	<b>4.02</b>	<b>18,000</b>	3.14	15,000
Zarab	1.21	5,000	<b>4.46</b>	<b>20,000</b>	1.04	5,000
Other					3.51	16,731
<b>Total</b>	100	416,000 <sup>25</sup>	<b>100</b>	<b>448,000<sup>26</sup></b>	100	476,675 <sup>27</sup>

This table helps to give a broad indication of Réunion Islander's ethnic group affiliation in the 1960s and 1970s and the role which race could have played in the relationship between Metropolitan France and Réunion during this time. In the 1950s and 1960s, the Réunion Island Communist party had attempted in vain to encourage "Réunion's people" to identify with the liberation struggles in Africa and Asia.<sup>28</sup> Even at

<sup>23</sup>The most reliable data are in bold text, compiled from INSEE reports. Table modified from Médéa, F. J. Laurent. 'Creolisation and identity in a neo-colonial setting: the case of Réunion' PhD Thesis, Department of Sociology, University of Warwick, UK 2004, p.8

<sup>24</sup> This table has been compiled from different historians' estimates and some census details. It can only serve as a very broad estimate of different ethnic groups in Réunion at this time. The Mixed race group is all ethnic mixing; the Kaf group is composed of people of black descent from Africa and Madagascar; the Malbar group are people of Tamil origin; the Petit Blanc is a white proletariat non-planter group and the Zarab group are Shiite Muslims of Gujarati origin.

<sup>25</sup> Chaudenson, Robert. *Lexique du Parler Créole à La Réunion*. Volume 1. Paris: Librairie Honoré Champion 1974. p. XIV ; Scherer, André. *Histoire de La Réunion*. Paris: PUF, 1966 p. 23

<sup>26</sup> Atelier de l'Urbanisme de Réunion (1968) in Labache, Lucette. *L'Ethnicité à La Réunion: Vers un Melting-pot?* Doctoral Thesis, Paris: EHESS, 1997; see also INSEE data in Réunion <http://www.insee.fr/reunion>

<sup>27</sup> Data from INSEE, Census 1974.

<sup>28</sup>Gauvin, Michel *Debré et l'Ile de La Réunion* p.85

this time, when Réunion had just changed its status from Colony to Overseas Department, there was little solidarity for people's liberation struggles; despite people's diverse ethnic origins, it seems clear that even in the 1950s Réunion Islanders had been educated to feel more affiliation with the French nation than with their ethnic origins – consistent with the teachings of the French "colonial republic".<sup>29</sup>

The decisive moment for Réunion's national 'assimilation' into the modern French nation was to come in 1963 however. In November 1962, a series of corrupt electoral practices in the island during the contest between the populist local Communist party leader and the fragmented (but economically powerful) right-wing opposition candidates had led to a cancellation of Réunion's results in the recent national French elections. Paul Vergès of the Parti Communiste Réunionnais (PCR) had run on a platform of "autonomy" from France since he felt that the 4<sup>th</sup> Republic had done nothing of any consequence for the DOMs. However this had struck fear into the minds of many richer people in Réunion who saw this as a move for Réunion's independence: the people who supported Réunion's close association with France were the economic majority, educated and mostly white. Vergès attempted to mobilize the rest of Réunion's population against what he saw as an attempt by France to keep Réunion in a political situation identical to a colonial status. However, the PCR was independent from the French Communist Party and so being "Communist" in Réunion was equivalent to a milder "left-wing" position in Metropolitan France.

After the first failed election, Réunion's right wing leaders needed to find a new candidate unassociated with the recent scandals who could unite the party under one vote. They found one in Michel Debré. In that same year, Debré had resigned from being de

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<sup>29</sup> See Bancel, Nicolas *La République Coloniale* for a detailed discussion of this issue.

Gaulle's prime minister, owing to his disgust and sadness at seeing de Gaulle's granting of independence to Algeria, and in the recent November elections Debré had just lost his seat of Indre-et-Loire in Metropolitan France.<sup>30</sup> How could Debré have refused this project of refashioning an overseas department in the name of a unified and indivisible France? It was a chance too good to miss for a politician whose political vision of French national greatness bordered on a higher devotion. As Gauvin comments,

Michel Debré saw himself as the defender of a state headed by de Gaulle which would be able to give back grandeur and status to the French nation whilst maintaining national unity and independence. He saw himself as the guardian of the dogmas at the center of the Gaullist movement of 'state doctrine'. Michel Debré entered into service of the state like other people enter into a religious order.<sup>31</sup>

Personally supported by de Gaulle, and with the backing of the most economically powerful factions in Réunion who were afraid of the specter of Communism on the island, Debré won the parliamentary seat in Réunion. His election campaign was fought through binary slogans such as "For Réunion Islanders, the choice is for France, or for nothingness" and "Either you vote Debré, or tomorrow you'll all be Russian". Debré won the election and the support of the majority of Réunion Islanders through a combination of a quasi-feudal relationship between planters and their workers, and the lack of worker education, which meant that the small but powerful economic interests in Réunion were able to strongly influence the votes of the majority. In addition, Gauvin notes that there was continuing electoral fraud against Vergès, with some ballot boxes sealed, stuffed, or removed from voter access.<sup>32</sup>

Writing about his political project in 1963, Debré said "I was far from just being satisfied with winning the [election in Réunion]. I wanted to serve the whole island and I

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<sup>30</sup> Gauvin, *Michel Debré et l'Ile de La Réunion* p.93

<sup>31</sup> Gauvin, *Michel Debré et l'Ile de La Réunion* p.73

wanted to assure the modernization and the promotion of the whole island.”<sup>33</sup> Debré wanted to make ‘Overseas France’ a real and assimilated part of the French nation, to offer it the social and economic progress from which the Metropole was benefiting. Strangely, although he was one of Réunion’s three parliamentary deputies, Debré was the only one who never lived on the island. His permanent home was in Indre-et-Loire in the Metropole, where he also served on that region’s Conseil Général. However, this posed no problem for the majority of Réunion Islanders who supported Debré, because they benefited directly from his program of social transformation.

Did Debré triumph single-handed? Was he a figure-head for other right-wing politicians in Réunion? Was he a surrogate “mini” de Gaulle? In fact he was all of those things. For twenty five years, Debré would periodically arrive in Réunion in for three-week periods, slavishly covered in the local press, and then go back to the Metropole for a few months. He instigated a program of massive financial investment which touched every part of Réunion Island life, and he did so in a discourse of paternal interest in this French Overseas department. For this he was commonly known as “Papa” Debré (in the understanding that he was a providing father for his Réunionnais “children”) particularly by poor and disenfranchised Réunion Islanders, most of whom were black, Indian or mixed race (the traditional background for sugar cane workers and agricultural workers on the Island). Many of these Islanders saw their lives materially transformed by his programs of social welfare in Réunion: programs which fitted squarely into a nationalist discourse of making Réunion Islanders into French men and women. This remaking of Réunion Islanders was not unconnected with the fact that their different racial and cultural origins were being subsumed to that of Metropolitan French. Debré’s paternalistic discourse

<sup>32</sup> Gauvin, *Michel Debré et l’Ile de La Réunion* p.100

<sup>33</sup> Gauvin, *Michel Debré et l’Ile de La Réunion* p.294

towards the dark-skinned inhabitants of an ex-French colony had more colonial undertones than similar modernization projects which were being undertaken in rural Metropolitan France. Françoise Vergès sees the arrival of Michel Debré in Réunion less as a patriarchal role, but in a more feminized guise - one which was just another reiteration of what she terms the “colonial family romance”. She argues that from the early 19<sup>th</sup> century if not before, France had presented an idealized image of la mère-patrie, the mother country, to her colonized population. “Dependence and debt were the operative elements of the colonial family’s dynamics. Its rhetoric displaced social relations determined by the symbolic and economic organization of exchange between the colony and the Metropole and replaced them with the theme of continuous debt of the colony to its Metropole”.<sup>34</sup> In this way, Vergès hints that the types of development which Debré brought to Réunion – huge investment in social infrastructure, but little possibility of more jobs and better careers – continued a longer colonial relationship between Metropolitan and Overseas France, rather than this sweeping modernization of infrastructure ushering in a new era of radically different economic and social possibilities. In this 1960s era, when decolonization was occurring in almost all European colonies, did the dynamic between Réunion and Metropolitan France really change? Or was this new relationship merely a reiteration of past patterns of domination?<sup>35</sup> Bancel elucidates this paradox nicely: “on one hand there was a discourse of co-operation and aid and on the other hand the preservation of zones of French influence in its ex-colonies, whatever the price.”<sup>36</sup>

In the same year that he was elected, Debré instigated free programs of milk -

<sup>34</sup> Vergès, Françoise. *Monsters and Revolutionaries: Colonial Family Romance and Métissage*, Durham: Duke University Press, 1999, p.6

<sup>35</sup> For more discussion of this issue see Vergès, *Monsters and Revolutionaries*, Médéa, ‘Creolisation and identity in a neo-colonial setting: the case of Réunion’

<sup>36</sup> Nicolas Bancel, Pascal Blanchard et Françoise Vergès, *La République Coloniale: Essai sur une utopie*. Paris, Albin Michel, 2003, 161p, p.130

“Debré’s milk” - for every primary school child. From this time there was a steady increase in hospitals, health care workers and free medical treatment, social housing programs and destruction of shantytowns, schools and school canteens, eradication of malaria and road building. The program of financial assistance was massive: In 1960 French government spending on Réunion Island was 6.25 million CFA francs; by 1968 it had jumped to 27 million CFA francs. Between 1965 and 1975, the amount of social aid transferred to Réunion by the French government increased from 49,980,000 CFA francs to 239,530,000 CFA francs: an increase of nearly 480 per cent.

It is certain that Debré’s ideological vision as being the avatar of Gaullism and the French nation in Réunion saw it as only right and fair that the Islanders be loyal citizens of France. In his view, every part of France, whether Metropolitan or overseas, must benefit in the same way from the French nation; even if that meant a huge program of financial aid in places like Réunion, the benefit for France would be unquestioning loyal citizens, grateful for the nation’s aid. “Naturally, these social policies are only a preliminary, but an indispensable one, because we cannot conceive that the national sentiment of the Réunionnais people will stay how it is if her social situation remains the same, or even worsens” said Debré in 1965.<sup>37</sup>

A former prime minister who still had a loyal and close relationship with President de Gaulle, Michel Debré was an extremely powerful figure in Réunion Island, particularly in comparison with his local political colleagues. Under de Gaulle, Debré’s politics of ‘assimilating’ Réunion and the other overseas territories into the modern French state faced little opposition inside or outside of Metropolitan France. In Réunion, where the vestiges of colonial power were still almost entirely in the hands of white planter families

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<sup>37</sup> Gauvin, *Michel Debré et l’Île de La Réunion* p.148

who thoroughly supported Debré, resistance to him was nearly impossible. Furthermore, in addition to being a deputy of Réunion Island, Debré continued to play an important role in French national politics at this time. From 1966-68 he was Minister of Economy and Finance, from 1968-1969 he was Minister for foreign affairs and after de Gaulle was defeated in 1969, Debré was Minister of Defense until 1973 under President Georges Pompidou. It was only in 1988 that Debré was finally ousted from his parliamentary seat in Réunion, by a junior right-wing colleague.

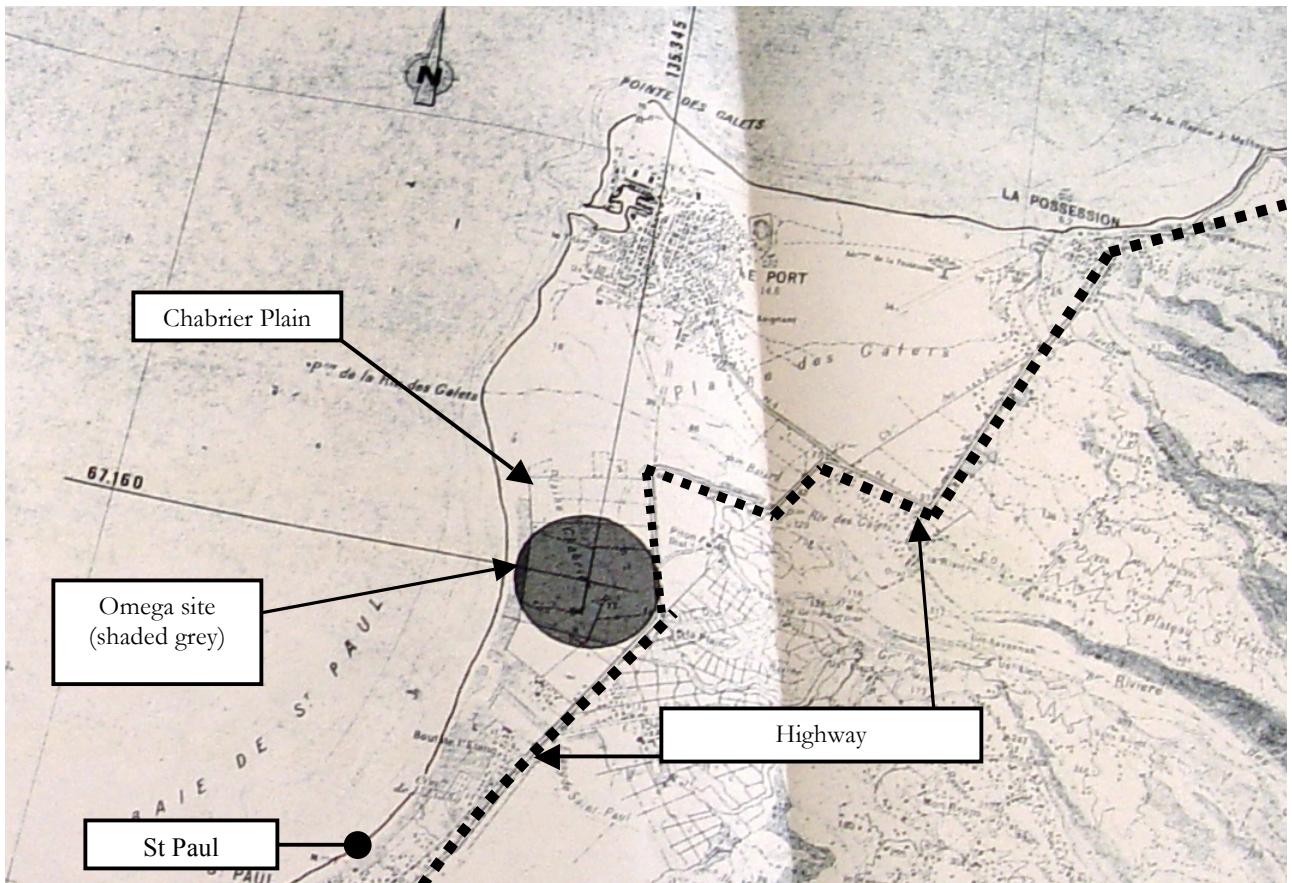
The construction of the Omega antenna and transmission station in the Chabrier plain on Réunion Island demonstrates important aspects of Debré's political influence on the Island, the attitude of Réunion Islanders to the arrival of technological modernization on the landscape and also point to how Réunion Islanders understood world politics through a lens dominated by France.

From the beginning of the 1960s, the Chabrier Plain was being used as agricultural land, near the Cambai neighborhood, part of St Paul, the second largest town on the island. The Chabrier plain and much of Cambai was still owned by the Chabrier family of St Paul. The plain itself was divided up in to thirty or so different plots, where a few sharecroppers still lived with their families in small wooden houses, cultivating sugar cane, fruit and coconut trees or raising goats.

Figure 2: Site of Omega antenna on Chabrier Plain, Réunion Island 1973. Scale 1:50000 cm.<sup>38</sup>

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<sup>38</sup> Archives Departementales de La Réunion (ADR) 1076W 44 Marine Nationale, Plan de Situation RN 040207 2-2-1973



One of the sharecroppers on Chabrier Plain was Mr. Payet, who lived with his wife and their nine children there in the early 1970s. They were forced to leave by the building of the Omega tower. Mr. Payet was a dock worker in Réunion's port five miles away and also cultivated the land, giving Mrs. Chabrier the landowner one third of his income from his harvest. He remembered often staying up all night watering his crops after returning from working the docks, because he only had access to irrigation once a week.<sup>39</sup>

Other people were lucky enough to own the land on Chabrier Plain, and grew mango, lychee or orange trees or had coconut plantations. Mr. Gokalsing who owned a land on the Chabrier plain, some of which was expropriated by the government, told me that the soil was good one and the crops were well irrigated – as a proprietor he had

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<sup>39</sup> Interview Emilien Payet August 2005

constant access to water.<sup>40</sup> In addition there was a small vehicle hire company operating from the Chabrier plain, and two small companies making gravel.<sup>41</sup>

In March 1973, the Prefecture of Réunion Island, operating from orders from the Ministry of Defense started expropriating land from the thirty or so plots (over a 160 hectare site) needed to install the Omega antenna.<sup>42</sup> The studies of the land plots had been done in the previous 18 months. The only local politician to oppose the plan was the Julius Bénard, the Mayor of St Paul. He attempted to make a claim that the impending construction of social housing in the area adjacent to the Chabrier Plain would be constrained by the presence of the Omega tower. However the technical services of the Navy did not agree and from May 1973, the Omega tower operations went ahead according to a strict timetable.<sup>43</sup> The construction of the Omega antenna had to be finished by October 1974. The owners of plots of land on the Chabrier Plain and in Cambai were obliged to sell for a low price, the government surveyors of course devaluing the land in relation to its market price.<sup>44</sup>

Even from those whose land was expropriated, and who had to move their homes and businesses, there was very little concerted opposition to the construction of the Omega tower. Although some complaints were made about the expropriations, in particular by the owners of the gravel pit, they do not appear to have been upheld by the Ministry of Defense.<sup>45</sup> The lack of opposition is very significant in the context of 1970s Réunion Island, and I argue that it is linked to more profound social processes which were at play during the time of Michel Debré's influence in Réunion.

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<sup>40</sup> Interview Maxime Gokalsing, August 2005

<sup>41</sup> ADR 1076 W 44

<sup>42</sup> ADR 1076 W 44

<sup>43</sup> ADR 1076 W 44

<sup>44</sup> ADR 1076 W 44, Interview Maxime Gokalsing August 2005

<sup>45</sup> ADR 1076 W 45

In the first place, ways of disseminating information were strictly controlled during this period. In the early 1970s few people had televisions, and only slightly more had radios. In both cases, there was only one channel and it was state-owned and controlled. In practice, this meant that local news and views which were disseminated were those which were favorable to Michel Debré. Both Gauvin and Françoise Vergès note that Debré was the dominating figure on the island for twenty five years because of his important political connections in Paris, and was particularly oppressive to Paul Vergès and the PCR.<sup>46</sup> For example, Gauvin notes that Paul Vergès was never granted an interview on the state owned radio and television channels until Michel Debré was ousted from office in 1988.<sup>47</sup> Equally, the newspaper coverage of the Omega tower was destined to be marginal at best, because the best-selling newspaper was *Le Journal de l'Ile de La Réunion (JIR)* which was owned by a sympathizer of Debré. The main left-wing newspaper *Témoignages* was sold by subscription because no shops would publicly sell it, and the number of its subscribers was significantly lower than the number of sales for the Gaullist *JIR*. Other left-leaning newspapers such as *Jeunesse Marxiste* or *Le Progressiste de La Réunion* were also subscription-based and did not circulate for more than a few years during this time. In addition to this, it would have been difficult to gather broad opposition to the Omega tower through the printed media because of the number of illiterate adults, and only the small intellectual elite would have read newspapers anyway. Debré's power in Réunion's politics and public life thus cannot be underestimated.

Nevertheless it is constructive to examine the press reports of the building of the Omega antenna, because it sheds light on how the construction of the Omega antenna was understood by different sectors of Réunion's media. During the year leading up to the

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<sup>46</sup> See examples by Gauvin, *Michel Debré et l'Ile de La Réunion* and Vergès, *Monsters and Revolutionaries*: Chapter 3

expropriation of land for the Omega station, there was almost no mention of it in Réunion's right-wing press, apart from one short article in the *JIR* on March 27 1973. In August of the same year, the extremely left-wing monthly newspaper *Jeunesse Marxiste* commented on the tower's construction.

The comments made by the journalist of this small subscription newspaper are extremely significant, in their attempt to locate the origin of the Omega antenna, and to understand the reasons for its setting in Réunion Island. In the first part of his article, the anonymous journalist explains that the finished Omega station will be a "Franco-American base" on Réunion. However, the journalist then moves away from an understanding of the Réunion Omega base in international terms, and directs a critique to the *French* nature of the project. The Omega station is thus identified as the "hub of the French military system in the Indian Ocean, destined for the radio control of atomic submarines."<sup>48</sup> Here one of the few archived interpretations of the Omega tower which reveals that Réunion is part of a larger, international military system, has been recalibrated by the author in order to place France at the center of the story, and the French presence in the Indian Ocean is highlighted. The French presence is however completely diminished in US Congress hearings about different military forces stationed in the Indian Ocean.<sup>49</sup> The author is however inaccurate in the description of the antenna providing radio control to atomic submarines, but this inaccurate interpretation was frequent in protests against the Omega tower in other countries.<sup>50</sup>

The author of the article also attempts to encourage his readers to mobilize against

<sup>47</sup> Gauvin, *Michel Debré et l'Ile de La Réunion*.

<sup>48</sup> ADR 1PER206 *Jeunesse Marxiste* August edition 1973

<sup>49</sup> *Proposed Expansion of US Military Facilities in the Indian Ocean. Hearings from the subcommittee on the Near East and South Asia of the committee of foreign affairs*. House of Representatives 93<sup>rd</sup> Congress 2<sup>nd</sup> session February-March 1974

the “militarization of Réunion Island” by coming to a public meeting. Revealingly, he states that the details of the first anti-military meeting were not even published by *Témoignages*, despite the fact that the French Communist Party was strongly opposed to the development of nuclear submarines in the French military. Clearly, if even the PCR was not going to take a stand against the antenna, the wider Réunion Island population would have had very little chance to hear about the opposition to the tower and its function.<sup>51</sup> In 1974, with the construction of the tower already underway, the right-wing press indicated the existence of the Omega antenna. Both *Le Combat National* (Michel Debré's official monthly magazine) and the *JIR* featured the antenna. In both cases the descriptions of the tower described how it worked, but without entering into its military function. The title of the *Combat National* article was “A Long, Long, Long, Crayon!” which demonstrates the interpretation Debré wished to convey about the Omega station and its role in Réunion: as being absolutely neutral. This article also talks of the Chabrier Plain as having stony unproductive soil, and criticizes opponents of the tower (so there must have been some) as merely using the tower for propaganda. The implication in both articles was that the presence of the Omega station was positive for Réunion and that in any case, there was nothing of use on the Chabrier Plain beforehand.<sup>52</sup>

Therefore, in the case of Réunion there was no effective protest in Réunion's media which could have encouraged the Islanders to fight the installation of the tower. This had happened in Norway, Australia and New Zealand where debates raged over whether such military infrastructure would endanger the country in case of international conflict. Wilkes

<sup>50</sup> Wilkes and Gleditsch *Loran-C and Omega*; Turner, Nicholas. ‘Omega, a documented analysis’ In *Australian Outlook* 26:3, 1972 pp291-305; Pierce, John Alvin. ‘Technical extracts from the memoirs of Dr J A Pierce’ In *Journal of Navigation*

<sup>51</sup> In my preliminary research I have not find other references for the Omega antenna in this year, though I did not get time to read the archives of *Témoignages*

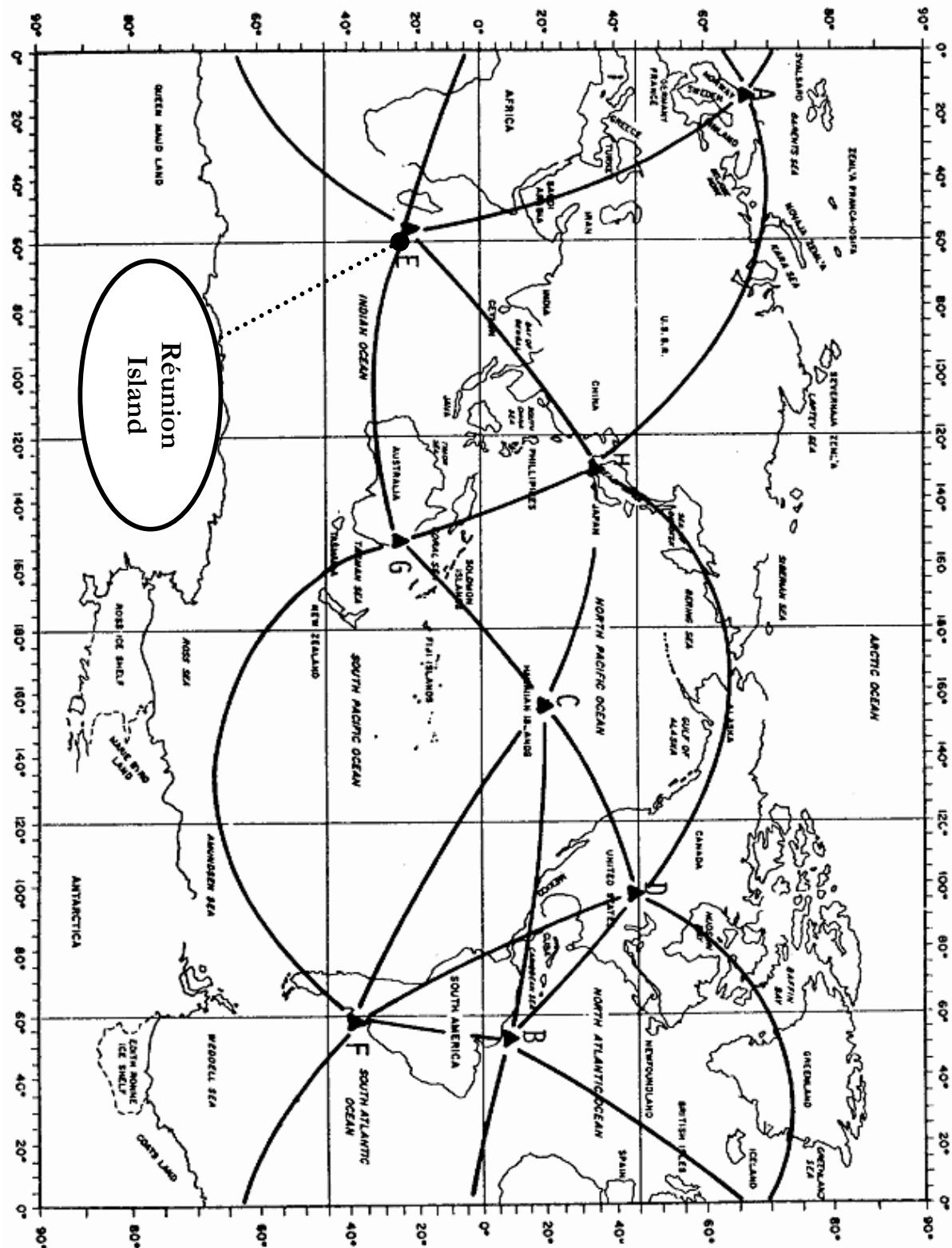
<sup>52</sup> ADR 1PER94/57 *Journal de l'Ile* 9 February 1974; ADR 1PER124/1 *Combat National* April 1974

and Gleditsch describe the protests which eventually hampered the setting up of an Omega station in New Zealand in 1968, and moved the US Navy to relocate the station to Australia. In that year, scientists and students at the University of Canterbury came together to denounce the New Zealand government and demonstrated against the Omega plan. Wilkes and Gleditsch describe the public outcry that followed announcement of the Omega tower in New Zealand as more vigorous than even that of the New Zealand protest against troops involved in the Vietnam War. In New Zealand the protest was based on the premise that Omega was an instrument of nuclear warfare; specifically that it was intended to provide guidance to Polaris equipped nuclear submarines. “From this it was concluded that New Zealand would become an accomplice in any future US nuclear war, and New Zealand would become a nuclear target either as retaliation for permitting its installation, or to disable the transmitter”<sup>53</sup>. An Australian critic who considered the Australian and New Zealand protests to be based on factual inaccuracies about the use of Omega by Polaris submarines claims that “the protest had a much broader political nature … Omega was neither the sole nor essential issue: it was merely part of the contemporary debate over Vietnam, US Global policy and (in Australia) the presence of US defense installations.”<sup>54</sup>

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<sup>53</sup> Wilkes and Gleditsch *Loran-C and Omega* p.3, see also pp231-294

<sup>54</sup> Turner, Nicholas. ‘Omega, a documented analysis’ In *Australian Outlook* 26:3, 1972 pp291-305

Figure 3. Worldwide network of Omega antennas.<sup>55</sup>

<sup>55</sup> Asche, 'Omega system of global navigation' In *International Hydrographic Review* 50:1 1972, pp87-99

Whether protests in the Australian and New Zealand cases were specifically directed at the capacity of the Omega system to allow nuclear ballistic submarines to fix their positions or whether the protests were part of a larger movement, in Réunion, neither type of protests made an impact in the public sphere. Even in the *Jeunesse Marxiste* newspaper, the only one to offer any thought about Omega's military application, the Omega system was interpreted to being part of a larger French military initiative in the Indian Ocean, rather than being a part of larger US military plans. The lack of dissent or comment in the Réunion Island press contrasts strongly with the events which had unfolded in New Zealand and Australia a few years before.

I argue that in Réunion the lack of public comment or protest about the potential military applications of the Omega system, and the implication for the Indian Ocean of this US military application is strongly linked to the powerful political presence of Michel Debré and his supporters in Réunion, who would not have been interested in disseminating this information, particularly because Debré had been minister of defense at the time of the agreements between the USA and France. In addition, the Omega station was constructed at the same time that huge modernization and infrastructure plans were being realized on the Island. It is plausible that Réunion Islanders thus saw the Omega antenna as yet another sign of the island's modernity, and its ever-closer relationship with Metropolitan France – hence why one journalist linked the military infrastructure to French plans, rather than to US plans. The presence of the French army at the Omega station, rather than any US forces, reinforced this link, and emphasized the concern that many on Réunion's political left felt about the presence of French military forces in Réunion which also signified the increased “assimilation” of Réunion in to the French Republic.

After its construction, the tower continued to stand mute to the US military involvement in the Indian Ocean, and to the military applications of the Omega system. For Réunion Islanders the tower became merely part of the island's landscape, and for most people who looked at it – or heard it - in the ensuing years, it had many local meanings, but few people would have associated it with the influence of the outside world in Réunion, and especially not the USA.

In Réunion the Omega tower thus became a landmark which was seen, but also not seen. On one level it symbolized the increasing “nationalization of space” in Réunion by Debré’s modernization of infrastructure.<sup>56</sup> Nevertheless, even this “French” space gradually became more and more localized over the years. The antenna’s location mattered to fishermen, who used it in a bearing with the hills behind to mark fishing spots. Local diving schools also lined the tower with other landmarks, to easily locate the wreck of a boat at a 50 meter depth in the middle of St Paul’s Bay.<sup>57</sup> Since the Omega antenna was next to the main highway linking the south and north of the island, many, many people drove past it every day. For some who had come from the far south of the island, seeing the antenna was a sign of relief, indicating that they were “nearly” at St Denis.<sup>58</sup> The localized nature of understanding the Omega tower can also be understood through a gag in a Réunion Island comedy play *Zé Tantines* which was written in 2004. In one scene, a rich Créole girl boasts to her jealous roommate of having been outside the island to visit not only the Twin Towers in New York, but also the Eiffel Tower and the leaning Tower of Pisa. Her poorer friend tries to compete and splutters “well … I had my photo taken

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<sup>56</sup> Appadurai, Arjun. *Modernity at Large: cultural dimensions of globalization*, Minneapolis, London, University of Minnesota Press, 1996, ch.9

<sup>57</sup> Interview Stephane Boyer July 2004

<sup>58</sup> Interview Claude Wanquet and Frederique Gonthier, 13 October 2005; Gael Lancelot personal communication, 1 December 2005

outside the Omega tower! So there!"<sup>59</sup>

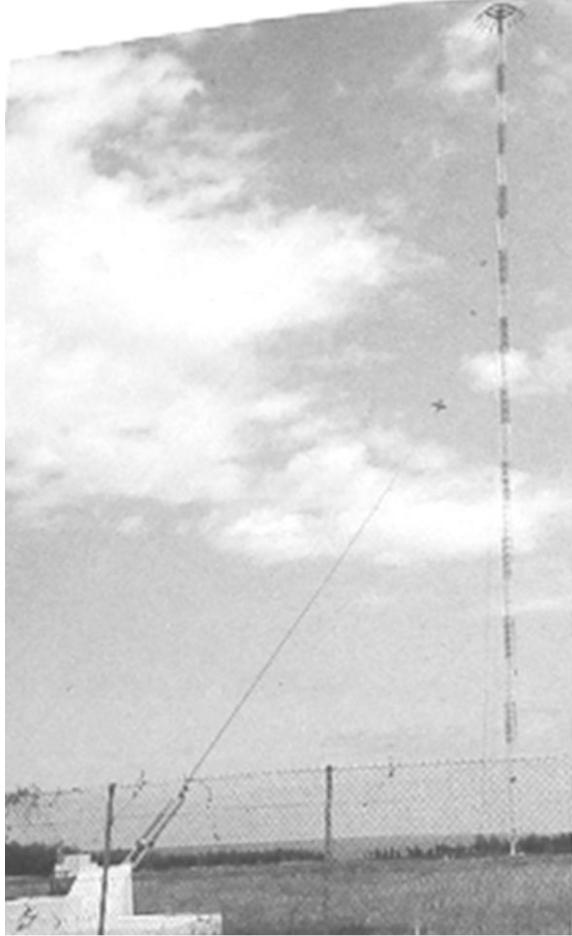
Edwards points out that mature technological systems such as telephones reside in a naturalized background, no more remarkable than trees or dirt, and merely become part of the anonymous infrastructure which people do not give a thought to unless it goes wrong and they are affected.<sup>60</sup> For some people, then, the tower did not "stand mute": because it had an aural presence. The beeps which were transmitted across the oceans, to be picked up by Omega transmitters worldwide also found their way into Réunion's homes. The Vélia family told me about the auditory aspects of the tower which they suffered since they lived just outside of the perimeter of the Omega station base. Although the Omega "beeps" were at a very low frequency, too low for the human ear, Sandrine Vélia told me that they often heard the beeps on their FM radio and that the Omega antenna's beeps could be heard on VHS tapes when they recorded television programs.<sup>61</sup> Joel Boyer was the manager of the open air theatre at St Gilles les Bains from 1970 to 2004. He was not nostalgic about the Omega antenna's destruction when I talked with him, because he said that the tower could usually be heard beeping during performances, as the beeps were picked up through the powerful sound amplification system used in the theatre.<sup>62</sup>

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<sup>59</sup> Jardinot, Thierry. *Zé Tantines – Une spectacle 100% filles*, live DVD edition St Denis : Réunion Island, 2004

<sup>60</sup> Edwards, Paul. 'Infrastructure and modernity: force time and social organization in the history of sociotechnical systems' In *Modernity and technology* (ed) Thomas J Misa, Philip Brey and Andrew Feenberg pp185-225 Cambridge MA: MIT Press, 2002 p.2

<sup>61</sup> Interview Velia family, August 2005

Figure 4. Réunion Omega Antenna, 1976.<sup>63</sup>Figure 5: Destruction of Omega Antenna April 1999.<sup>64</sup>

News reports of the Omega tower's destruction in 1999 can also provide a general sense of how different Réunion Islanders reacted to the destruction and how they felt about the tower. On the 17<sup>th</sup> April 1999, a few thousand people rose early to get to Chabrier Plain (the site of the tower) before the highway closed at seven am. The tower was detonated shortly afterwards. After a bang, the tower crumpled in the middle, and slowly

<sup>62</sup> Interview Joel Boyer, July 2005

<sup>63</sup> Vaxelaire, Daniel (ed). *Memorial de La Réunion Volume IV 1965-1974* St Denis de La Réunion : Orpheus Editions, 1978 p.322

<sup>64</sup> ADR 1PER 94/339 Front Page, *Le Quotidien de La Réunion et de l'Océan Indien* 18-4-1999

fell to the ground emitting the type of whistling sound that an airplane makes when it lands. A cloud of dust rose to the air as the tower landed on the Chabrier Plain. One woman commented to the cameras “just 10 seconds of action for twenty five years of service”.

The two main television channels asked many of the spectators for a brief comment before and after the detonation.<sup>65</sup> Some of the people interviewed expressed their feelings about visual spectacle created, ranging from pure enjoyment at the show - “*Géniale! Des frissons! Des frissons!*” – to comments such as “impressive”, “it was great! It made me shiver” and “it was so moving”. Many people interviewed by the new programs found it a “moving” sight and people commented that they had cried or been close to tears; at least one man interviewed by Télé Réunion was obviously on the verge of crying. Indeed, José Sellier who I interviewed in August 2005 told me that instead of staying to watch the detonation outside his house next to Chabrier Plain, he spent the weekend in Cilaos with his family (in the remote interior of the island) so he didn’t have to witness the sad moment first hand. Despite this, he watched the detonation on the evening news and cried anyway.<sup>66</sup> Eddy Vélia who, at the time, lived at the police barracks in Etang St Paul got on the roof of his house to watch, and cried as it fell.<sup>67</sup>

Many Réunion Islanders interviewed just after the detonation felt that the visual side made a gap in the landscape. On the evening news, people claimed “it’s funny … I have my coffee outside every morning and I won’t see it”; “It’s bizarre to not see it here any more”, “when I was little I often came by here … despite everything, I felt something”. One young man from Bois de Nefles, a village in the hills of St Paul said “I’ll miss it, especially at night with all those lights, it was pretty to see”. Again this

<sup>65</sup> Midday and evening news reports, *Antenne Réunion* and *Télé Réunion*, 17-4-1999

<sup>66</sup> Interview José Séllier, August 2005

underscores the visual aspects of the Omega antenna for the Réunionnais as landscape both in the day and at night.

However it would do injustice to the Réunion Islanders to claim that everybody was emotionally moved by the disappearance of the tower. With typical Réunionnais equivocation, some of the older people interviewed for the television expressed their indifference to the television in rhyming Creole sayings: “*par ailleur nena meilleur*” (there are better things elsewhere), “*Nou la construi y fé detrui*” (we put it up and then knocked it down) “*I fé ni chaud ni froid a moin*” (it makes me neither hot nor cold) and “It doesn’t change anything”. I asked Mr. Payet how he felt about the tower’s destruction, as one of the sharecroppers moved off the Chabrier Plain for the tower’s construction. He had watched it from his hillside village high in Petite-France, but for him it was nothing more than a spectacle, his days on the Chabrier Plain were a long time before.<sup>68</sup> The important issues which surrounded Islanders such as Mr. Payet in the 1970s were the loss of good agricultural land and the expropriation of their property. Although it is possible to track the increasing presence of Metropolitan France in Réunion during this time, people living in Réunion at the time do not seem to remember it in this way, when questioned now.

However, some Islanders interviewed by the television stations did see it as something significant. They referred to Réunion’s history and to the place of the Omega tower in it. Comments on television ranged from the very local, “It’s part of the history of St Paul!” to “Réunion has turned a page in its history” to a wider sense of time passing. “Evolution has to follow its course”, “it was a magnificent instrument which helped the boats in the old times”, “It moved me, it’s a bit like our heritage [*patrimoine*] and suddenly it’s gone. “It’s not history … but it nearly is!” No-one mentioned the antenna outside of

<sup>67</sup> Interview Vélia Family, August 2005

<sup>68</sup> Interview Emilien Payet August 2005

the island context at the time of the TV interviews. Although the news anchor did comment about the existence of other towers, the use of the Omega system was not mentioned. However, the news anchor did refer to the Omega Tower as “Réunion’s Eiffel Tower”, which is a telling comparison, particularly in the context of Réunion’s relationship with Metropolitan France. The guardian of the Omega antenna site for twenty five years, Camille Turpin, made the most poignant comment to the TV cameras: “It’s like a child you saw being born” he said. His comment is particularly evocative of both the affection that Réunion Islanders seem to have held for the Omega antenna in their landscape, in addition the paternal discourses of improvement by Michel Debré to Réunion Islanders at the same time of the tower’s construction.

In 2005, six years after its destruction, many people with whom I spoke in Réunion still did not know the real function of the tower, and those who had a sense of its military use were definitely in the minority. Indeed, when I presented a first draft of this paper in Réunion Island at a history conference, only three people out of the forty present knew that the tower was used for military purposes and came from the USA, despite the fact that all of them were academics, teachers, librarians or archivists, and part of the educated elite of Réunion Island.<sup>69</sup> After its erection, Islanders thus saw the Omega tower as just one more element of the natural environment; at the most it was an unremarkable sign of Réunion Island modernity. Its use as US military infrastructure and the origins of Omega technology in the USA have been left unremembered in Réunion.

The construction and use of the Omega system in the Indian Ocean by the US Navy can be almost diametrically opposed to the way that Réunion Islanders interpreted and remembered the Omega tower. In official reports on the Omega system, and in

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<sup>69</sup> *Sciences, Techniques et Technologies dans l’Océan Indien, du XVII au XXIe siècle*’ conference organised by Association Historique de l’Ocean Indien at the Réunion Island Archives, 11-12 October 2005

memoirs of engineers who worked with it, Réunion Island and even France barely figure in understandings of the role of the Omega system. In the Indian Ocean, Omega was merely one element which enabled the US to have an increased military – including nuclear – presence. On a global scale, the Omega system provided a worldwide military navigation network without the need for the physical presence of US troops in every transmission base.

After the Second World War, radio communication technology became one of the main research & development priorities for military use in the USA. Omega was originally created in 1947 as a system for place finding, using a system of very low frequency (VLF) radio waves emitted in a series of hyperbolic curves which did not diminish over long distances, or suffer distortion in bad weather.<sup>70</sup> Although it was one of many systems in development at the time, during the 1950s the long-distance advantages of the system were recognized, and one of its creators – John Alvin Pierce at Harvard University - proposed to the US Navy that this system could be the basis for a long-range navigation system. In the late 1950s experimental tests were set up in Hawa’ii, San Diego and Forestpoint NY. The Naval Electronics laboratory used already existing experimental stations in the Panama Canal Zone, Wales, Trinidad, Norway and elsewhere. These systems only had one-tenth of the power necessary to operate the envisaged worldwide system, but this reduced scale was considered sufficient for test purposes.<sup>71</sup>

In 1963 the US Bureau of Ships set up an Omega Implementation Committee to develop the Omega frequencies as the basis for a worldwide system which would enable accurate worldwide position fixing in all weathers, an important part of navigation. The

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<sup>70</sup> Scott, Robert, E. *Study and Evaluation of the Omega Navigation System for Transoceanic navigation by Civil Aviation* Institute of Science and Technology, University of Michigan **date?**

<sup>71</sup> Asche "Omega system of global navigation." In *International Hydrographic Review* p.88, Pierce, J. A. 'Technical Extracts from the Memoirs of Dr J.A. Pierce' In *Journal of Navigation* 55:3 2002

final destinations for the eight stations were to be in Norway, Trinidad, Argentina, Japan, Liberia, New Zealand and Réunion Island. John Alvin Pierce was one of the members of the Implementation Committee and remembers the “shameful” reason why there were only eight transmission stations as a disinclination on his part to recalculate an identification pattern for the stations. He also points out the both highly arbitrary and political nature of choosing the station locations:

The recommendation of sites for stations was a curious and entertaining problem. ... The land areas [on the globe] are very irregularly distributed and islands do not seem to occur in convenient places for our purposes. It is useless to describe the many hours I have spent turning a small globe and measuring distances ...I was surprised at how many sites I felt might be satisfactory were taboo from the diplomat's point of view.<sup>72</sup>

Réunion Island was chosen as a site both for geographic reasons – the transmission towers needed to be 5000 miles apart – in addition to Reunion's geopolitical stability and the suitability of its geology.<sup>73</sup>

As Omega's development progressed in the 1960s, it could have become a system which was used to enable Polaris (ballistic) submarines to fix their positions and launch missiles to surface targets. It was also developed to enable Poseidon (hunter-killer) submarines to fix their positions and launch missiles underwater to enemy submarines and boats, in addition to use by boats and airplanes. Opinions are divided about at what point the Omega system was definitively not used primarily for Polaris weapon launching, and whether anti-Omega protests in the late 1960s and early 1970s in Norway, Australia and New Zealand were justified or accurate in claiming that the Omega system was associated with nuclear missile launching, or could become a target in the case of war.

Wilkes and Gleditsch propose that although there is no conclusive evidence that

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<sup>72</sup> Pierce, John Alvin. ‘Technical extracts from the memoirs of Dr J A Pierce’ In *Journal of navigation* 55:3 2002 p.347

<sup>73</sup> ADR 1087W 44

Omega was developed in parallel avec Polaris nuclear submarines, it was well known at the time that VLF radio waves could be received without distortion under water to 50 foot depths, enabling submarines to remain submerged whilst still receiving signals. Turner counters that this capacity was not unique to Omega and that the Loran-C system (which Polaris submarines primarily used) also had underwater capability - meaning Omega would have not been used by Polaris submarines. However the major advantage with Omega over other navigation systems such as Loran-C was that Omega's VLF waves had a very long range, and needed only a small number of transmission stations, whereas Loran-C was only highly developed in the Northern Atlantic and Pacific regions. Thus, Omega could have been used by Polaris submarines outside these two oceans – such as in the Indian Ocean.

Omega eventually proved to be too inaccurate for sole use as a position finding system for Polaris missiles, although it was good enough for peacetime navigation and position finding. Turner argues that this peacetime navigation use in Polaris submarines means it would never have been a wartime target. Pierce later recollected Turner in his memoirs, and spoke disparagingly of those who opposed the Omega system on the grounds it would have been a military target. However Wilkes and Gleditsch claim that as military infrastructure, Omega would always have been a military target.<sup>74</sup>

In the Indian Ocean, the presence of the Omega system in Réunion Island eventually enabled US boats, submarines and airplanes to accurately fix positions and thus navigate more precisely in that Ocean. Particularly, the Omega station in Réunion would have enabled hunter killer – and possibly ballistic - submarines to position themselves with greater accuracy and secrecy in the Indian Ocean, where there was no Loran-C coverage.

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<sup>74</sup> Wilkes and Gleditsch, *Loran-C and Omega* p.301

In the mid-1960s, US strategists were worried about possible Soviet expansion in the Indian Ocean and wanted a base in the region - but one without a “population problem” – i.e. a base which would not involve negotiations or conflict with the local populations, which might upset the base's operation. The island of Diego Garcia, the largest atoll situated in the Chagos Archipelago almost in the middle of the Indian Ocean was chosen as a potential site for a base. The Chagos archipelago is situated 2000 miles from east Africa, 1000 miles south of the Indian subcontinent and 2400 miles south east of Thailand. The Chagos Islands were at that time dependencies of Mauritius Island which belonged to the UK, and were home to about 3000 Creole inhabitants, descendants of the same regions as those living in Mauritius, Réunion and the Seychelle Islands. At the time of Mauritian Independence in 1965<sup>75</sup> the British Government removed the Chagos Islands from the control of Mauritius, and removed Farquhar, Aldabra and Desroches Islands from the control of the Seychelles in order to form a new colony called the British Indian Ocean Territory (BIOT), governed directly from Britain. In a negotiation between the UK and the US signed on 20<sup>th</sup> December 1966, the UK would rent Diego Garcia to the US for 50 years and in return, the US was willing to offer the UK an \$11m subsidy on a British debt for a Polaris submarine order.<sup>76</sup> A memo from then Foreign Secretary Michael Stewart to Labour Prime Minister Harold Wilson in 1969 admitted that the payment was kept secret from Parliament and the US Congress.<sup>77</sup>

British politicians, diplomats and civil servants began a campaign - in their own words – “to maintain the pretence there were no permanent inhabitants” on the islands. Those residents leaving the island of Diego Garcia were refused re-entry, then the copra

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<sup>75</sup> For a detailed discussion of the amputation of the Chagos Islands from Mauritius See Houbert, Jean. ‘Creolisation and decolonisation’ In Shihan de Silva Jayasuria, and Richard.Pankhurst (eds) *The African Diaspora in the Indian Ocean*. African World Press: Trenton. 2003 pp.152-164

<sup>76</sup> Houbert, ‘Creolisation and decolonisation’ p.159

plantations were bought up by the BIOT administration and closed down, medical facilities and supply ships withdrawn. When the first US Americans arrived on Diego Garcia, the remaining residents were simply shipped out, first to a nearby island and then to Mauritius or the Seychelles, where they have lived for the most part in great poverty ever since.<sup>78</sup>

In the early 1970s, the US Navy decided to expand the base on Diego Garcia to allow submarines to dock and to enlarge the runway, which would effectively enable B-52 bombers to land. In its presentation to Congress spokesmen made much of a perceived threat from the Soviet Union in the Indian Ocean, and referred to Diego Garcia as uninhabited. From the US Navy perspective given to Congress, there is no mention of the 3000 people displaced from the Chagos archipelago in 1967, and the island is described as having “no indigenous population.”<sup>79</sup>

Maintaining the base allowed the US to monitor the Persian Gulf, tankers exiting from it and the political situation there, whilst not having a base on any “nation-state” soil, with local populations. In a broader sense, the Omega system was part of a far larger US cold war military policy which involved an ideological military and political ‘balance of power’ with the USSR. The Indian Ocean ‘balance of power’ became increasingly necessary for US military ideals in the late 1960s as the UK rescinded its influence “east of Suez” with the independence of many former British colonies from Malaysia and Singapore in the east to Tanzania and Yemen in the west and north. Using the Omega system would allow the US military to accurately navigate in the Indian Ocean, and the

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<sup>79</sup> James H Noyes, Deputy Assistant Secretary of Defense for international security affairs (Near Eastern, African and South Asian affairs) submission to *Proposed Expansion of US Military Facilities in the Indian Ocean.*, House of Representatives 93<sup>rd</sup> Congress 2<sup>nd</sup> session February-March 1974 Thursday March 14 1974p.57

expansion of the Diego Garcia base would provide infrastructure to the US military to enable increased naval deployments through the refueling of B-52s and the creation of a submarine dock.<sup>80</sup> In Congress, although various military authorities did submit observations to that the US military presence in the Indian Ocean was “quite comparable” to that of France at this time,<sup>81</sup> and the US military presence was described as “modest” and “certainly not the biggest”,<sup>82</sup> the place of the US as the natural “peacekeeper” in the Indian Ocean is never questioned at all

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<sup>80</sup> *Proposed Expansion of US Military Facilities in the Indian Ocean*. Tuesday March 12 1974 p.93

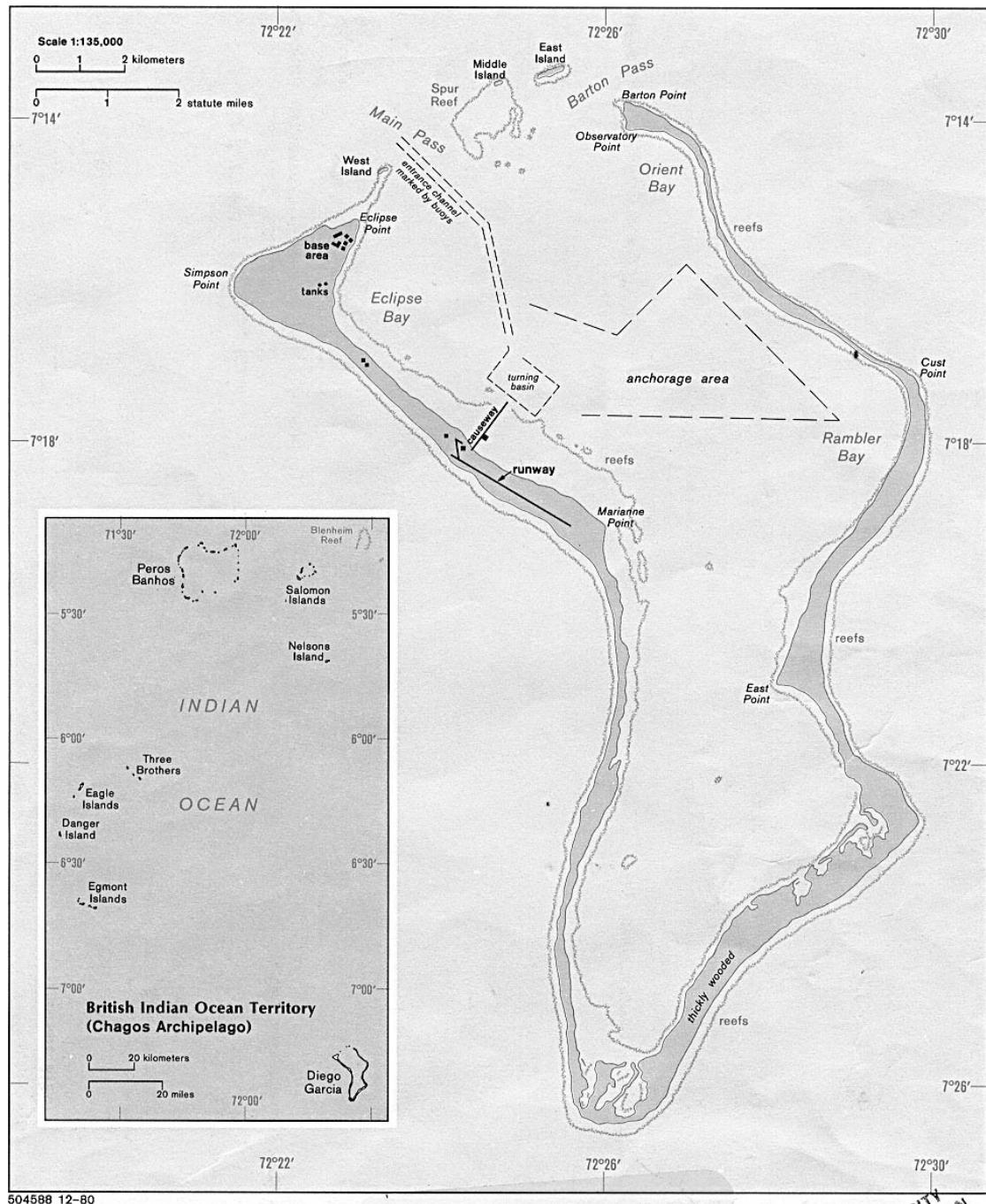
<sup>81</sup> J Owen Zurhellen, Director US Arms control and Disarmament Agency submission to *Proposed Expansion of US Military Facilities in the Indian Ocean*. Tuesday February 21 1974, p.12

Figure 6: 1980 map of Diego Garcia Island showing the improved US military installations<sup>83</sup>

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<sup>82</sup> J Owen Zurhellen, submission to *Proposed Expansion of US Military Facilities in the Indian Ocean*. Tuesday February 21 1974, p.18

<sup>83</sup>



The 1974 US Congressional Hearings for the proposed expansion of the US military facility on the British-owned Indian Ocean Island of Diego Garcia make clear to Congress both the potential use and the necessity of the Omega system for the US military planners. A statement submitted to Congress by General La Rocque provides a map which outlines the areas to be covered by the Omega system. Although the word “Omega” is

never explicitly stated, the map shows areas already covered by Loran-C (the North Atlantic and North Pacific) and the rest of the shaded areas could only have been covered by the Omega system at this time. La Rocque submitted the following: its particular mention of submarine communications facilities strongly suggests that he is referring to the Omega system here.

The necessary first prerequisite for the development of an expanded US naval presence in the Indian Ocean was the existence of a series of radio and communications facilities to handle the anticipated increase in naval traffic. ... These communications facilities have also fulfilled the function of making possible periodic patrols of Polaris and Poseidon submarines in the Indian Ocean.<sup>84</sup>

Thus it seems plausible that the Omega antenna which was built in Réunion Island and conceived in the USA also played a part in a larger drama of dispossession and US occupation for the Chagos Islanders in the Indian Ocean, and for the US military base at Diego Garcia. In contemporary press reports about the US expansion of Diego Garcia military facilities, *JIR* journalists in Réunion Island made no connections between the role of the US Navy and the role of their own island in making the expansion of Diego Garcia more effective, through the existence of the Omega system.<sup>85</sup> Houbert has tracked the fortunes of Diego Garcia from the Second World War to the 1990s, and comments that contemporary Diego Garcia “is not an ‘austere communication station’ as the Pentagon in order to mollify Congress [stated in 1974], but the major naval and air base of the USA in the Indian Ocean.”<sup>86</sup> Although it is easy to track the fate of Diego Garcia in governmental reports, the infrastructural role of Omega is never explicitly mentioned in Congress debates nor does it appear in French Parliamentary discussions about military budgets, and France does not appear as a significant factor in any US policy decisions regarding the

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<sup>84</sup> *Proposed Expansion of US Military Facilities in the Indian Ocean. Hearings from the subcommittee on the Near East and South Asia of the committee of foreign affairs. House of Representatives 93<sup>rd</sup> Congress 2<sup>nd</sup> session February-March 1974 Thursday March 14 1974*, p.92

<sup>85</sup> ADR 1PER94/58 *JIR* 15 March 1974

<sup>86</sup> Houbert, ‘Creolisation and Decolonisation’ p.160

Indian Ocean. This seeming erasure is accounted for by Edwards, who proposes that studying infrastructure can invoke “possibilities of extension in time, space and technological linking that go beyond individual systems.”<sup>87</sup> In this way, studying the infrastructure of the Omega system can help to link several different historical threads which in fact are intertwined, though in many people’s eyes can only be seen in their separate strands.

However this was not the understanding that Réunion Islanders had of the process. Whilst it expressed the growing scope of US power, the tower was understood locally as a sign of French high technology. The Omega antenna was known as Réunion’s ‘Eiffel Tower’, and people wept when the tower was finally taken down, few islanders ever knowing that it came from the USA. In Réunion the tower stood mute to the US influence on the Island. Réunion Islanders were generally unaware of the link between the antenna and wider US politics in the Indian Ocean, in particular the military expansion on the central Indian Ocean island of Diego Garcia. Even though the tower was paid for by the US government and the system was invented at Harvard University in the USA, for Réunion Islanders the tower only signified a growing French military presence in Réunion as the station was manned by the French Navy, and another sign of the French national project to modernize Réunion’s infrastructure.

The negotiations between France and the US about the location of the Omega tower reflected the political ambitions and international statuses of the two countries. The antenna was one more locus for playing out the meanings and ambitions of each country’s respective influence in both Indian Ocean and world politics. In the international context, France wanted to present a political face of national sovereignty to the international

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<sup>87</sup> Edwards, Paul. ‘Infrastructure and modernity: force time and social organization in the history of sociotechnical systems’ In *Modernity and technology* (ed) Thomas J Misa, Philip Brey and Andrew Feenberg

community. The country withdrew from NATO shortly before agreements were reached with the US about the Omega antenna; France also fiercely protected its rights as one of the only countries allowed to have nuclear weapons.

On the other hand, the United States military was concerned with being able to use submarines in the Indian Ocean region. Ostensibly this was in order to track Soviet naval movements, but it also included a military plan to use sea power to deter possible invasions of the Middle East and South Asia by China or the USSR...<sup>88</sup> This plan included enlarging the military base in the island of Diego Garcia in order to use it as a base for surveying the Indian Ocean area and increase US presence there. In the military view presented to the US Congress, the Omega system was one more part of military infrastructure for the United States and hardly relevant once the diplomatic agreements had been made. Similarly, France and her international standing was not a concern in US decisions about Omega, and Réunion Island was never mentioned.

From the point of view of the US radio navigation scientists, the developers of the Omega technology, the world was just not the correct geometrical shape for an equal distribution of eight transmission antennae over northern and southern hemispheres. When the research scientists did suggest places to put the tower, they were perturbed by US diplomat's negative responses. The technological story of the Omega tower's creation is also revealing about the antenna's use for nuclear ballistic submarines and hunter-killer submarines, which impacted both the French use of the system, the US presence in the Indian Ocean and ultimately the reason an antenna was put up in Réunion Island.

Juxtaposing these multiple viewpoints and understanding the way in which, at the

Cambridge MA: MIT Press, 2002 pp185-225,

<sup>88</sup> Houbert, Jean. 'Creolisation and Decolonisation in the Changing Geopolitics of the Indian Ocean' In de Silva Jayasuria, Shihan and Richard Pankhurst, (eds) *The African Diaspora in the Indian Ocean*, Africa World Press, 2003 p.155

same time, the Omega antenna symbolized different politics to different people is an important way of understanding new processes of colonization during a period of French and British decolonization. Studying the Omega system in the Indian Ocean can tell us both what purposes the infrastructure served for the French, United States and Réunion Islanders, and also how this system links with other technologies during this period. The same Réunion Island Omega antenna and radio navigation system, when examined from different actors' viewpoints is silenced, reduced, recalibrated in its every manifestation; whether in various technological uses, in political discourses, and its presence in the lives of Réunion Islanders. The different ways to understand the multiple roles of Omega antenna are also linked to the seemingly hidden or naturalized nature of technological infrastructure and to the uses of geographically distant places in 'old' and 'new' colonial ideologies.