

CHAPTER VIII

THE DESERT ORDEAL

THE first consideration after the disaster to the yeomanry was to establish in the oasis area a definite position, safe against any attack the enemy might be capable of making. Lawrence, accompanied by Chauvel, Chaytor,¹ and Ryrice, rode over the Romani country on April 30th, and gave attention to a proposal to protect the left flank of the British position by increasing the shallow waters of Lake Bardawil. The level of the lake was believed to be lower than that of the sea, and soon afterwards a cut was made and a junction effected with the waters of the Mediterranean. The attempt to deepen the lake was, however, unsuccessful.

Investigation of the Romani country satisfied the British leaders that it was an almost ideal site for defensive purposes. General Murray inspected the position early in May, and decided to adopt Chauvel's scheme—to establish a strong camp at Romani, to patrol and, as far as possible, to hold the well-watered region around Katia, not by means of isolated fixed camps, but by constant reconnaissance in strength; and, if possible, to induce the Turks, when their expected advance was made, to accept battle upon the prepared Romani ground. Such a scheme was so obvious to the enemy that its chances of success seemed very slender; nevertheless it did succeed in an astonishing manner.

Northern Sinai bears the comprehensive description of desert. And, broadly speaking, a desert it is. But it varies sharply in the nature of its soil, in its appearance, and in the scope it offers for the movement of troops. The outstanding feature of the long coast-line, from Sinai to the Plain of Acre in northern Palestine, is a fringe of rolling, golden sand-hills. Along much of the margin of the Mediterranean the sea has, even since Greek and Roman times, retreated appreciably from the land, and the strong winds of the country,

¹ Maj.-Gen. Sir E. W. C. Chaytor, K.C.M.G., K.C.V.O., C.B., A.D.C., p.s.c. Commanded Anzac Mtd. Div. 1917/19. Officer of N.Z. Staff Corps; son of late J. C. Chaytor, Esq., of Marshlands, Spring Creek, N.Z.; b. Motueka, N.Z., 21 June, 1868. Died 15 June, 1939.

working on the deserted sands, have built up a very mobile system of steep, close-packed dunes drifting inland. This fringe is not continuous, and along much of the seaboard it is narrow; but over extensive distances it has a width of from three to four miles. In places, as about Romani, the coastal margin is flat; but the dunes reappear close behind, and extend inland in irregular groups, projecting like great buttresses on to the plain behind.

Inside the long skirt of these dunes there is, from the Canal to Mount Carmel, an undulating plain extending eastwards to the great central range system of Palestine, which, running south from the Lebanons, and broken only once by the Esdraelon Plain, stretches down across Sinai. This plain is in the north the Maritime Plain of the ancients; divided in detail, it is first the Plain of Acre, which develops to the east into Esdraelon; then the Plain of Sharon, which marches with Samaria; then the Philistine Plain, marching with Judæa. In southern Palestine it merges into the Negib, or the grazing south land of the patriarchs. From the eastern edge of Sinai up to Mount Carmel it is a very fertile land, always renowned for rich, easily-won harvests and sweet native grasses. But in Sinai its character is changed by the almost entire absence of rainfall. Extending southwards from the yellow sand-dunes of the coast to the foot-hills of the forbidding desolate ranges of central Sinai, its width varies between thirty and forty miles. Its aspect is harsh and depressing. Over most of the area it is broken by stunted prickly bushes banked up with the wind-driven sand. Stony little plains are succeeded by widespread intricate masses of sand-dunes. For many miles around Katia the desolation is relieved by innumerable hods of date palms, which, sustained and refreshed by shallow springs of brackish water, grow in profusion and provide a living for a few thousand Bedouins. So widespread is this oasis that, viewed from the sand-dunes about Romani, the date palms may be seen stretching in dark, almost unbroken plantations for many miles to the south; then, looking further, the observer sees many isolated springs marked by their trees. On this undulating plain country of northern Sinai mounted troops move slowly but without excessive exhaustion, and the trans-

port of guns is not impossible; but the patches of sand, the extreme heat, and the scarcity of good water make it extremely laborious for the movement of infantry.

Near Romani the sand-dunes extend inland about six miles, and the position created is a natural stronghold about thirty square miles in extent, jutting boldly out on to the desert plain and covering on the south the track from El Arish to the Canal. It is a striking and impressive intervention, admirably fitted to be a defensive base for an army guarding Egypt from the east. Towards the Mediterranean it is flanked by the shores of the western extremity of Lake Bardawil; but towards its centre it unfolds into a comparatively level tableland basin, on which troops can move with relatively little climbing, although everywhere the sand is deep and yielding. This little tableland is marked with a number of palm hods, as at Etmaler, capable of giving ample shade to considerable bodies of troops. On its southern and south-eastern sides the position terminates in a series of abrupt outstanding dunes of raw, shifting sand, which appears under the pressure of the winds to be steadily encroaching upon the firmer ground of the plain. These dunes are usually long and narrow, and terminate in a feather edge so fine that a man must carefully stamp a position flat before he can balance on the top in safety. Owing to the wind, one side of the dune is usually so precipitous that it cannot be climbed, while the other is sloping and accessible. These dunes appear as great buttresses holding up the Romani tableland, and preventing its liquid sand from overflowing and flattening itself out across the desert plain to the south. A few of them, rising above their fellows, are visible from a considerable distance, and these stood as guardians to the British forces now assembling at Romani. Between ran narrow sloping lanes up to the position behind, and their importance was at once appreciated. As the summer wore on, they were distinguished by names destined to become immortal in Australian battle history. To the south-east of the Romani camp was Katib Gannit (226 feet); four miles away due south of the camp, Mount Meredith (230 feet); while further round towards the south-east corner was Mount Royston (220 feet).

From the Canal to Romani on the British side, a distance

of twenty-three miles, the approach was for the first fourteen miles by the old caravan road to Dueidar at the edge of the sand-dunes. This portion of the track runs over firm ground, and offered no obstacle to the passage of all arms. From Dueidar to Romani the route was through the soft and heavy dunes, which made the transport of guns and any other wheeled vehicles very difficult and slow. The troublesome part of the journey, however, was only a few miles in length, and Romani was therefore comparatively easy of approach from the base in Egypt. If necessary, reinforcements could be brought up in a few hours, and, as the railway was rapidly approaching Romani, the position was favoured by communications which should have been satisfactory to any leader.

Romani, then, was an almost ideal defensive locality. It was extraordinarily strong in its natural qualities and position; it was close to the British man-power in Egypt, and to an abundant source of supplies. It stood in the direct path of an enemy approaching from the east across northern Sinai. It was capable of being made invulnerable to frontal attack; and although it could be ignored by a diversion into the plain on the south, no enemy striking for the Canal could afford to leave it unassailed on his flank, since its garrison, especially if mounted, could emerge fresh from the sand-dunes and operate rapidly on the hard ground of the plain.

The Turk advancing upon Romani was faced with a task which might well have harassed the boldest of leaders. In May, 1916, his railway had been pushed as far as the eastern fringe of Sinai. From railhead he had a comparatively simple march over hard tracks until he reached the neighbourhood of the Wady el Arish. But from El Arish to the oasis area he had a waterless stretch of about fifty-five miles to cover. This is the track which almost cost Napoleon his army when marching up into Palestine, and it has always been a severe strain on forces moving to and from Egypt. If the Turk, instead of following the northern road, advanced towards central Sinai and then struck north across the rough desert plain, his task was no lighter; in fact, it would probably be heavier, as his communications would be further extended. One factor was strongly in his favour. The weakness of Murray's decision—to keep his force in one body

at Romani and to hold the rest of the Katia oasis by reconnaissance—was that the Turks could at any time, by an advance in strength, occupy Katia and establish themselves there; with sound communications, they would be very difficult to shift. This was clear to the British leader; but, with a sound sense of Turkish intentions, he believed that the enemy would not be content merely to sit down at Katia and menace the Canal, but, flushed with his successes at Gallipoli and in Mesopotamia and his local victory over the yeomanry, would endeavour to destroy the British army at Romani and then strike for the Canal. When the Turk reached Katia, he would have covered the worst of the desert, and his subsequent advances to Romani and on to the Canal would be over firm ground through country well supplied with water at shallow depths.

At the beginning of May the total British force based on Egypt, including the Salonika army, reached a total of 14,168 officers and 343,000 men of other ranks. Of these, 369 officers and 25,000 men were natives of Egypt and India. After deducting 4,500 officers and 110,000 men who belonged to the Salonika force, General Murray had about 220,000 white British troops under his command in Egypt. This force was still being drawn upon for France, and to a minor degree for Mesopotamia, as quickly as divisions were re-organised by Murray and transport was available to carry them. He now began to have clearly defined views as to the strength he would need for Sinai; on May 3rd he advised the War Office that his force for operations east of the Canal should not be reduced below three infantry divisions of a total strength of 50,000 rifles and his mounted troops. His mounted force available for the field at that time was made up of the 1st, 2nd, and 3rd Australian Light Horse Brigades, the New Zealand Mounted Rifles Brigade, and the 5th Mounted (Yeomanry) Brigade which had been so badly mauled in the recent fighting.

The Commander-in-Chief continued to show the most generous spirit towards the needs of the decisive theatre in France. "Do not be afraid," he cabled the War Office during May, "to take my 11th, 42nd, and two further Australian (infantry) Divisions from me. I may not do wonders

with the balance, but I will not be inactive." But he was obviously afraid that the War Office would reduce him to a level which would not only make an advance into Sinai impossible, but would expose the Canal to Turkish attack. On May 10th he emphasised to the War Office the necessity of being able to keep his three infantry divisions up to full strength. He pointed out that when the 11th and 42nd, and the 4th and 5th Australian Infantry Divisions, were withdrawn—and also, as he assumed, the Australian infantry reinforcements—he would have available for Sinai only the 52nd and 54th British Infantry Divisions and two brigades of the 53rd, all much below war strength, and six battalions of Indians; and for none of these did he possess assured reinforcements. Murray's position was most unenviable. He was willing to yield all he could, but he did not know where the demand would stop. He feared even for his mounted brigades. "I am assuming," he cabled to the War Office at this time, "that you are leaving the three Australian light horse brigades and the New Zealand brigade with me. Otherwise I shall be deprived of the only really reliable mounted troops I have." The British leader had already made up his mind as to the relative quality of the Anzacs and the yeomanry. But he saw clearly that the yeomanry, if not yet highly efficient, could with vigorous training under regular officers be turned into first-class cavalry. Already he had taken the steps necessary to effect the desired change, and the fine work of the yeomanry later in the campaign was directly due to his judgment and foresight.

By the middle of May the brief cool season was over, and Sinai was glistening under the fierce heat of summer. The Turks were believed to have three divisions, the 3rd, 23rd, and 27th, in northern Sinai and southern Palestine, disposed roughly inside the quadrilateral El Arish, Bir el Hassana, Beersheba, and Gaza. In addition there was an Arab force in Sinai of about 4,000 Bedouins, chiefly drawn from the Ibn Rashid tribes, and also including some Egeil, the adventurous Moslem camel-dealers. These men were armed by the Turks with modern weapons, and a number of them had fought with reckless courage at Dueidar. As a rule, however, their fighting qualities were known to be nominal, and

the British properly considered them useful to the enemy chiefly as guides and scouts. The development of the campaign showed that to be a generous estimate. In the long campaign the British suffered few casualties from the Arabs, and (as far as they were tried by the British) they proved unreliable scouts and inferior guides. More rumours are born daily in the Near East than in any other part of the world, and the British were not yet skilled at sifting the false from the true. Credence was therefore given to a report that Djemal Pasha intended to attack the Canal at Ismailia during May.

Impressed by the danger of further enemy raids either in the oasis district, or against the Canal further to the south, Murray strained his resources to strengthen his position east of the Canal. In the No. 1 and No. 2 Sections the scanty water-supply on the approaches from central Sinai was patrolled and watched with increased vigilance. After the raid on the yeomanry, the Turks, with the exception of small parties, had retreated to the El Arish district, and a fortnight later there was no enemy strength within sixty miles of the Canal Defences.

Frequent and urgent appeals to the War Office had resulted in a small force of aircraft being sent out to Murray, and the army flying corps had taken over much of the air work from the Royal Naval Air Service. But all through 1916 the British airmen on the front were handicapped by the inferiority of their machines. They were always out-classed by their German rivals, and carried out their vital work of reconnaissance only at a risk they should not have been called upon to take. The British airmen had failed to observe the approach of the Turkish raiding force upon Oghratina and Katia, and in the operations which followed there were many lapses of a similar nature. The fact was that the Turks marched chiefly by night and concealed themselves in the palm hods by day, where they were safe from the keen eyes of the British pilots. The airmen, flying low, often gained useful knowledge from tracks in the sand; but throughout the campaign northern Sinai proved to be a baffling locality for sound observation from the air.

The beginning of May found two regiments of the 2nd

Light Horse Brigade at Romani, supported by a brigade of the 52nd Division at railhead, three miles to the west; while the bulk of the 52nd Division was at Kantara, with strong posts at Hills 70 and 40 and Dueidar. The New Zealanders were in support at Hill 70. Every effort was made to hasten the advance of the railway. The physical obstacles were not serious, but the loose sand gave more trouble than had been anticipated, and progress was disappointingly slow. Murray advised the War Office that the whole oasis area "was now effectively patrolled by us," and that he would "push forward as rapidly as possible," and strike at every concentration of the enemy within reach. But the possibility of "striking" at anything was still remote, and that fact was only too evident to the Commander-in-Chief. Ryrie was ordered to be "very active" with his two regiments, but he was not to "remain long in the same position," nor to engage in a "decisive fire-fight in defence of any locality the enemy may temporarily occupy." He had clear instructions to fall back on the advanced infantry posts in the face of hostile pressure. Ryrie had, in short, the very orders which should have been given to the unfortunate yeomanry brigade. Lack of sufficient camel-transport made it impossible to push the 52nd Division up to Romani ahead of the railway.

With the arrival of the 2nd Light Horse Brigade at Romani there was begun the arduous and prolonged work on the desert which had its culmination and reward in the Battle of Romani. Ryrie's men, as we have seen, were rushed into the district very short of equipment. The heat was terrific; flies swarmed in the congested camps; it was the season of the dread khamsin; the men were short of clothes and blankets. But at the outset the 6th and 7th Regiments (both from New South Wales) were called upon for so much activity that they had little time to think of discomfort. Having examined the ground of the recent fighting and buried the British dead at Oghratina and Katia, they engaged immediately in reconnaissance over wide areas. Every order from Chauvel showed the influence of the yeomanry disaster. Their camp at Romani was vigilantly guarded; as their force was so small, this meant comparatively little rest or sleep for the men. Moreover the care of horses on the desert is

extremely laborious. Water for the men was brought up from the Canal on camels, but the horses had to be supplied from the local wells. On the oasis area water was freely found at a depth of from two to twelve feet; but the supply was more or less brackish, and the springs which were touched by the roots of the palm trees proved especially bitter. During the first few weeks of the campaign, before the native initiative and resource of the Australian bushmen came into full play, the task of watering horses was slow and exhausting. Timber was lacking for the wells, which had constantly to be dug out, the soakage being often limited. Hours were frequently spent in watering a regiment. For a time the horses showed a dislike for the water, and rapidly lost condition in consequence, but after a few weeks they drank it greedily and thrived upon it. The men drank the well water when sorely pressed by thirst, but, except at a few of the best wells, never with appreciation; its chemical qualities were such that it curdled when boiled, and so could not be used for tea-making. In a number of ways the Turks disclosed a stouter constitution than the Australians, and when they were in this area they drank from each well as they came to it, and apparently without ill-effect.

The Bedouins of the desert had undoubtedly served the Turks against the yeomanry, and it was now decided to regard the former as enemies. Orders were given to the 2nd Light Horse Brigade to capture as many of them as possible, and pass them to the rear, where they were to be held and treated with consideration. But the task of rounding up the elusive natives of northern Sinai was an exceedingly troublesome one. In all the barren Peninsula there are between 20,000 and 30,000 men, women, and children. They are loosely grouped into tribes, but recognise very little authority. Each local sheikh is practically independent. In the rugged mountain region of the central and southern area the Bedouins win a narrow livelihood by grazing their sparse flocks along the beds of the wadys and by the sale of acacia charcoal to Egypt. In the northern oasis area they depend almost entirely upon the product of the date palms, the dates of Sinai being the best in the world. Their sole labour is in cross-fertilising the pollen of the male and female trees, and in harvesting the annual crop.

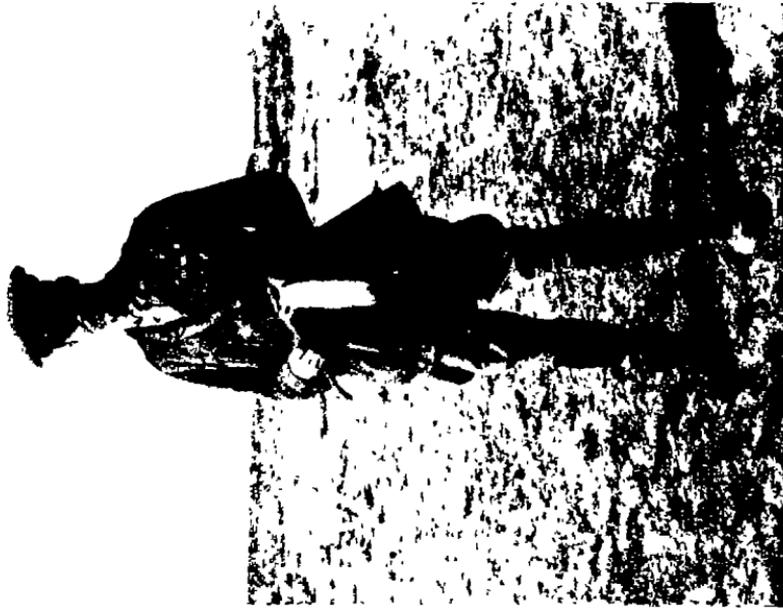
In 1915 the date crop had failed, and when the British advanced to Romani the Bedouins were short of food, and only too ready, therefore, to serve the Turks as spies. Avoiding the palm-hods, which they deem unhealthy as dwelling-places, the natives live, as a rule, on the bare sands a few hundred yards from the springs, in little square enclosures of palm branches which afford them shelter from the heat by day and the cold desert winds by night. Uncommonly keen of sight, their trained eyes are expert at discerning movement upon the desert; barefooted and scantily clad in cotton, fast runners, and marvellously enduring, they were most difficult to capture. On the approach of the light horse they would break up and scatter individually over the dunes, and wherever the sand was soft they could easily outdistance the horses. Moreover the Australians, although they chased the men with all their energy, had strong scruples as to the capture and hustling of the women and children. During the summer a few hundred were made prisoners; but many remained, and during all movement by the mounted troops they were to be seen keenly watching from distant hilltops. That they constantly served the Turks was beyond doubt, and when time and distance prevented them carrying verbal messages, they signalled the approach of the British by the lighting of fires. Scarcely higher in civilisation than the Australian blacks, these wretched tribes presented a miserable and starved appearance. They seldom carried arms. Their women were particularly unattractive, but nevertheless were almost invariably veiled.

With the New Zealand Brigade at Hill 70 in support of the 2nd Light Horse Brigade at Romani, with the infantry of the 52nd Division moving steadily forward, and the railway always advancing, the position early in May was soundly re-established. Active and exhausting reconnaissance in strength was then commenced by the light horse and the New Zealanders. The object of this probing, which was continued until the Battle of Romani in August, was to locate, and if possible destroy, advanced parties of the enemy, to mark and, where desirable, improve the water-supply in the various hods, to comb out the Bedouins, and to study the country with a view to subsequent operations. Bir el Abd, twenty miles from Romani along the track to El Arish, was

the limit of this reconnaissance to the east, and it extended as far as Mageibra, some fourteen miles to the south-east. In a temperate country the work would have imposed no hardship on man or horse. But in Sinai, with its blazing summer heat and frequent heavy sand, all movement is extremely arduous and wearing. May and June passed without serious incident, and the light horsemen, although they suffered severely from overwork and lack of sleep, steadily hardened and improved. Their contact with the enemy was slight, but it sufficed to make them expert in the more subtle side of their work as mounted infantry. They became masters of observation, advanced their proficiency with the rifle, completed themselves as campaigning horsemen and, as the weeks wore on, developed their natural sense of direction and location to a pitch almost superhuman.

At this time the light horsemen's strongly marked gift of improvisation enabled them to overcome many of the obstacles and evils of the desert. Lieutenant-Colonel Wilson, of the 5th Light Horse Regiment, introduced the "spearpoint" pump with which he had been familiar in Queensland. This simple device was made up of a 2½-inch tube with a solid point, above which was a section of strong wire gauze. Carried without trouble on the saddle, this pump entirely changed the practice of watering the horses. In a few minutes it could be unpacked and driven into the sand in a likely spot for water; by the time other men had laid out the light canvas troughing, a plentiful supply of water was being pumped out of the sand for the refreshment of the thirsty horses. The pump also greatly increased the flow of wells already in existence. Before its application the soakage was often slow, but the pump, driven down through the bottoms of the wells, saved both time and labour in excavation.

When the Australians first applied for these pumps from Ordnance, the British authorities refused the issue. The light horsemen then purchased the necessary material out of regimental funds; and, when they had demonstrated that by their use a brigade of horse at Romani could be watered in half-an-hour, they were adopted for the whole army. The spearpoint pump abolished the water problem for horses in Sinai; when the army at a later date advanced into the highly fertile region



LIEUTENANT-COLONEL J. G. BROWNE, CHIEF STAFF OFFICER OF THE ANZAC MOUNTED DIVISION, 1916-19.

First War Museum Official Photo No. B927



PUTTING DOWN A "SPEARPOINT" PUMP IN THE DESERT

*Taken by Lieut. H. L. Brisbane, Anzac Mtd Div Engineers
First War Museum Collection No. B2758*

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CAMEL CACOLTS FOR THE TRANSPORT OF THE WOUNDED

*Taken by Capt H G Leahy, 3rd LH Fld Amb
Aust War Museum Collection No B2483*



SAND SLEIGHS WITH WOUNDED.

*Taken by Lieut-Col W H Scott, 9th LH Regt
Aust War Museum Collection No B2827*

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of the Philistine plain, the task of watering was actually far more difficult there than it had been on the desert behind.

The wits of the Australians and New Zealanders caused much concern to the regular British officers at General Headquarters. Immediately the light horsemen arrived on the desert they were confronted with the extreme difficulty of transporting the wounded. When the regiments left Australia they included mounted stretcher-bearers who rode with the regiments; but, as British cavalry used dismounted bearers, the Australian innovation was condemned, and orders were issued to discontinue it. But the light horsemen protested, and were permitted to retain the necessary horses. When they went into Sinai, their mounted bearers were the only ones who could move efficiently. The New Zealanders quickly adopted the same method. But the British did not yield without an amusingly characteristic resistance. The Australian application for poles to enable the horsemen to carry the stretchers was refused, and the difficulty was met, as with the spearpoint pumps, by the purchase of bamboo poles out of Australian funds.

In action the bearers worked dismounted. The subsequent transport of wounded behind the line was attended at the outset with the sharpest suffering to the wounded. Sand carts or wheeled ambulances, which were hooded wire mattresses borne on broad-tyred wheels, could make no headway in the heavy sand; and the camel cacolets, made up of a deck-chair contrivance swung on either side of a camel, proved frightful appliances of torture. The Australians therefore devised simple sleighs made of sheets of galvanised iron turned up at the front and drawn by two horses. These proved a safe and gentle means of transporting even the most painful cases, and later they were displaced by a New Zealand improvement of the same device. Still another innovation, introduced by the New Zealanders, was the establishment with each mounted brigade ambulance of dental units, capable of treating all simple cases and doing plate-work in the field. Up to 500 cases were treated by one of these units in a month, and the temporary evacuation of great numbers of men was prevented. Here, too, the British resisted the novelty, but finally adopted it for all the cavalry.

The handling of horses in the wheeled transports also resulted in a friendly struggle between the Australians and the higher authorities. At the outset three of the horses in the six-horse teams were ridden by drivers in the usual army way. But the Australian teamsters were drawn from men accustomed in the back country at home to driving any number of horses single-handed, and as a rule without reins at all. Australia had sent to Egypt a particularly fine lot of small, active Clydesdale horses for transport work; and the practical teamsters resented seeing animals, already distressed by the heavy sand, carrying what they deemed the unnecessary burden of postillions. The British, however, refused an application for the issue of reins and the abolition of drivers. But the teamsters would not be balked. They bought and improvised reins, discarded the postillions, and handled their six horses alone from the box. Then the army conventionalists again surrendered, and once more adopted the Australian style for the whole force, so effecting a great saving in men and increased service from the horses.

It is necessary to mention these things because, although they may seem trifles, the spirit which initiated them was the spirit which conquered the desert and led on to the overthrow of the Turkish armies. The ultimate triumph in Sinai was not so much a triumph over military opposition—although that was substantial—as a triumph over exceedingly harsh natural conditions. And in no branch of the army was the fight waged with more zeal and effect and with more influence on the success of the campaign than in the Australian and the New Zealand Army Medical Corps. When the Anzac Mounted Division moved to the Romani area, it was menaced with destruction by the prevailing conditions of army life, quite apart from the activities of a flushed and aggressive enemy. At that time the equipment of the division for the great and intricate medical and sanitary work ahead of it was of the scantiest kind. Failing immediate and successful achievement by the medical service, the Sinai force would be in danger of destruction during the summer, even if the Turks did not fire a shot. Not only were the conditions of living so unfavourable, but it very soon became clear that men who rode through most of the nights, and found sleep

in the hot and fly-infested camps impossible by day, could offer only a very slight resistance to disease. Some idea of the strain of that summer on the horsemen may be gathered from the fact that between 70 and 80 per cent. of the men of the Australian force developed temporary heart trouble. To add to the menace, a great number of the troops had suffered from dysentery in the Gallipoli Peninsula.

Sand is weak in bacteriological activity, and consequently the usual arrangements for burying refuse could not be adopted. Sufficient firewood to consume the litter of great cavalry camps was out of the question; but, unless all the refuse was destroyed, there was no possibility of fighting and reducing the myriads of flies, which swarmed in the camps and threatened them with disease. The medical officers of Anzac Mounted Division, however, ably directed by Lieutenant-Colonel R. M. Downes,² attacked the problem and conquered it. Once more improvisation was the key to success. Great incinerators were constructed from thousands of empty bully beef tins, and these, cunningly arranged to ensure plenty of draught, consumed the rubbish of the Romani camps. All the refuse, before it could be burned, had to be cleared of sand by the use of sieves. Extraordinary devices were evolved to prevent the breeding of flies, and all ranks were then urged to make war on the flies which came to the camps with the supply columns and reinforcements and with troops returning from operations. Sticky substances for use on streamers were manufactured in the camps by the medical staffs. The tired troops cheerfully supported these efforts. For a time the natives of the rapidly growing Egyptian Labour Corps were strangers to sanitation; but as the war advanced their camps rapidly improved, until they were models of cleanliness. The success of the campaign against the flies, and the wholesomeness of the British camps at Romani generally during the summer, were appreciated wherever the light horse rode into camps recently evacuated by the enemy, when they were swarmed upon by clouds of flies and had their senses outraged by the offensiveness of the areas. The Turkish capacity to endure discomfort, bad

² Maj.-Gen. R. M. Downes, C.M.G., V.D. D.D.M.S., A.I.F., in Egypt, 1918/19. Surgeon; of Melbourne, Vic.; b. Mitcham, Adelaide, S. Aust., 10 Feb., 1885.

water, and filth was one of the minor wonders of the campaign. Hods which had been occupied by them could not be used by the British.

England has fought many desert campaigns; but Governments enter upon each new war with little or no consideration for the lessons of the past. The conditions of the yeomanry camp at Romani, when the light horse entered it, has been vividly described by the senior medical officer with Ryrie's brigade. "There was no sanitation at Romani," he wrote, "during the first few weeks of our occupation. The camp was found in a filthy condition; heaps of manure were lying everywhere; horse-lines were feet deep in manure. . . . The whole camp was a huge fly-breeding area. There was no means of combating the difficulties for some weeks. The troops travelled without any equipment except rifles and ammunition. There were no rakes, spades, shovels, carts, baskets, boxes, bags, or any means of moving manure. No disinfectants or fly deterrents or poisons were available. Even had these means been at hand it would have been almost impossible to find the men to do fatigues. . . . These troops had neither blankets nor bivouacs except those rapidly put together by palm-tree branches. These were useful for keeping off the intense sunrays during the day, but orders were soon received that the palm-trees were not to be cut for this or any purpose. It was considered a military necessity that all the troops at Romani should be encamped in the hod, a small area large enough scarcely for one regiment to bivouac for a day." The men, exhausted after their long rides and their almost ceaseless duty on the horse-lines, flung themselves down in heaps on the sand and won what brief and restless sleep was possible in the hot, insanitary, fly-infested camp. Rations were irregular and bad. "Supplies," says the same medical officer, "were secured with difficulty by the yet unorganised transport from railhead at Pelusium, five or six miles away, to which point they were also with difficulty transported owing to inadequate railway accommodation and arrangements. Supervision of supplies was either difficult or lax at base dépôts at Kantara or Port Said, or elsewhere; and it was a common sight to see camels coming in loaded with

quarters of beef which had the light cloth covering torn off, covered with myriads of flies, and a dirty camel-driver seated on the top of the load."

Even to exist under these conditions imposed a heavy strain on the troopers. But they had not only to exist; they were at once called upon for work of an excessively exhausting character. The first important reconnaissance was to Bir el Abd on May 7th and 8th, when they were in the saddle almost unbrokenly for about twenty-seven hours. They found Abd clear of the enemy, and the march passed without incident, although it served as a useful experience for all ranks. Arrangements for the little enterprise demonstrated Chauvel's thoroughness in preparation, and made it clear that the Turks would have to exercise much ingenuity and daring to catch the Australians as they had caught the yeomanry. The 6th and 7th Light Horse Regiments, with brigade headquarters, moved direct on Abd along the line of the telegraph wire, and the New Zealand Brigade, which temporarily moved to the Romani camp as soon as it was evacuated by the 2nd Light Horse Brigade, pushed a force out along the shore of Lake Bardawil to protect the left flank of the reconnaissance party; the 5th Light Horse Regiment took up a similar position on the right flank towards Hamisah. At Abd the Australians captured an Arab wearing a tunic and boots stripped from the yeomanry dead. The water-supply at the oasis was found to be good, with a concrete well and trough—a very rare improvement in the desert. Other wells located on the march had recently been deepened and timbered by the Turks with green palm logs, and in consequence the water was foul and bitter. All over the oasis area there was evidence that the Turks had been aiming to make the district capable of supporting a considerable army.

So far the Australians had suffered very little from the sun on the desert, whether east of the Canal or in Egypt before or after Gallipoli. Northern Sinai, despite its excessive temperatures and blinding glare from the raw sand, is seldom subjected to sustained heat. The early morning is usually still and hot, and by nine or ten o'clock the sun is burning in its intensity. But towards noon a cool breeze blows in from the Mediterranean, and the rest of the day is tolerable, while

the nights even at the height of summer are often piercingly cold. Accustomed to strong sunshine in Australia, the light horsemen for the first fortnight looked upon the climate with indifference, except for the discomfort of the camp. Very soon, however, they were taught that the grim reputation of Sinai was well founded.

A few days after the march to Abd the Australians and New Zealanders engaged in a reconnaissance to Bir el Bayud and the surrounding country to the south of Romani. At that time the only supply of drinking water was being carried in fantasses on camels from the pipehead east of the Canal. The troops were on a limited allowance, and the men of the 6th Light Horse Regiment rode out in the early morning to Bayud carrying only a quart bottle each. The heat was terrific; in a large tent at Romani the thermometer rose to 126° Fahr. Suffering acutely from thirst, many of the men soon exhausted their water-bottles, and together with their horses were showing signs of extreme distress by 10 o'clock in the morning. The regiment was then withdrawn to Hod el Baheir, and rested under the palms. During the day many men lost consciousness, and the foul water at some of the wells had to be picketed by guards with fixed bayonets to prevent the distracted troops from drinking. Fortunately the medical officers at Romani, warned by the excessive temperature, on their own initiative secured a number of ambulance camels and a supply of water and went out to succour the column. Near Katia they met stragglers from the reconnaissance party, "a few of them only apparently semi-conscious but making their way with their exhausted horses to camp at Romani."

Scores of men lay for hours round the hods at Katia and Oghratina in an unconscious condition, but sand-carts were brought up for their transport, and no lives were lost. Four officers and thirty-two troopers, however, had to be evacuated to hospital, and what was still more surprising, 500 of the horses were for some time unfit for use. On the same day the New Zealanders of the Canterbury Regiment also suffered severely. But despite all the distress, the widespread reconnaissance was fully accomplished, and much information was gained concerning the country and the water-supply. General

Murray, in a special message of appreciation of the work done that day, added that he "did not think any other troops could have undertaken the operation successfully in the present weather," and he generously expressed the same opinion in a cable sent on May 17th to the War Office. Anzac Mounted Division was already showing promise of the quality which was to distinguish it throughout the campaign. The complete dependability of the light horsemen and the New Zealanders under all conditions quickly became recognised, and towards the end of May the Commander-in-Chief in a further message of congratulation to Chauvel remarked, "Any work entrusted to these excellent troops is invariably well executed."

On the Bayud reconnaissance the Australians and New Zealanders had seen a few scattered Turks, and it was evident that the enemy, although he had withdrawn in strength from the Katia area, was keeping a close watch upon the British activities. This, owing to the wide extent of the area and to the heavy sand making the capture of his patrols very difficult, was a simple task. But the main value of these early reconnaissance to Chauvel and his men lay in the experience gained of desert conditions. After the narrow escape from disaster by thirst on May 16th, fresh arrangements were made for the supply of drinking water. Strong representations were made that all ranks should be provided with two water-bottles in place of one, and in course of time two bottles were issued. As the summer advanced, water-bags also became available for some of the men; but the most promising development was the disposition of the individual trooper to provide as far as possible for his own welfare when engaged upon operations.

This spirit of self-preservation, born at Romani, worked strongly towards the future success of the Australians and New Zealanders. The men lost no opportunity of acquiring additional water-bottles, and also small sacks for carrying extra horsefeed; they further took every chance that offered to lay by little reserves of water, tinned provisions, and fodder, until, as the campaign was continued, the average light horseman rode out upon all serious missions with probably double the normal supplies for himself and his horse. There were

instances in Palestine of a light horse brigade spending upwards of £1,000 at a single field canteen in the few hours which preceded a distant and prolonged encounter with the enemy. In Sinai, after the Bayud ordeal, all possible marches were made by night, and troops dependent upon a single water-bottle each would, despite their thirst, abstain from drinking until their objective had been reached—perhaps at noon on the following day—and the return journey commenced; and so strong is the association between mind and body in relation to thirst, that men who drank their water early in the day and were then left with an empty bottle, would collapse sooner than men who had not drunk at all and had their full bottle in reserve.

Meanwhile the 1st Light Horse Brigade had returned from the Upper Nile and crossed the Canal. On May 27th Meredith relieved the 2nd Brigade at Romani, and the 1st, 2nd, and 3rd Regiments in their turn learned the ways of Sinai. As the mounted men found themselves more at home upon the desert, and became expert at marching at night on compass bearings, the surprise and capture of the little Turkish posts was taken up with the keenest zest by all ranks. The first success fell to the New Zealanders, now also based on Romani, who, supported by the 1st Light Horse Regiment, enveloped a small Turkish body in the dawn of May 31st at Salmana. The enemy was surprised by the Aucklands, and suffered a loss of fifteen killed and two wounded. Those who escaped were pursued by British airmen who, flying low and dropping bombs, killed eight more Turks and twenty camels. But as a rule the Turks received ample warning from their patrols and the Bedouins, and the Anzacs after long night-rides found their camps deserted. In the operation against Salmana, artillery for the first time accompanied the mounted troops in Sinai. One gun from the Ayrshire Battery was mounted on pedrails and hauled over the rough country. The heavy sand made the transport of guns on the ordinary wheels impracticable, and for a time Chauvel was faced with a mounted campaign without artillery support. But the difficulty was overcome by the adaption of the pedrail for desert conditions. The experiment was completely successful on the Salmana raid, and afterwards guns similarly equipped accompanied the horsemen on all serious enterprises.