Received wisdom, reinforced by the catastrophic failure of 1940, suggests that the French lacked enthusiasm and capability in developing the technological and strategic use of the tank. Yet it is often overlooked that during the course of the Great War the French produced more tanks than anyone else. By November 1918, the French army could count around 4,000 machines, including 3,187 Renault FT-17, 400 Schneider, 400 St. Chamond and 100 British Mark V tanks.\(^1\) By contrast, British production of all tank types during the entire war was only 2,818.\(^2\) As Eugenia Kiesling affirms, ‘France finished World War I with the world’s largest supply of tanks (Renault FTs) and no doubt at all that tanks… would play a role in any future war’.\(^3\) Similarly, studies focused on the Battle of France dispel the myth that German victory was simply a case of a better armed, better prepared opponent vanquishing its opposite.\(^4\) As May affirms: ‘France and its allies turn out to have been better equipped for war than was Germany, with more trained men, more guns, more and better tanks, more bombers and fighters’.\(^5\) Though ultimately tragic in its denouement, the French relationship with armour was a complex affair, and it cannot be said that the military did not invest time and effort on the matter.

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1. R. Doughty, *The Seeds of Disaster: The Development of French Army Doctrine 1919-1939* (Hamden, Connecticut, 1985), p. 136. I would like to thank Prof. Hew Strachan for his supervision on this project, Dr Adrian Gregory and Dr Pierre Purseigle for their ongoing support, and Bruce Gudmundsson for providing me with some excellent materials on the subject of armour, which were extremely useful during my research.
5. May, *Strange Victory*, pp. 5-6
The studies of French inter-war doctrine currently available provide ample illustration of such efforts. Robert Doughty’s *The Seeds of Disaster* makes clear that lively debate representing a full range of opinions occurred over the period, and underlines the efforts made by proponents of armoured warfare such as Eugène Debeney and Jean-Baptiste Estienne to endorse a suitable use for the machine. Ultimately, however, Doughty is drawn to an assessment that ‘the French army willingly chose to remain tied to the previous doctrine and to build any new concepts on the foundation of the old’. The increasingly dogmatic approach to doctrine which solidified gradually from the late 1920s, meant that by the 1930s French doctrine ‘was not so modern as it might have been’. In a more recent reassessment, Kiesling has provided heavy criticism of Doughty’s conclusions. Taking issue with the abstract concept of ‘modernity’ in military policy, Kiesling has argued that military planners do not draw up plans to fit abstract notions of how future wars will be fought: doctrine is less ‘a set of intellectual choices’ than ‘an adaptation to the requirements of the French army’s basic organization and training’, and therefore the roots of French difficulties are found ‘not in doctrine itself but in the structures behind it’. Practical constraints underlined the relationship between the army and the politics of the Third Republic, and in so doing show that assessing military actions in terms of intellectual choice alone is misleading. Kiesling’s work places military thinking in a more rational and forward-moving process of development, which goes some way to avoid the pitfall of assessing French doctrine from the vantage point of 1940: the more emphasis is placed on the ‘right’ and ‘wrong’ strategy for 1940, the more we lose sight of the complexity of the parameters under which the military had to move in the previous two decades.

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6 Doughty, *Seeds of Disaster*, p. 11, 181
7 E. Kiesling, *Arming Against Hitler*, p. 6
Some comprehensive studies of inter-war doctrine are wont to focus on the 1930s at the expense of the previous decade: Kiesling dismisses the pace of armour development in the 1920s as ‘glacial’. In material terms this was certainly true, since new prototype tank models did not appear until 1929. Others, however, have sought to demonstrate that the decade was marked by activity with regard to the tank, despite the lack of technological advancement. Jeffrey Johnstone Clarke’s ‘Military Technology in Republican France: The Evolution of the French Armored Force, 1917-1940’ traces the development of the tank from its origins in the First World War through to the Battle of France in 1940. Examining in depth the creation of France’s initial tank models during the former conflict, Clarke also follows the post-war discussions and developments over the command structure of the new weapon and how it could best be employed in battle, debates which could be seen played out on the pages of the military periodicals. Similarly, Ladislas Mysrowicz’s Autopsie d’une défaite. Origines de l’effondrement militaire français de 1940 examines officer writings in military periodicals to show how the army reflected upon its early experiences with armour during the 1920s.

The aim of this essay is to show that despite the dearth of up-to-date technology available to the army, during the 1920s military thought on the use of the tank was not stagnant. Within the pages of published military periodicals in particular, enthusiastic officers could air their ideas, exploring the possibilities of the new war weapon and reflecting on its early uses during the First World War. Moreover, the Rif war in Morocco and counter-insurgency

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8 Ibid, p. 149
9 Ibid, pp. 152-3
11 L. Mysyromicz, Autopsie d’une défaite: Origines de l’effondrement militaire français de 1940 (Lausanne, 1973), particularly pp. 9-40, 101-152. For details on the French army’s exercises with mechanization during the 1920s see also Colonel F-A. Paoli’s series L’Armée Française de 1919 à 1939 : Vol.1 La Reconversion de l’Armée Française en 1919 ; Vol.2 La Phase de Fermeté : l’Armée Française de 1920 à 1924 ; Vol.3 Le Temps des Compromis : l’Armée Française de 1924 à 1930 (Vincennes, 1974)
operations against the Druze in the mid-1920s offered the prospect of new practical experiences with the arm in a colonial context, which provided these writers with further food for thought. There may have existed a surplus of Renault light tanks throughout the period, which were becoming increasingly outmoded, but the lack of up-to-date tank technology was not unique to France, and in any case the French still led the field in tank technology during the 1920s. Such a situation simply had to be worked within, or around, and its existence need not necessarily have impinged on the potential for the progress of military thought.

I

After the Conseil Supérieur de la Guerre was re-established by presidential decree on 23 January 1920 its vice-president, Marshal Phillipe Pétain, was charged by the French government with preparing the army for a future war. Along with his colleagues of the Great War, Edmond Buat and Eugène-Marie Debeney, who would serve as chiefs of the general staff between 1920-23 and 1923-30 respectively, Pétain set out to assess the impact that the war and its technology would have on the future of French doctrine. Pétain’s conclusions were codified in the Instruction Provisoire sur l’Emploi Tactique des Grandes Unités du 6 Octobre 1921, which was to serve as the most important source of military doctrine within the army until the publication of the Instruction sur l’Emploi Tactique des Grandes Unités in 1936.

The publication of the Instruction marked a radical departure from the emphasis on the offensive à outrance propounded in the pre-war regulations published on 28 October 1913.

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13 Doughty, Seeds of Disaster, p. 9
14 Ibid, p. 9
The salient lesson of the Great War for the French commanders was that ‘firepower has established itself as overwhelming’. New technology had made the battlefield more deadly than ever before, but more importantly it was perceived to have swung mastery of the battlefield in favour of the defender. As a result offensive operations were now seen to require minute management, as the manual states:

Even in operations of movement, the use of automatic weapons and of artillery of all ranges permits the defender to establish far reaching lines of continuous fire, which can only be pierced by organized attacks; the initial contact by the assailant and reconnaissance of the positions where the defender has prepared his principal resistance thus become very laborious.

Any attack would require a significant advance preparation period in which the necessary matériel would be gathered and readied for action. The Instruction demonstrated the devastating impact that the human cost of the battlefields of the First World War had had on the French view of warfare, although it would be misleading to suggest that its influence had oriented the military wholly towards the defensive. Rather, the experience of the dangers of modern firepower had induced a certain caution towards the offensive, but not its rejection. The conception of the modern offensive followed the pattern of la bataille conduite (the methodical battle) which had emerged in 1918 as a successful means to conduct the war of movement. The 1921 regulations formalized the flow of the methodical battle, describing it as a series of successive actions, starting with preparation, consisting of moving men and matériel, then contact with the enemy, followed by reorganization. The bataille conduite relied on efficient organization and communications for its success, and if well executed its progress could be rapid. Yet since a unit was only

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15 Instruction Provisoire sur l’Emploi Tactique des Grandes Unités du 6 octobre 1921 (Paris, 1921), p. 10
16 Ibid, pp. 10-12
17 Doughty, Seeds of Disaster, p. 10
permitted to move when clearly informed about conditions to its front and in conjunction with the units on both flanks, any loss of contact with reconnaissance parties or nearby formations meant that ‘the whole machine would grind to a halt.’ The concept of *la bataille conduite* was thus very much in keeping with a strategy that would develop into the concept of a ‘two-stage war’ by the 1930s. French military strategy was not ‘defensive’ but not ‘offensive’ either, rather ‘theirs was that of “la stratégie defensive-offensive”’. The methodical battle showed a similar awareness: the essential offensive would be undertaken, but only once the necessary men and materiel had been amassed, and the enemy’s defences seriously softened up.

The French experience with armour during the First World War had proved that tanks would be a key weapon of the future, and that they could be used effectively within the tight prescription of the methodical battle, despite their early failings. The first deployment of tanks by the French occurred on 16 April 1917, on the Chemin des Dames, and proved to be a total failure. Using heavy Schneider and Saint-Chamond models, many of the tanks broke down before the attack had even begun, with a number of others bursting into flames on the battlefield. The Schneider tank, owing to the vulnerability of its fuel tank and insufficient ventilation, was particularly susceptible. Such an inauspicious start did not prevent the French command from recognising the worth of the new weapon, even if the heavy tank models had proved a disappointment and seemed outmoded by the time they

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18 Kiesling, *Arming Against Hitler*, p. 142
reached the battlefield. Early experiences, however, had illuminated the advantages that lighter and more mobile tanks would have over the heavier Schneider and St. Chamond models. Fortunately Jean-Baptiste Estienne, the army’s foremost proponent of the new weapon, had already been working on a new light tank model for infantry accompaniment, which could provide support with 37mm cannon and machine guns. The prototype of the Renault FT was demonstrated in October 1916, and by the end of May 1917 the war ministry had taken delivery of one thousand specimens. Whereas the earlier models had proved cumbersome and often found rough terrain difficult to cross, the Renault FT proved adept and also offered a more manageable means of infantry accompaniment. Moreover, constraints on French industry meant that the production of expensive Schneider and Saint Chamond tanks was sluggish: by contrast, the cheaper FT could be quickly assembled, and the war ministry’s orders more easily filled. Renault went on producing their tanks at a phenomenal rate, so that during the 1920s the French army was equipped with 3,500 such models, and little else besides.

The lessons of their early failures having been learned, subsequent tank deployments during the Great War were increasingly successful. By the end of 1917 it was clear that even such unreliable tanks as the Schneider and Saint Chamond could be of great use. On 23 October 1917 French tank forces managed to knock the Germans off the ridge at Malmaison on the Chemin des Dames; and this despite the fact that of the sixty-three tanks deployed, twenty-

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22 Ibid, p. 500
24 Greenhalgh, ‘Technology Development in Coalition’, p. 816
25 Gaudibert, ‘Les chars de combat français’, Revue d’Infanterie, p. 27
27 Kiesling, Arming Against Hitler, p. 149
seven failed to reach the French first line, fifteen broke down at the German first line, and only twenty-one played a useful role in the attack. On the two flanks, the tanks were able to negotiate the rough terrain and provide support to the infantry in the pursuit of their first objective, and then cover them whilst they installed themselves on the ridge. Meanwhile in the centre of the battlefield, the tanks easily cleared the area first taken by the infantry and helped them to put enemy machine-gunners and artillerymen to flight.

By 1918 tanks were playing a key role in the return to the war of movement, greatly aided by the proliferation of the Renault FT, which was more naturally suited to missions requiring tight infantry-armour co-operation and was less prone to mechanical failure. In some cases, such as the attack in the Champagne area on 15 July, they opened the offensive instead of an artillery bombardment, advancing ahead of the infantry to neutralise machine-gun posts and open up gaps through enemy barbed wire.

From the vantage point of 1920-1921, it was clear that tanks and infantry benefited from some degree of ‘natural affinity’. As Kiesling states: ‘Advancing together, the tanks could provide immediate fire support against the enemy strong-points in return for the infantry’s assistance in locating and destroying anti-tank weapons’. The success of the tank in 1918 had demonstrated its capacity to fit into the methodical battle and thus form an integral part of the doctrinal legacy of the First World War in the French military. Indeed, to many the tank was considered solely as an infantry support device, and such chars d’accompagnement were viewed as ‘nothing more than a mechanized, armoured appendage of the infantry’.

Certainly, the 1921 Instruction presented the tank as an infantry appendage, rather than a

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29 P. le Goyet, ‘Les Chars de combat de la Première Guerre Mondiale’, p.128
30 Ibid, p. 134
machine which could also operate in its own right, stating: ‘Intended to increase the offensive power of the infantry by facilitating its progression in combat, they constitute a kind of armoured infantry capable of playing a part in various stages of the battle, from initial contact to exploitation’. If the French army seemed reluctant to consider the broader possibilities of the machine, it should be remembered that the weapon was still in its early form at this stage and that, moreover, the army lacked any experience of it outside trench warfare.

II

If the official tone of inter-war French doctrine had been set by the early 1920s, this did not preclude the capacity for divergent opinions within the canon of military thought: military journals of the period offered scope for officers to consider the use of the tank on a broader canvas. The Revue Militaire Française, formed in 1921 through the fusion of the three major journals which existed prior to the Great War, was the chief opinion maker in military circles, and journals were also published for each of the various service arms. Of these, the Revue d'Infanterie was particularly prominent in publishing articles on the use of the tank, chiefly because responsibility for the command of the arm was passed from the artillery to the infantry in May 1920. The majority of authors who published in such journals came from the intermediate ranks, many of whom had studied at the staff colleges, served in the general staff, or in the military administration. Their articles were designed to inform and support their fellow officers, particularly those working within military establishments. At once allied to the French military establishment but not subject to the harshest of

33 Instruction Provisoire, p. 24
34 T. Baumann and D. Segesser, ‘Shadows of Total War’, p. 198
35 Service Historique de l’Armée de Terre, carton 9N147, Decret du 13 mai 1920 – Création de la Section des Chars de combat
censorship, such writings were not forced to toe the official line, but similarly were unlikely to represent ideas so wildly outside the military mainstream as to be unrepresentative. In short, they were designed to help the army think about war and aspects of warfare. If doctrine guided standard practice, thinking about the use of the tank did not have to be so heavily bound.

Kiesling contends that doctrinal change in the French army required discussion and that, because discussion hinted at uncertainty, ‘debate could be, and was, publicly discouraged’. True enough, the heretical belief in mass mechanization propounded by de Gaulle by the 1930s led to his ostracism from military circles, but this accusation does not seem to hold up so well for the period 1920-1928 when the nature of French doctrine was at an earlier stage of mutating towards rigidity. Moreover, there was a strong preponderance of technophiles amongst the authors of military journal articles in the 1920s, such as Charles Chédeville, Joseph-Aimé Doumenc, Pol-Maurice Velpry, Darius-Paul Bloch, Marie-Camille Pigeaud and Jean Perré: all of whom were keen to study the capabilities of the tank. These officers were proponents of the ideas of Jean-Baptiste Estienne, ‘père des chars’, who had proposed that the tanks be employed *en masse* and independently of other arms. It was true that Estienne’s followers became less influential after his retirement in 1923, but two of them, Pigeaud and

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36 Baumann and Segesser, ‘Shadows of Total War’, pp. 198-9
37 Indeed, Clarke has written that the ‘the first half of the 1920s might be termed “the battle of the revues” during which rival camps argued over the best use of the arm’. Clarke, ‘Military Technology in Republican France’, p. 60
38 Kiesling, *Arming Against Hitler*, p. 118
39 Brian Bond and Martin Alexander have written that ‘The conference chambers of the Ecole de Guerre and the training grounds of Coetquidan, Mailly, and Mourmelin were alive in the 1920s to the sound of the theory and practice of mobile experimentation’. By the mid-1920s, however, peacetime reductions in military budgets had a knock-on effect for costly mechanized experimentation, which was also considered at odds with France’s overall defensive strategy. The ascendancy of Pétain and Debeney over military policy and thought meant that by the period 1927-1930 ‘military thought froze in a temporary ice age of the mind’ before experiencing resurgence under Generals Weygand and Gamelin in the 1930s. See, B. Bond and M. Alexander, ‘Liddell Hart and De Gaulle: The Doctrines of Limited Liability and Mobile Defense’ in P. Paret (ed.) *Makers of Modern Strategy: from Machiavelli to the Nuclear Age* (Oxford, 1986), pp. 598-623, especially pp. 602-605, 606-610
40 Baumann and Segesser, ‘Shadows of Total War’, p. 217. For an examination of the writings of these officers see Clarke, ‘Military Technology in Republican France’, pp. 47-8, 60-66
Perré, acted as successive heads of the tank department, within the infantry office, until 1928.\textsuperscript{41}

Military journal articles afforded a different kind of opportunity to reflect on experiences and project lessons on to the future. The Instruction Provisoire of 1921 was the product of the experience of the Great War: a fixed codification of the lessons of the war. Regarding the tank, the Instruction cast its role in keeping with the experience of trench warfare. In the military journals however, officer authors would have the possibility to reflect on the subsequent use of the tank in the post-war world. France returned to a peacetime footing in the 1920s, but this did not mean that the nation was without military commitments.

One of the first such instances occurred even before the decade had begun. At the end of 1919, the Haller army, consisting of Polish forces part-trained by the French and including the 1\textsuperscript{st} Polish Tank Regiment, was sent to Lodz to participate in the Russo-Polish conflict. The 120 Renault FT tanks which comprised the new regiment were hardly new: as part of the 505\textsuperscript{th} Regiment they had previously seen service as part of the attacks on Saint-Mihiel and Montfaucon in September 1918, and since that time had only been partially serviced.\textsuperscript{42}

Without any replacement vehicles, with few of the required spare parts, and operating, moreover, in a country that could not provide such necessities of its own accord, the experience in Poland afforded the French an opportunity to assess the machine’s durability. As Perré noted:

\begin{quote}
The regiment... will receive no aid from France for two years. The experience is thus particularly interesting, because it will take place in isolation \textit{[« en vase clos}}
\end{quote}

\textsuperscript{41} Ibid, pp. 217-18
It will allow us to assess the degree of resistance of the 120 tanks thrown thus, like lost children, into the middle of Eastern Europe. 43

The results were very encouraging. By May 1921, the 1st Polish Regiment, having been exposed during numerous actions, could boast 100 machines still in working condition. Of the remaining twenty, eight were either destroyed by shells or burnt by their own crews so as not to let them fall into enemy hands; a further 12 badly damaged tanks were disassembled in order to provide the essential parts which would keep other machines in the unit in service. By ‘living on its own flesh’, the regiment had found a means to keep its bulk operable. 44 Events in Poland had proved that the FT could withstand prolonged combat conditions. Moreover, from Perré’s vantage point in 1928 it was clear that the Polish case was not exceptional: Syria and Morocco provided further evidence.

Under the terms of the Paris peace settlement of 1919 Syria and Lebanon were turned over to France as a League of Nations mandate, to be administered as the French Levant under the control of a French High Commissioner. Whilst the mandate satisfied Franco-British desires expressed in the Sykes-Picot agreement of May 1916, the Syrian National Congress of June 1919 rejected all political control by foreigners, and on the 8 March 1920 Emir Faisal was declared King of an independent Syria. His refusal to submit to French authority in the mandate meant that the French military was immediately engaged in forcing Faisal’s subjugation. 45 In January 1920 a battalion of the 502nd regiment, composed of three companies of 17 tanks, was sent to the Levant, to be completed shortly afterwards by the arrival of a fourth company as well as 20 Renault tractors, 12 tanks armed with 75 B.S guns,

43 Ibid, pp. 125-6
44 Ibid, p. 128
45 J.K. Tannenbaum, General Maurice Sarrail 1856-1929: The French Army and Left-Wing Politics (Chapel Hill NC, 1974), pp. 185-190
and six replacement tanks. The companies participated actively in the fighting on the northern front from Abana to Aïn-Tab, as well as to the east around Damascus, providing essential support to the soldiers stationed there, until the situation abated at the end of 1921, at which point the army began to effect a gradual withdrawal of its forces.\(^{46}\)

The year 1925, however, saw the beginning of a two-year long uprising by the inhabitants of the Jabal al Druze against French rule, which was to spread throughout most of the mandate. A 1921 agreement had granted the fifty-thousand people of the Jabal al Druze recognition as an independent state with its own native governor and representative council, in return for recognition of the French mandate, acceptance of French military advisers, and permission to garrison French troops at the Druze capital of Suwayda. Following the death of the native governor in 1923 the Druze representative council, unable to agree upon a native successor, appointed the French Captain Carbillet instead. Subsequent attempts on the part of Carbillet to transform the feudal Druze society resulted in the deterioration of relations, which erupted into open revolt in July 1925.\(^{47}\) In response to the uprising, the French deployed a company provided by the 502\(^{nd}\) tank regiment on 9 September, followed by another company provided by the 501\(^{st}\) tank regiment on 28 November, and a third company from the 61\(^{st}\) tank battalion, which reached Beirut in 1926.\(^{48}\) Whereas in 1920, as in Poland, tanks were used to confront easily identifiable military formations, the situation in Syria in 1925 offered a very different setting, and thus new challenges for the use of the tank.

As Besse explained:

\(^{46}\) Lieutenant-Colonel Besse, ‘Les Chars de combat au Levant’, Revue d’Infanterie, Vol.71, No.419 (August 1927), pp. 149-150


\(^{48}\) Besse, ‘Les Chars de combat au Levant’, pp. 149-150
In 1925-1926 the French army of Levant had to face up to ‘bands’ which were very mobile, very aggressive, and particularly persistent, moving in small packs on an extremely wide front.

In 1920-1921, our troops were engaged only on the periphery. There was a front and a rear. In 1925-1926, the French army of Levant was engaged all over the territory. It was less an external war than a revolt, which is general. Here was a new and important element for the deployment of tanks, whereby the infantry required support everywhere.49

Such conditions meant that tank companies were not always compelled to fight in the countryside, but that they also operated in an urban setting. General Vallier, commander of the troops in the Damascus region, reported that in the urban scenario the tanks at his disposal were used in a number of different ways. In the first instance, actions were undertaken in liaison with other arms. Such actions included operating with skirmishers, accompanying and preceding the infantry; providing cover beyond the fortified belt in Damascus to open up the route to the exterior for the troops; and providing cover on one or two flanks of a column following a fixed route. In the second instance, and in a manner quite different from the experience of the Great War, tanks could also operate in isolation. Such actions included: providing cover and protection for non-escorted convoys of lorries by patrolling on a large circular route; ‘cleaning up’ certain areas or certain routes (particularly around the Goutha forest area); and policing the interior of the city or suburbs occupied by the rebels.50

Tank sections played a key role in numerous actions in and around Damascus. Between 17 and 20 October, a company of 21 tanks was instrumental in suppressing a riot of around 1,000 to 1,500 rebels in the Souks of the Meidan quarter, operating both with and without infantry support. On 18 October a group of rebels attempted to encircle a tank section: the

49 Ibid, pp. 152-3
50 Ibid, pp. 153-6
tanks responded with machine-gun fire, which had the immediate effect of stopping the assailants and moreover sent them fleeing in all directions, seeking safety in nearby houses. Two days later the 4th section, supported by a Senegalese section, received orders to free up troops blocked into the Azem palace, which they achieved with great success:

Firing continually and neutralizing the rebels who were trying in vain to stop the detachment, the tanks could accomplish their mission, to bring back the garrison from the Azem palace and avoid the losses that the infantry would have undeniably suffered without their support.

The section then moved to join two sections attempting to suppress the penetration of the riots into the Christian quarter. By the evening of the 20th, open revolt had been halted and order restored.\(^51\)

Operations in which tanks worked independently proved equally successful. General Maurice Gamelin, supreme commander of the armies in Levant, noted on 23 January 1926 that tanks operating in sections of three and patrolling the streets without infantry support could have a significant moral effect on the local population and the enemy. For example, on 19 January 1926, warning fire from two tank sections patrolling between Beit-Saham and Babila caused the retreat of a group of horsemen who had open fire on them.\(^52\)

French involvement in Morocco offered many similarities to the situation in Syria. As in the Middle East, so too in North Africa the French had initially stationed a smaller force at the beginning of the decade: the 337th tank company was sent to Morocco on 16 July 1920

\(^{51}\) Ibid, pp. 156-8  
\(^{52}\) Ibid, pp. 159-161. Gamelin was sent to Beirut in September 1925 to replace General Roger Michaud after the French suffered a number of embarrassing military setbacks. Although pacification operations lasted until 1928, Gamelin’s successes resulted in his rapid promotion to commander-in-chief of the French Levant, at the expense of Sarrail, who was recalled to France on 30 October 1925. See M. Alexander, *The Republic in Danger: General Maurice Gamelin and the politics of French defence, 1933-40* (Cambridge, 1992), pp. 22-23. Tannenbaum, *General Maurice Sarrail*, pp. 203-4
before being called home in March 1922. As one soldier pointed out, the experience with small units in Morocco over the period 1919-1922, as well as in neighbouring Algeria, provided a useful base for considering the challenge of the Rif wars of 1925, making it easier to constitute light units which were flexible in action, offered sufficient offensive power, and were capable of sustaining themselves over the course of several days of active operations.\(^{53}\)

The learning curve may have been more akin to trial and error, as Goubenard notes: ‘Used for second rate jobs, often driving for no real reason, having no organized grades, the organized tank companies’ equipment was rapidly put out of use without corresponding benefits’.\(^{54}\) In 1925, with the outbreak of the Rif Wars, the 517th tank regiment was created in Morocco from two battalions of three companies sent over from France.\(^{55}\) Where the French in Syria had faced mobile and aggressive \textit{bandes}, so too in Morocco the nature of the conflict offered few situations in which the army could hope to confront a conventional military force. As Goubenard remarked, according to company commanders, out of 21 major engagements the tank commanders actually saw the enemy on only five or six occasions.\(^{56}\) This was guerrilla warfare, in which the Rif forces under Abd El-Krim were unlikely to confront the French face-to-face. As a contemporary American observer commented:

> the Moors simply will not fight until Nature herself has stopped the advance. Then, and only then, they show their teeth, harassing, sniping, attacking supply columns; always on the alert to take advantage of any and every opportunity to make the most of any local, minor success to inflict loss on their enemy.’\(^{57}\)

\(^{53}\) Anon, ‘Les chars de combat au Maroc’, \textit{Revue Militaire Française}, No.54 (December 1925), pp. 398-400


\(^{55}\) Ibid, pp. 621-2


Indeed, the geography of Morocco provided significant topological obstacles to the free use of the tank, in a manner quite distinct from Syria or even on the battlefields of the Western Front. Goubenard described the Moroccan landscape as ‘wrinkled like an old apple’ (‘ridé comme une vielle pomme’): cut-up, rocky, offering numerous shelters and hiding-holes, with mountain ranges rising to 1,800 metres and ravines dropping down to 800 metres. During the rainy season, which began in October and lasted for five or six months, any operation was impossible.\textsuperscript{58} In short, it provided the perfect setting for guerrilla warfare, and conversely limited the operational reach of the tanks at the army’s disposal. Furthermore, the shortcomings of the old Renault FT were exposed by such geographical obstacles. It was ‘a device that is slow, difficult to drive, which works sometimes, but breaks down more often; in any case, absolutely incapable of moving around in mountainous regions’, and the Moroccan soldiers had little faith in it.\textsuperscript{59} In most cases, topographical considerations meant that forces could often only be employed in valleys surrounded by mountainous foothills, where supply lines were limited, making progress slow.\textsuperscript{60}

In spite of these obstacles, tank operations in Morocco proved to be largely successful. In terms of simple durability, Perré observed that during the campaign of 1925, the Renault FT habitually managed 15 to 20 kilometres a day on its own caterpillar tracks. The achievements of tanks in Morocco, in sustaining themselves on the road over long periods of time (fig.1), led the commander of tanks in Morocco to the assessment that ‘During the 1926 campaign in Morocco, the old Renault tanks once again demonstrated that they had been

\textsuperscript{58} Goubenard, ‘Les chars de combat au Maroc en 1925’, p. 625
\textsuperscript{59} Ibid, p. 621
\textsuperscript{60} Ibid, p. 631
In terms of the range of operations performed, the Moroccan campaign was also similar to experiences in Syria. Tanks were employed in a variety of different ways, which included providing direct support to the infantry in combat situations, acting as an advance guard or protecting flanks, patrolling, protecting supply missions to outposts and garrison changeovers, executing supply missions, transporting the wounded and bringing in the dead.\footnote{Perré, ‘Le Char Renault F.T. et les marches sur chenilles’, pp. 129-130. Clarke, ‘Military Technology in Republican France’, pp. 73-5 Clarke concurs that the sustainability of the Renault FT in the field was one of the biggest surprises of the campaign.}

Perhaps the most famous example of tank usage in Morocco was their role in the relief of the blockhouse at Bou Ganous on 26 September 1925. Located several kilometres to the north of Ouezzan, communications at Bou Ganous and its neighbouring outposts had been cut. The route to the blockhouse was a treacherous one, requiring a ‘vériable expedition militaire’ and had cost the army dearly during previous relief actions. Moreover the outpost itself was flanked by high ground to the east around the village of Hamar, the summit of which was known as Hill 505, and to the west by a number of ravines: terrain from which the Rif forces could easily harass the French. Thus the French command resolved to clear out the area once and for all and establish a larger post with a number of neighbouring

\begin{tabular}{ll}
1\textsuperscript{st} company & 98 \\
2\textsuperscript{nd} company & 63 \\
3\textsuperscript{rd} company & 57 \\
4\textsuperscript{th} company & 153 \\
5\textsuperscript{th} company & 159 \\
6\textsuperscript{th} company & 116 \\
\end{tabular}

strong-points, and devised a meticulous plan to this effect. On the day of the operation two tank companies accompanying the relieving force worked their way up the trail to Bou Ganous: to the right the first company swept through Hamas and up towards the summit of Hill 505, whilst to the left the second company worked its way towards the peak of Lalla Chakra, both companies clearing the area of enemy forces from the trenches which they had previously established on both flanks. The 2nd battalion commander’s report of 1 October 1925 praised the preparations for the operation, noting that everything went according to plan, with the tank sections setting out half an hour before the infantry and before daybreak, thus gaining ground on the enemy under cover of darkness and achieving an augmented degree of surprise. The result was that ‘The tanks were installed all around, in front of the dissidents’ mugs [‘gueules de terriers des dissidents’], where they were able to immobilize them all day long’.

The episode at Bou Ganous demonstrated that in spite of the physical conditions in the countryside, tanks could be used to great effect when part of a carefully planned operation. As Goubenard affirmed, such limitations meant that all operations undertaken by the tank companies had the same character: ‘these are offensives with limited objectives’. The offensive around the Sar-Sar massif provides another such example. Here, two tank companies, operating as part of a larger force of infantry and cavalry, took part in a planned encirclement of the massif which was begun on 2 August 1925, fighting their way through the nearby village of Djebel Azjene en route. The final suppression of the Rif forces atop the massif was only achieved ten days later, when the bulk of the enemy surrendered and the rest

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63 Anon, ‘Les chars de combat au Maroc’, p. 410
65 Anon, ‘Les chars de combat au Maroc’, p. 411-12
withdrew to the north. Nevertheless the operation had been a clear success, and allowed the French commanders to draw similar conclusions.67

Episodes in Poland, Syria and Morocco had provided ample opportunity to reflect on the use of the tank in situations unlike those with which the military had become most accustomed, and it was clear to the authors in the *Revue d'Infanterie* and the *Revue Militaire Française* that there were certain undeniable positives which could be taken from these instances. As already mentioned, Perré had observed that in both Poland and Morocco, the Great War surplus of Renault FTs had proved themselves surprisingly durable. His observations also extended to the use of the tank in Syria. Referring to Besse’s article of August 1927, Perré cited the extended action of the 5th Company, which provided the greatest service to operations there. Arriving at Beirut on the 5 September, the company was transported by rail to Damascus from where it was first employed in supporting a column advancing towards Djebel-Druze from 19 September. Rioting in Hama on 8 October, and in Damascus on the 17th, resulted in the company being split, with one section sent to Hama and two to Damascus. From October 1925 to July 1926 the two sections stationed in Damascus took part in more than eighty engagements around the town, and were involved almost daily in patrolling from 20 to 30 kilometres.68 In all three instances, it was apparent that the FT was a lot more robust than it was often given credit for. It was true that the extremes of geography in Morocco had enforced some limitations on the circumstances in which it could be employed, and it remained an outmoded model in the 1920s. Yet ‘outmoded’ did not mean that it was without use, and indeed the model was clearly used to good effect.

67 Ibid, pp. 634-43
68 Perré, ‘Le Char Renault F.T. et les marches sur chenilles’, p. 129
Experiences in the *outre-mer* had demonstrated that the tank was capable of performing a whole range of different tasks, both working with the support of other arms, and of its own accord. Moreover, episodes such as the operation on the Azem Palace in Syria and the relief of Bou Ganous had shown the capacity of the tank to help avoid unnecessary infantry losses. Indeed, Goubenard went so far as to suggest that in Morocco:

> The tank is, effectively and in all its glory, the ‘armoured foot soldier’ (« fantassin blindé »), which can pass through all terrain more or less with ease, traverse zones of death inaccessible to man, ignore physical fatigue and is without nerves. It is perfectly normal then, in all instances where it seemed possible, that one would have sought to substitute the ‘foot soldier of flesh and bone’ with the tank, his armoured comrade.\(^69\)

The idea of the *fantassin blindé* as a substitute for the ordinary soldier was in keeping with the most radical ideas on the use of the tank, such as those of Estienne, J.F.C Fuller in Britain, and later de Gaulle, but even its application on a lesser scale represented a logical attempt to circumvent in future wars the kind of extreme losses that had been seen in the last.

Yet for all the positive applications of the tank evinced by real experiences in the *outre-mer* during the 1920s, there remained significant barriers to linking such positive conclusions to possible experiences in the *métropole*. As one author explained in the Moroccan case:

> Should we make generalizations from the results of the experience in Morocco and modify the composition of tank units in the metropole in the same way? We do not believe so. It should indeed not be forgotten that tanks operated in Morocco under special conditions, taking as much account of the nature of the terrain and the road network as that of the enemy.\(^70\)

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\(^{69}\) Goubenard, ‘Les chars de combat au Maroc en 1925’, pp. 112-13  
\(^{70}\) Anon, ‘Les chars de combat au Maroc’, p. 414
In both the Moroccan and Syrian cases, writers were keen to emphasize the particularities of those situations over the possibilities that might be envisaged at home. The terrain encountered offered certain challenges to the use of the tank which have already been mentioned, and fighting against an enemy organized in a guerrilla fashion, which was out of keeping with traditional European military encounters, meant that the French were forced to consider how best to fight an enemy on an ‘elongated front’ which extended into urban centres as well as the countryside. To those writing on the subject, such differences in the physical nature of combat were of paramount importance. More importantly however, officers writing on experiences in Syria and Morocco were acutely aware that their opponents could not offer the same kind of firepower as a defence against them as their possible future European opponents (i.e. Germany). Such conclusions were particularly apparent in the Moroccan case. One officer noted that the tank section of three tanks proved itself to be a useful combat formation in Morocco because the enemy possessed only weak artillery and no anti-tank weaponry, and thus the only serious problem the tanks faced was that of mechanical failure.  

Goubenard was very much in agreement when he stated that the use of the tank in Morocco, employed in the manner which it was, was possible for one very important reason: ‘the complete absence of anti-tank devices.’ He continued,  

Until now, with only one exception, during the attack on the Issoual plateau, when forty un-aimed shells were fired on a tank section without causing them any damage; never have they had to deal with machines capable of doing them harm, cannons or high-calibre machine guns.  

The capacity of the European enemy to damage the tank became the overriding concern of writers on future war and the development of the machine. Indeed, it had been noted early  

71 Ibid, pp. 412-13  
72 Goubenard, ‘Les chars de combat au Maroc en 1925’, p. 115
on in the life-span of the tank that its offensive potency was matched by its defensive vulnerability: during the halt periods of the methodical battle, static tanks had shown themselves to be a magnet for enemy artillery fire.\textsuperscript{73}

As Doughty states, ‘one cannot overestimate the influence of the equipment remaining from World War I.’\textsuperscript{74} For writers of the 1920s the trusty Renault FT, which had been the model heavily involved in real experiences in the \textit{outre-mer}, also formed the basis for military thinking on the use of the tank in a future war in the \textit{métropole}. As evinced in the journals, foremost amongst their concerns was not the tactical use of the weapon so much as its technological development, and this concern was rooted in its defensive frailty, rather than its offensive potential. For if the operational range of the tank in its engagements in the \textit{outre-mer} had been greatly influenced by the absence of enemy anti-tank weaponry, any consideration of its role in a future war against Germany had to take into account the enemy’s capacity to defend against it.

Bloch made clear in his article ‘L’avenir du char de combat’ that the tank would face numerous means of defence against it on the battlefield of the future. Enemy tanks constituted one such force, whose presence he deemed should only strengthen resolve in the French military to have sufficient tanks to oppose them.\textsuperscript{75} He was supported in this sentiment by Gaudibert, who remarked, ‘Tanks will thus fight against tanks; it is through the tank that they will protect themselves most safely from the tanks of the enemy’.\textsuperscript{76} Another means of defence would come in the form of mines, which Bloch deemed ‘a formidable enemy’, though only of serious concern during periods of static warfare. It was the defensive capability of the infantry which Bloch saw as the foremost concern for the tank. Using their

\begin{thebibliography}{9}
\bibitem{73} Kiesling, “‘If It Ain’t Broke, Don’t Fix It’”, p. 217
\bibitem{74} Doughty, \textit{The Seeds of Disaster}, p. 137
\bibitem{75} Commandant D-P. Bloch, ‘L’avenir du char de combat’, \textit{Revue Militaire Française}, No. 7 (January 1922), p. 92
\bibitem{76} Gaudibert, ‘Les chars de combat français – étude technique’, p. 29
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weapons to fire soft bullets at the slits or the joints on a tank, or using armour-piercing bullets, the infantry would be capable of causing serious disruption to the advance of the tank. The strength of such weapons as a means to combat the tank was heightened furthermore because the infantry using them would be capable of easy manoeuvre. As Bloch states, “These weapons, which are easy to conceal, manoeuvre and carry, would certainly constitute a terrible enemy for the tank.”

Almost entirely free from such constraints in Syria and Morocco, the army could use the tank in a much bolder fashion, which allowed for increased independence in operations, safe in the knowledge that the enemy was highly unlikely to destroy them. Aside from this, it may even have been beneficial to the French if the enemy were to concentrate whatever firepower he did possess on the tanks, since this meant that other ground units could operate more freely.

Yet the freedom afforded to tank operations in the outre-mer really was a double-edged sword. Goubenard made clear that combat in Morocco afforded tanks a certain independence of movement which could be translated to some degree to the European battlefield. It was equally clear that the level of independence possible abroad, if translated wholesale to the European scene, would go against common sense, and in this assessment Goubenard demonstrated level-headed judgement. By and large however, it seemed that although experiences abroad afforded the opportunity to test further the capacities of the machine, the pragmatic emphasis on the crucial differences between the métropole and the outre-mer made the application of lessons learned to the European arena appear unfeasible.

Moreover, episodes of successful tank use abroad could be used to stress the merit of the cautious, organized character that official French doctrine was increasingly taking. For

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77 Bloch, ‘L’avenir du char de combat’, pp. 92-6
78 Goubenard, ‘Les chars de combat au Maroc en 1925’, p. 124
instance, since tank operations in Morocco were presented as offensives with limited objectives they could be used to reinforce the message that a well-planned, well-prepared mission which sought to achieve fixed goals was the best way to manage the modern battlefield, even if the limits on tank operations in this country were largely enforced by geography and the machines themselves. Such conclusions were not merely implicit. As one author noted, one of the principal lessons of the Riff War was ‘the absolute necessity of applying the prescribed regulations concerning infantry and tank liaison before and during the engagement’. Citing Bou Ganous as the shining example, he added: ‘Every time that an attack has been prepared in unison; where orders have been clear and precise; where the liaison with the infantry has been assured during combat, the success has been complete’.79 Paradoxically, whilst the French experience in the outre-mer was not readily related to the future of warfare in the métropole, the experience of war in the métropole, as expressed through official doctrine, was easily applied to combat abroad.

IV

General d’Urbal’s assertion that ‘One does not prepare for war in general, but for a specific war, waged in order to obtain a given result, in a defined theatre of operations, against a given adversary, who deploys, or is able to deploy in a given time period, given means’ underlined the supremely pragmatic approach of the inter-war French army to thinking about future war.80 Indeed, planning for a war with Germany as early as the 1920s, a point at which their neighbours across the Rhine were far from capable of pursuing armed conflict, was vindicated by events of the 1930s. As Strachan affirms: ‘In the 1920s the French army thought very hard about the lessons of the First World War, and it would have been even

79 Anon, ‘Les chars de combat au Maroc’, p. 415
worse prepared for what befell it in 1940 if it had not done so. Assessing future European conflict from a stance firmly rooted in recent conflict was neither foolish nor detrimentally backward-looking, and the French were not alone in using applied doctrine: the German military tended to consider future war in a similar fashion. It was only the British army that looked towards a more general war doctrine which their military continuity could permit. Continental European armies had a firmer idea of the areas in which they would have to operate and it was logical to assume that their future enemies would be their neighbours.

Studying the First World War allowed the French army correctly to predict the tone of the next war, but it also alerted them quite correctly to some of the more deadly aspects of the future battlefield. The emphasis placed on the destructive capacity of anti-tank weaponry, developing technologically in tandem with the capabilities of the tank, was an essential component in the defensive tone of French military thought on the use of the arm, and it could be argued that such a preoccupation acted as a barrier to the development of a more outwardly offensive battlefield application. At the same time, the potency of anti-tank weaponry used during the battles of the Second World War, and particularly in 1944, vindicated the army’s concern. Thus, the interesting point in this regard was not that the French were worried by anti-char capabilities, but that the articles in the military journals suggest that the army’s solution was to seek to augment the power of the tank to defend against such weaponry rather than to develop anti-tank capabilities of their own. Strangely enough, it could then be argued that the army’s desire to persist with the technological development of the tank was an indication of its commitment to the ultimate offensive, albeit under the careful and cautious conditions of the methodical battle.

82 Strachan, ‘Introduction’, pp. 3-4
It seems too easy to chide the army for not drawing greater conclusions on the future of tank warfare in the métropole from the new experiences abroad during the decade. In Morocco and Syria tank operations had demonstrated the machine’s potential to work in completely new terrain and in new ways, but it was entirely consistent with French military thinking to emphasise the differences between the conditions of conflict in the outre-mer and the métropole as a barrier to this process. The lack of enemy anti-tank weaponry in the observations of contemporary officer writers was particularly prominent. Whilst, again, it could be said that their fixation with this issue prevented them from accepting more forward-looking roles for the tank in future European conflict, to do so would have been entirely out of keeping with the mission of the post-war French army: that is, to pursue a doctrine which would put as few lives at risk as possible. Yet even if the enemy abroad had been in possession of some greater means of threatening tank forces, the military would doubtless have drawn similar conclusions on the domestic worth of the lessons drawn from the outre-mer, largely because the French army would still have been superior in size and technology. The issue was not confined to the use of the tank alone: rather, it extended to how far the French army could translate any experience from the colonial to the domestic theatre. In their reluctance to do just that, the authors of articles in the military journals were not demonstrating ignorance of the potential of the tank. On the contrary, their attitude was once again reflective of the larger course of French doctrine. Future conflict in Europe would pitch the army against an adversary who was far more evenly matched in technology, manpower, and economic capability. Thus it was hardly surprising that the experience of the last major European conflict was given greater status in the pecking order: to give weight to the colonial experience without serious consideration of what was extraordinary in those situations would plainly have been foolhardy. The only worrying corollary to this argument is
that, although the army was consistent in relating the colonial to the European experience, it was keen to use the colonial experience to uphold its European doctrine. The tight organization, successful planning and implementation of the operation around Bou-Ganous were used to pat the army on its back. Moreover, it showed that the army was not above cherry-picking the aspects of colonial engagements which best suited its idea of European conflict. Perhaps this point should serve to remind us that, even if the army can be seen to have acted logically and largely in consciousness of the capabilities offered by the tank, there was still room for elements of intransigence.