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The Bicycle Blitzkrieg: Japan's conquest of Malaya and Singapore in World War II

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The "Worst Disaster"

On December 8, 1941, shortly after midnight, a couple of hours *before* they attacked Pearl Harbor, the Japanese launched an invasion of British Malaya. Their goal was the island of Singapore, the famous trading port and home of the British naval fleet in Southeast Asia. The campaign was a brilliant success. Just seventy days later, on February 15, 1942, Singapore surrendered. The British defeat was a crushing humiliation which helped to destroy the aura of invincibility and inevitability of colonial rule in Asia. Churchill called the fall of Singapore the "worst disaster and largest capitulation in British history."

Until then, the only British territories that had fallen to the Axis powers were the strategically insignificant and undefended Channel Islands off the coast of France. Malaya and Singapore in contrast were important jewels of the British Empire. At the beginning of World War II Malaya on a per capita basis was the richest and most profitable non-white British colony (i.e. excluding the 'Dominions' – Canada, Australia and New Zealand). Malaya produced 38% of the world's rubber, over half the tin and supplied over half of Japan's iron ore. Malaya ran a large trade surplus with the United States and was thus a vital dollar earner for the British Empire.

At the southern tip lay the island of Singapore, a rich entrepôt city which commanded the southern entrance to the straits of Malacca. All the maritime trade between Europe and east Asia had to pass by Singapore. Because of its strategic importance, in the late nineteen thirties the British spent a fortune building a major naval base there. 'Fortress Singapore' was meant to be a formidable deterrent to the expansive imperial ambitions of Japan. [**Figure 1**]

It proved to be no such thing. In December 1941 the Japanese forces swept all before them. The British army fell back in disarray as the Japanese stormed southward down the Malay peninsula. In just two months the Japanese advanced over a thousand kilometers from the beaches of Thailand in the north to the straits of Johore in the south. On the night of February 8, 1942, they crossed the causeway onto the island of Singapore and the British surrendered one week later.

A conventional military rule of thumb is that an invading force needs to outnumber defenders about three to one. Defenders have the advantage of entrenched positions, shorter supply lines, superior knowledge of home territory and the cooperation of the local population. German Field Marshall Goering estimated that the Japanese would need five

Figure 1. Japanese Invasion Routes (Kota Bharu War Museum)

divisions and that the job would take a year. Lieutenant General Yamashita the commander – in-chief of the Japanese invasion forces [**Figure 2**] had a more realistic appraisal of the British capabilities and thought four divisions would be enough. In the end he was given just three. Consequently, when the Japanese took the surrender in Singapore, they were outnumbered by the British over two to one: about 35,000 Japanese defeated approximately 80,000 British troops. In all, over 130,000 British troops were taken prisoner. Furthermore, the Japanese achieved their objective ahead of schedule — in just seventy days versus the hundred days they had budgeted for.

How did the Japanese do it? With bravery, brilliant tactics… and bicycles. [**Figure 3**]

For the first time in history an army carried out "a blitzkrieg on bicycles", astounding the world by the sureness and rapidity of its advance, and exploding the myth of the impregnability of Singapore. H. Gordon Bennett,

Figure 2. Lieutenant General Yamashita, the commander in chief of the Malaya campaign. "The Tiger of Malaya" (Wikipedia – public domain)

Lieutenant-General Commander, Australian Imperial Force in Malaya 1941–1942. (1959)

Japan's Logistical Challenge

Singapore of course is an island, and Malaya a peninsula so, in the hazy nostalgic mindset of the 1930s, the British expected their first line of defense to be the glorious Royal Navy. Any enemy would have to come by sea, and the hope was that they would be intercepted and routed by British ships before they could land — wherever that might be. But the British navy in the Far East was severely depleted by the war raging in Europe. Seeing Britain distracted by Nazi Germany, Japan seized the opportunity to invade. They didn't declare war — they simply attacked.

In December 1941, the weather was predictably atrocious during the Northeast Monsoon and rough seas created great difficulties for the invading forces, but the dense cloud cover helped to protect the armada from surveillance and aerial attack. Too late, the British ships dashed north from Singapore to intercept the Japanese flotilla. There were miscommunications and they lacked air cover so Japanese planes quickly sent both the *Repulse* and the *Prince of Wales* to the bottom of the sea. It was a painful lesson. Control of the air, rather than the sea, was the key to success in modern warfare.

Figure 3. Japanese bicycle troops (Collection of the Former Ford Factory, National Archives Singapore)

Establishing a beachhead and landing thousands of troops and materiel on a hostile shore is a very hazardous operation, (witness the terrible slaughter nearly three years later on Omaha Beach in Normandy) so the Japanese chose to land on three weakly defended beaches far to the north of Singapore **[Figure 4]**. Two of them weren't even in Malaya but in southern Thailand, a much poorer, compliant kingdom than Britain's prosperous colonial possession.

Figure 4. Bicycles on Japanese landing craft (US Army Military History Institute, USAMHI)

(They encountered stiffer resistance at the third landing beach in northeastern Malaya at Kota Bharu, deemed essential by the Japanese to knock out the British airfield there.) However, from the lightly defended landing beaches in Thailand it is nearly a thousand kilometers to Singapore. (About

the distance from Paris to Berlin, or from Milan to London.) There were few motor roads running from north to south, and only two railway lines. Much of the terrain was mountainous tropical jungle, the rest was swamp and rubber plantations. Traveling any great distance off-road was not a viable option.

The British had planned for the possibility of an invasion from the north and even correctly anticipated that the most likely landing beaches would be Singora and Patani in southern Thailand. For this reason the British had major air force bases in the north of Malaya, at Alor Star, Jitra and most notably at Kota Bharu, but these airfields were stocked with obsolete planes. General Yamashita knew that speed was vital. He had to grab the airfields before the British could deploy their planes, and he had to advance southward down the roads before the British could set up defensive positions. The roads in fact were excellent: according to one contemporary opinion, the quality of the roads was second only to Britain itself within the Empire — but there weren't very many of them. Moreover, the north-south highways were intersected by frequent rivers running east-west so the Japanese would have to cross about 250 bridges. By blowing up those bridges the British hoped to slow the Japanese advance.

In summary the logistical challenge for the Japanese was to advance southward a thousand kilometers along smooth British roads — at speed. Hence the use of bicycles.

"Thanks to Britain's dear money spent on the excellent paved roads, and to cheap Japanese bicycles, the assault on Malaya was easy." Colonel Tsuji Masanobu. [**Figure 5**]

The Bicycle's Tactical Advantages

The Japanese invasion force was three divisions, the 5th, 18th, and the Imperial Guards plus the 3rd tank brigade of 80 tanks. Each division was nominally 20,000 men, but actually there were rather fewer: 16,000, 13,000 and 13,000 respectively. But with the artillery, tanks, communications corp. and transportation… etc. about 60,000 in total. The initial landing force on December 8 numbered about 24,600 troops.

Each division was issued with 6,000 bicycles,18,000 in all, enough so that all troops without motor transport would be able to cycle. Bicycle mechanics were assigned to each division in anticipation of the inevitable punctures and repairs which would be required in the days ahead.

Bicycle troops, known colloquially as the 'Silver Wheels' had a number of advantages which could almost be called decisive.

- First, bicycles, unlike trucks and tanks, require no petrol. Supplying fuel to frontline troops is a logistical preoccupation of war planners, witness the laying of PLUTO, the Pipeline Under The Ocean, to supply the allied forces in the D-Day landings in 1944. Indeed, the major objective of Japan's attack on southeast Asia was to seize the oil fields of Sumatra, Borneo and Burma, because the allies were throttling Japan with an oil embargo which cut off 90% of Japan's imports of oil. The Japanese cyclists could press on, fueled by the rice in their bellies and local foraging.
- Second, a cyclist can carry more than double the amount of equipment and supplies than a foot soldier. A walking soldier could carry about 35 pounds, whereas a cyclist carried between 75lbs and 100lbs of kit on his bike.
- Third, a cyclist could travel twice as fast (about 8 mph) and go more than twice as far per day compared with a foot soldier. Speed was essential to the success of the Japanese war plan.
- Fourth, bicycle troops, like infantry, but unlike tanks and trucks, could rapidly dive into ditches and disperse in rubber plantations or jungle to evade aerial attacks. In fact, because the Japanese were so successful in quickly neutralizing British airfields and Britain

Figure 5. Colonel Tsuji Masanobu, Director of Military Operations, 25th Japanese Army. The master planner of the Japanese invasion of Malaya. (Tsuji)

Figure 6. Cyclists were able to clamber across the ruins of a bridge destroyed by the retreating British, whereas vehicles had to wait. (USAMHI)

Figure 7. Cyclists among troops crossing an improvised walkway alongside a railway bridge destroyed by the British, possibly the Guillemard bridge near Machang, Kelantan. (USAMHI)

Figure 8. Streams were quickly traversed using tree trunks and branches. (USAMHI)

was chronically short of planes, this advantage turned out to be a moot point.

- Fifth, when confronted with bridges blown up by the retreating British forces, the tanks and trucks had to wait for engineers to construct replacement trestle bridges before they could resume their advance, whereas the bicycle troops were often able to cross improvised log and plank walkways or clamber across the ruins of the destroyed bridges. **[Figures 6, 7, 8, 9 & 10]**

Aside from these tactical advantages, the cyclists were able to draw upon the resources of the local population to an extraordinary extent for repairs and maintenance. Japanese prewar intelligence about the conditions and availability of supplies in prewar Malaya was excellent. There were thousands of Japanese living in Malaya and Singapore. Some, conveniently, ran photographic studios and spent their weekends diligently photographing anything which would be useful for the invasion forces. They also bought timber and stockpiled it close to riverbanks ready for their engineers to repair and construct bridges. Bicycles, in particular Japanese bicycles, were ubiquitous in pre-war Malaya. The Japanese invaders knew that the towns and villages of Malaya had numerous bicycle shops (many of them run by local Japanese) which could be plundered for spare parts, tyres and inner tubes. They knew that, in addition to the bikes they brought with them, the troops would be able to seize many more along the way.

The most vivid eye-witness description of the 'Bicycle Blitzkrieg' comes from a British

Figure 9. A Japanese soldier carrying his bike across a log bridge. (USAMHI)

Figure 10. Japanese troops hauling their bikes across an ineffective British defensive ditch in Singapore.

Figure 11. On the road, the Japanese were lightly clad and often cycled at night to avoid the heat.

Figure 12. Some decorated their bikes with foliage for camouflage. (Tsuji)

Figure 13. Even when not cycling, bicycles made carrying heavy loads easier. (USAMHI)

guerrilla fighter, Freddie Spencer Chapman in his excellent memoir *The Jungle is Neutral* (pp. 21–23):

Four o'clock in the afternoon [On Christmas Day, 1941] found us lying at the edge of the rubber [plantation] in a very good position overlooking the road and the factory buildings of a rubber estate which the Japs seemed to be using as a halting-post. Here there was no question of falling asleep, since we lay only a hundred yards from the road and could see the enemy, hundreds and hundreds of them, pouring eastwards towards the Perak river. The majority were on bicycles in parties of forty or fifty, riding three or four abreast and talking and laughing just as if they were going to a football match. Indeed, some of them were actually wearing football jerseys. They seemed to have no standard uniform or equipment, and were travelling as light as they possibly could. Some wore green, others grey, khaki, or even dirty white. The majority had trousers hanging loose or enclosed in high boots or puttees. Some had tight breeches, and others shorts and rubber boots or gym shoes.

Their hats showed the greatest variety: a few tin hats, topees of all shapes, wide-brimmed planters' hats or ordinary felt hats, high-peaked jockey hats, little caps with eyeshades or even a piece of cloth tied round the head and hanging down behind. Their equipment and armament were equally varied and were slung over themselves and their bicycles with no apparent method. We noticed with delight that their weapons – tommy-guns and rifles – were usually tied on to the frames of the bicycles, so that they would have taken some time to go into action had they been suddenly attacked. Every now and then a convoy of staff cars and lorries would go past heavily camouflaged with palm fronds. There was little need for this, as the Jap planes seemed unopposed and flew very low up and down the road.

The general impression was one of extraordinary determination. They had been ordered to go to the bridgehead, and in their thousands they were going, though their equipment was second-rate and motley and much of it had obviously been commandeered in Malaya. This was certainly true of their means of transport, for we saw several parties of soldiers on foot who were systematically searching the roadside kampongs, estate buildings, and factories for bicycles, and most of the cars and lorries bore local number-plates. Their cooking gear was also of the lightest, and they were living off the country by collecting rice, fowls, and vegetables from the roadside villages.

… All this was in very marked contrast to our own front-line soldiers, who were at this time equipped like Christmas trees with heavy boots, web equipment, packs, haversacks, water-bottles, blankets, ground-sheets, and even great-coats and respirators, so that they could hardly walk, much less fight. **[Figures 11, 12 & 13]**

The Advantages of Travelling Light

British soldiers, given the order to withdraw, were inclined to wait until transport could be arranged. If they attempted to walk back, they were too slow and overburdened with kit and armaments. On at least one occasion, overrun by the rapidly advancing Japanese, the British troops fled into the jungle on either side of the road. Untrained in jungle survival skills and without food, within a few days they re-emerged on the roadway and were captured.

The British forces placed heavy

reliance on motor transport. This produced its own problems, especially when they were on the retreat, which was pretty much most of the time. Traffic proceeding north with supplies and fresh troops for the front line encountered the vehicles of the withdrawing troops, creating traffic jams. Although the road surfaces were excellent, the roads were not wide, usually only one and a third lanes wide. This was not a problem for cyclists, but it was for motor vehicles. Surprised by the rapid advance of the enemy, lorries would attempt to do U turns in the road, adding to the confusion. [**Figure 14**]

"The British Army formations were almost completely equipped with motor cars and trucks, and whenever we were able to steal a march on them… their soldiers had to abandon their cars and trucks and continue their retreat on foot." **Colonel Tsuji Masanobu**

The sheer speed of the Japanese advance compounded their advantage. The British retreat turned into a rout. They hoped to fall back to well-prepared defensive positions, but time and again the Japanese got there before they were ready, and often the Japanese had outflanked them, suddenly appearing to their rear. In their haste to retreat the British forces abandoned large amounts of equipment, vehicles and supplies which were gleefully taken up by the Japanese, who called these gifts from the enemy 'Churchill stores'. The faster they advanced, the more supplies they captured.

Bicycles were not the only advantage the Japanese enjoyed. The Japanese army was battle-hardened having fought already for several years in Manchuria and China, whereas their British opponents had not yet been under fire. A large part of the British force were Empire troops recruited in India, hastily trained and poorly motivated and led. Their commander, General Percival, was considered to be an able administrator rather than an imaginative and dynamic leader. The British command was accused of defeatism, but in truth their problems came from being under-resourced. The structure of the government of Malaya was complicated, being divided between the directly administered Straits Settlements — Singapore, Malacca and Penang — and the Federated Malay States which were indirectly governed via the local sultans. This handicapped the development of systematic and unified defense plans prior to the war. Too few ships, obsolete aircraft and under-investment in defense infrastructure meant defeat was inevitable. Bicycles just made the fall shockingly swift.

Figure 14. Traffic Jam of retreating British vehicles. (Tsuji: Singapore the Japanese Version 1962)

Figure 15. Japanese troops throwing down their bikes as they rush into action (Tsuji)

The Bicycle in Battle

How were the bicycle troops used? The Japanese learned quickly and adapted their tactics to the circumstances. To avoid the worst of the tropical heat they often cycled at night, with only one in ten having lights. The cyclists were the first to cross rivers and other obstacles and, needing no fuel or supplies, sped ahead as forward reconnaissance units. The Japanese soldiers cycled up to the front line and thrust their bikes into the hands of the local Malays while they went off to fight. [**Figure 15**] After the skirmish was over the Malays were instructed to bring the bikes forward so that the Japanese could resume their progress. If the Japanese encountered heavier resistance they would call up the vanguard of tanks, motorized infantry and light artillery to confront the British positions. If particularly stiff resistance was encountered the Japanese would engage the enemy frontally while dispatching following forces to make short flanking maneuvers using paths through the rubber plantations or jungle and attack the enemy from the side. In addition a deeper flanking force would aim to encircle the whole battlefield and cut the road as much as 10 km behind the defensive position. The aim was always to keep the enemy on the run. It was such tactics writ large that overwhelmed the federal capital, Kuala Lumpur. While the main

force approached down the main road from the north, a flanking force under cover of darkness embarked on a flotilla of small boats and sailed down the western shore of Malaya and landed to the south of the capital. Suddenly aware that the Japanese were already south of Kuala Lumpur and fearing that their escape route to Singapore would be severed, the British administration hastily "evacuated" leaving the capital undefended. The triumphant Japanese cycled into town and met only minor skirmishes.

On the Japanese side we have two notable sources. The first is Colonel Tsuji, who was chief of operations and planning staff, 25th army, Malaya. Tsuji Masanobu was an ardent nationalist and anti-communist and murkily associated with war crimes in China and Singapore. He went into hiding at the end of the war only to be rehabilitated and become a politician in the fifties. He wrote a triumphal memoir in 1952, translated into English as 'Singapore The Japanese Version'. Among his memorable quotations are:

"Even the long-legged Englishmen could not escape our troops on bicycles. "

"All officers and men who did not ride with the trucks were provided with bicycles."

"Since landing in southern Thailand barely fifty-five days ago, we had made an overland dash of eleven hundred kilometres…We had fought ninety-five large and small engagements, and repaired more than two hundred and fifty bridges. The speed of this assault is unparalleled in the history of war. On an average our troops had fought two battles, repaired four or five bridges, and advanced twenty kilometres every day."

Tsuji also appears to be the sole source of an assertion that the sound of Japanese troops approaching on bicycles, some on bare rims, made a noise resembling that of tanks and thus scared the defenders.

A second Japanese source is a diarist, probably called Nakane. Little is known about this person, but his diary records his observations as a participant in the campaign. He noted that those who had cycled the length of the peninsula from the landing beaches in the north to Johore in the south, often cycling 20 hours in a day, at the end of it "had a lot of trouble walking."

A notable chronicler of the Japanese occupation of Singapore and Malaya after the British surrender was Lee Kuan Yew, at that time a young man fresh out of high school but later to become the first Prime Minister of independent Singapore. He narrowly avoided being rounded up and shot by the Japanese and spent the occupation working for the Japanese news bureau and dealing in the black market. Lee Kuan Yew, in his memoir 'The Singapore Story', has several references to bicycles. Just before the war he bought his first bicycle, a Raleigh with a 3-speed gear and an encased chainbox out of his prize money as a schoolboy at Raffles College for 70 Straits Dollars (8 pounds, one shilling and 5 pence). He relates that early in the Japanese occupation, in 1942, the Japanese soldiers confiscated all the best bicycles, but since most of the Japanese troops were there only briefly before being shipped off to fight elsewhere in Asia they soon left the bikes behind.

As the occupation went on the supply of bicycle spare parts dried up and the local population had to improvise. One thing they were not short of was rubber, so they started up local production of solid rubber tires, which, said Lee Kuan Yew, made for an uncomfortable ride, but did the job.

Bicycle ownership in Malaya and Singapore was extraordinarily high. We know this because shortly after their conquest the Japanese required all owners to register their bicycles with the local authorities. The purpose of this census is unclear. The Syonan Times (the Japanese propaganda newspaper which displaced the Straits Times) said that it was so the Japanese could requisition all unclaimed bicycles, but perhaps it was so they could, if necessary, requisition any bicycle. From this census we learn that in Selangor (the state which includes the capital, Kuala Lumpur) one in four people had a bicycle in 1942. That would be approximately one bicycle for every adult male.

The Historical Record

Few of the bicycles used by the Japanese survive. Many suffered the rigors of war, and most succumbed to rust and age in the tropical humid climate. There are at least three in museums in Malaysia, one in the national museum in Kuala Lumpur [**Figure 16**], one in the Kuala Selangor (state) museum, and one, a Miyata, in the war museum in Kota Bahru [**Figure 17**]. There is an elaborate display of bicycles in a diorama in the Singapore National Museum, but peering at their badges in the gloom

Figure 16. The Japanese Army bicycle (no identified brand) in the National Museum in Kuala Lumpur (author's collection)

Figure 17. A Miyata bicycle used in the Japanese invasion of Malaya in the Kota Bharu War Museum (author's collection)

I could only discern a Hopper and a Hercules, both English export models popular in Malaya before the war. There is an authentic Japanese war bike in the United States (a Yamaguchi) that appears to have been acquired by a US soldier in Okinawa as a souvenir and is of the type used in Malaya — but is not likely to have actually been in that theatre of war. The bicycles themselves are unremarkable, they do not appear to have been designed specifically for military use. They all have broad rear racks, but so did most civilian bikes.

The Imperial War Museum in London has some Japanese contemporary newsreels showing the bicycle troops in action, cycling along roads and crossing streams and bridges. There is even a glimpse of a bicycle being loaded onto a landing vessel. After the Japanese surrender in 1945 the returning British ordered all Japanese troops to quit the island of Singapore, cross the causeway and await repatriation in Johore. The excellent quality allied newsreel film of this sorry parade out of the city shows many of the Japanese still clutching their trusty bicycles, laden with their few possessions.

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