

CHAPTER XIV

MESOPOTAMIA¹

STARTING as a small adventure undertaken by India with the object of safeguarding our interests on the Persian Gulf and preventing the oil wells of Persia from falling into Turkish hands, the campaign in Mesopotamia led, partly by chance and partly by design, to the conquest of the whole Ottoman province of Iraq from the Persian Gulf to Mosul, with a long arm stretching right through northern Persia and reaching at once time to Baku on the Caspian Sea.

The oil was conveyed by pipe line to Abadan, near the mouth of the confluence of the Tigris and Euphrates, to guard which point a footing was established at Basrah some miles higher up the river, and the small force of Turks in the neighbourhood routed. The expedition was then reinforced and it was proposed to make an attempt on Baghdad, whose capture would resound with great political effect. But the strength of the Turkish forces to be encountered was underestimated, the troops despatched on the operation, when a few miles south of Baghdad, found themselves faced by a far superior concentration of the enemy and were forced to retire on Kut. Here, after reinforcements hurriedly sent out had been rather frittered away in piecemeal attempts at relief, owing to the scarcity of river transport, the beleaguered garrison was forced to surrender on the 29th April, 1916; and our prestige, far from gaining strength, suffered a severe blow.

With this part of the campaign we are not here concerned; the operations were conducted by India with its own ancillary services. But it must be said that the attempt against Baghdad was less the result of a well thought out plan than of a policy of drift. The supply and medical arrangements broke down and resulted in

¹ The earlier part of this story is based on a narrative written by Major General Sir Hugh Perry, the latter part on the personal knowledge of the author.

very grave hardships and suffering to troops operating in the most torrid climate in the world, where plague and pestilence abounded.

India normally furnished its native troops with only a bare quota of essential fighting equipment, leaving them to provide for their own domestic wants. It held no war reserves of every species of equipment such as existed in England, and its military hospitals in particular were far from being up to date. It underestimated difficulties, attempted to govern supplies by peace time precedents and complained that the demands of its own representatives in Mesopotamia for river transport were 'querulous and petulant.'

It made no attempt to mobilize the vast resources of its own country and failed to provide many of the extra domestic articles now suddenly called for. Light 21 lb. single-fly tents gave no proper protection from the burning heat of the summer sun and during the winter's cold the troops were left to shiver without any extra warm clothes. India in fact failed to recognize that there are times when to spend money lavishly with both hands is in reality the truest economy and tried to run the campaign on the cheap.

After the grave set-back caused by the surrender of the garrison of Kut, the War Office stepped in and undertook to conduct the further progress of the campaign, sending out General Maude as Commander-in-Chief, and some of its own officers to fill appointments on the headquarters staff and directorates, including Brigadier General (afterwards Major General Sir Hugh) Perry, who assumed charge of Ordnance services in Mesopotamia in September 1916.

At that time the situation was as follows. There were three divisions in the forward area forming one Corps in positions south of Kut on either side of the Tigris. One division (the only British) was at Amara and one at Nasiriyeh, guarding the lines of communication. Besides this there were two cavalry brigades and some heavy artillery. The senior officer of the Indian Ordnance

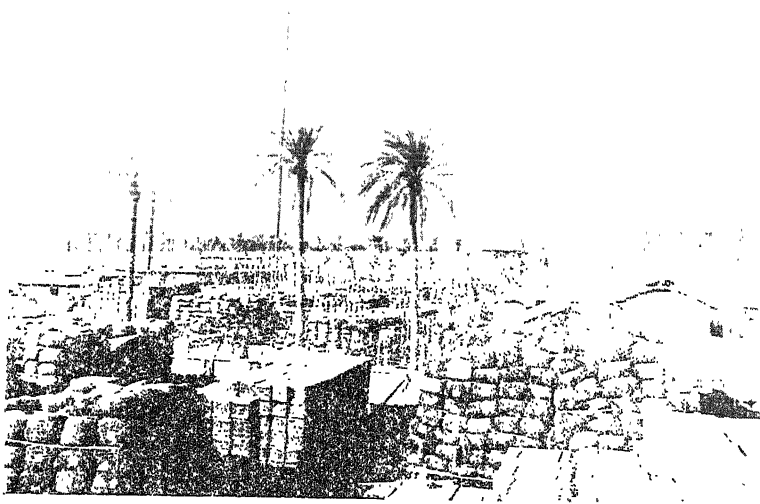
OTHER ARENAS

Department at the front was A.D.O.S. of the Corps and each division had its D.A.D.O.S.

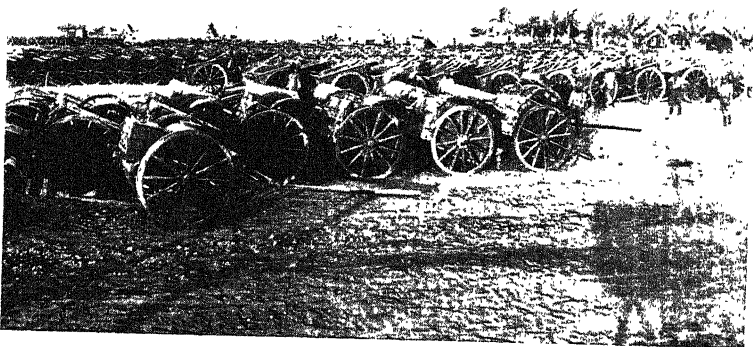
The base depot was at Basrah, where the Director of Indian Ordnance Services was located, and where there were serving in addition but two administrative and four executive officers of the I.O.D. At Sheik Saad, river head on the Tigris, there was a small advanced depot (three officers) and another at Amara (one officer), while small offshoots existed at Nasiriyeh, Ahwaz, and Bushire to supply local troops. These officers were assisted by a staff all told of 67 warrant officers and staff sergeants of the I.O.D. with a smattering of native clerks and artificers and some lascars. There were also two Ordnance mobile workshops in the country, with five Ordnance mechanical engineering officers and British artificers; but they were immobile, one forming the nucleus for a shop at Basrah and the other at Sheik Saad.

The newly arrived D.O.S. was at once faced with a variety of problems, of which the first and most obviously important was very largely to increase this all too exiguous staff. Extra officers, two Army Ordnance Companies and two mobile workshops were cabled for from home, while an establishment was drawn up for an Indian Ordnance Company; India being asked to provide sufficient personnel to form two such companies, with a strength of 100 British, 40 native clerks, a number of Indian artificers and 500 lascars. India was also asked to provide more officers; but though promised, they never arrived. India in fact constantly clamoured for its Ordnance officers to be returned, and once when two were invalided the D.G.O. India in all seriousness asked that in future officers be sent back before becoming ill, so as to be available for duty on arrival.

Of equal importance was the complete reorganization of the base depot, the site for which had been selected when there was less than one division in the country. "My first inspection," writes Perry, "was a most depressing ordeal. The site was constricted and much congested. Everywhere there was a want of neatness and order. This was primarily due to want of supervising



ORDNANCE DEPOT, BASRAH



WAGON PARK, BASRAH

staff, but also to want of space, want of labour and want of transport. On the day I went round there were 70 coolies working, the depot could have employed 700. There were 400 tons of stores ready for the front waiting for transport." The only remedy lay in the complete removal to a new site on the river bank at Magil, a palm grove below the flood level of the river which had first to be cleaned up and drained. Here eventually, largely owing to the exertions of Lieutenant Colonel Howell Jones, who was appointed Chief Ordnance Officer, a very fine depot came into being, with excellent sheds and wharves alongside of which ocean going steamers could berth. Features much coveted by others were the large airy mess and quarters for officers, and the theatre, a popular centre for all.

The condition of ammunition was another matter that needed prompt attention; high explosive shell, lying in the open exposed to the intense heat, having exuded freely. Practically every nature was affected, but in particular fuzed field howitzer shell. These were replaced by unfuzed lyddite which arrived just as active operations were beginning once more, when the work of refuzing had to be carried out under heavy pressure. A very large proportion of the Mills grenades was unserviceable owing to heat or damp or a combination of the two, the ammonal filling having crystallized and become inert; and trench mortar bombs were suspect. In fact throughout this campaign explosives of all sorts were a continual source of trouble, more particularly in the later stage of the war when expenditure was small and most of the stock had passed several summers in the country. But this is to anticipate events. At present the fear was that supply might run short and a large ammunition depot, constructed to resist heat and isolated at some distance inland from Basrah, was built in the desert to hold what it was desired to accumulate.

Another point was that those troops who had come direct from India were armed with an old pattern of rifle, while others who had arrived from France or Egypt possessed the latest British pattern. In some

divisions both types were in use, and each took a different cartridge, making ammunition supply a complicated business. A programme of re-armament was accordingly planned which resulted in all troops at the front having the newest high-velocity rifle.

Further, the new Director of Supply and Transport Services, an officer of the British army, was naturally anxious to rid himself of the job of clothing the troops, a service carried out in India by the Supply and Transport Department ; and, despite the fact that the clothing depot, in charge of an Indian army reserve officer, was in a great state of chaos, the Ordnance had to take it over as it stood and sort out the contents as best it could.

Besides these immediately pressing problems, much else remained to be done. As the area we occupied expanded and the strength of the force increased to seven divisions and a cavalry division, further large increments of staff were required ; and, once officers became sufficiently plentiful to allot each a definite responsibility, the group system, as instituted in France, was adopted. The Indian financial authorities were persuaded to agree to what was to them a novelty—a current local audit of accounts, the Indian arrangement being to keep ledgers in duplicate by carbon process, one copy being despatched to the auditor to be examined, months or years later. Officers' shops were got going, nowhere so necessary as here, where it was impossible for an officer to get anything except on a written order to a far distant firm. At the main shops the A.O.C. installed its own cash clerks, although the Indian Paymaster, who was unable to provide anyone for the work, protested against such an infringement of his prerogative. Any officer who had experience in unravelling his account with an Indian pay office will realize what a boon it was to be able to pay in cash over the counter instead of by signing a voucher against his pay which, by devious courses, would find its way into his account months afterwards as an unexplained entry.

Then there was for long great confusion owing to the Directorates of Railways, Works and Inland Water Transport, besides the Ordnance, each independently

ordering articles such as ironmongery, cordage, lubricating oil and tools through its own headquarters in India ; so that, just as had occurred at the Crimea, one had a surplus of what another was clamouring for.¹ It took long to get this vicious arrangement put entirely right and the whole supply concentrated in one set of hands—those of the Ordnance. The last step that actually brought procedure into line with the British organization was for the Transport to hand over to the Ordnance the providing of Indian transport carts and their harness ; a change that only occurred shortly before the Armistice.

Provision work, managed by an able officer of the I.O.D., Colonel Reed, was throughout difficult as there was a dual source of supply. Articles of Indian pattern, or those which from time to time India professed its willingness to manufacture, were demanded from that country, and others from the central base at Alexandria. But this was by no means the end of the business. Sometimes India would be unable to provide what it had undertaken to supply and then the demand would have to be transferred to Alexandria. That centre again had to ask the War Office to meet many of its liabilities, so that very lengthy forecasts were necessary ; supplies from home taking months to reach Basrah, usually after transshipment at Bombay.

India moreover continued to criticize demands in what seemed an unwarranted manner seeing that the War Office footed the bills. It answered a request for large airy double tents to house the troops by a horrified enquiry whether it was realized that they would cost £32 each? In fact to those of the A.O.C., accustomed to being so open-handedly served by the War Office, it was the attitude of India that seemed ‘ querulous and petulant.’

One branch of work however, undertaken from Indian sources through the enterprise of a private citizen,

¹ The D.G.O. in India once sent the R.E. a long list of tools saying they were surplus of India's requirements, while at the very same time he returned a demand for similar tools, made by the Ordnance, saying none could be supplied as none were available.

deserves very creditable mention. By arrangement with Simla, Rai Badahur Bhoota Singh, head of a large Panjabi firm, raised certain tent-repair units and sent them out to Mesopotamia, where they became part of the Ordnance establishment. The units were officered by his sons and relations who were given temporary commissions, and staffed by his own employees; and, besides working at the main Ordnance depots, parties would be sent out to one camp after another to overhaul tents and do other odd jobs. These self-contained units worked admirably and never gave the slightest trouble. The men were skilled at their trade and, seeing that the whole of the troops and hospitals were housed under canvas, their work was invaluable. No account of Ordnance services in Mesopotamia would be complete without paying tribute to the great assistance rendered to the State by Bhoota Singh and his family.

From this account of immediate action and subsequent developments we can turn to the incidents of the campaign. The new Commander-in-Chief took the greatest care to avoid the mistakes of the past, and refused to budge one step forward until he had assured himself that he had accumulated not only sufficient men but sufficient materials of every kind, and transport for their conveyance from Basrah onwards. In attending to these matters, General Maude was indefatigable, interviewing his Directors personally and cross-questioning them as to details, so that his 'Q' Staff complained that there was nothing left for it to do. Transport was improved, the troops were refitted, and substantial stocks accumulated at Sheik Saad which became general headquarters. The two new mobile workshops arrived from England towards the end of January 1917; they were posted in forward positions one on each side of the river—one for each of the two Corps then formed—and were at once busily engaged in the overhaul of gun equipments and wheels.

Then, with every preparation made and every future want forestalled to the utmost extent possible, General Maude launched his attack on the Turkish positions and



INDIAN TENT REPAIR UNIT



very speedily, before the end of February, he recaptured Kut and had the Turks in full retreat on Baghdad, closely pursued by our troops. Advanced G.H.Q. embarked and went up by river, and its main body at Sheik Saad was left with no news but an occasional telegram. The events that followed can be best described in Perry's own language.

“The only thing certain was that, as soon as a halt was called, refitment would be badly needed, and a collection of stores was made in readiness for a forward move. The two mobile shops were withdrawn to Sheik Saad from which place they could more easily move by river, for the bridges were not strong enough to allow their going by land. Under instructions from the Commander-in-Chief, 30,000 rounds of 18-pdr. shrapnel ammunition were wired for from Basrah; and with this consignment I ordered up a small detachment in case we had to make an advanced ammunition depot. Some more A.O.C. had just arrived at the base, and consequently I was in a better position to deal with fresh depots than had hitherto been the case. On the 3rd or 4th March we sent forward a barge loaded with 300 tons of items such as socks, boots, horse-shoes, oil, wheels, helmets, and anything else we could think of as being immediately necessary. On this barge I also sent the personnel of one mobile workshop with hand-tools, the rest of the machinery and lorries having to wait for suitable barges.

“On the 7th March I received instructions to join G.H.Q. at Aziziyeh, and decided to take my D.A.D.O.S. with his ammunition records and clerk and one shorthand-typist, and to leave the rest of the office under the A.D.O.S. behind. We started on the 8th in a very slow steamer and made bad time, it being three days before we got to Aziziyeh where we heard that Baghdad had been occupied two days before, and that G.H.Q. had gone forward. Here we found our store barge and another loaded with the equipment and lorries of the two workshops. The two workshop officers also reported, having come on by car, though how they got it across the

trenches was not explained—there must have been some hefty man-handling. Here also I was able to ascertain that the ammunition sent up from the base with its Ordnance party had passed through and continued its journey. After arranging for transport to take forward the store barge and workshops I re-embarked and arrived at Baghdad on the evening of the 15th, where I had an interview with the Commander-in-Chief, when the position was discussed and I was instructed as to what should be specially pushed up, principally tentage and other things necessary for the comfort of the troops during the hot weather.

“A site for my office had already been allotted at G.H.Q., besides one for an Ordnance depot on the right bank of the river a few miles below Baghdad, where the party sent up with ammunition and the barges left at Aziziyeh had already arrived. I was therefore at once able to wire for the rest of my headquarters and for extra staff to form the new depot. A part of the Citadel at Baghdad was also allotted for ammunition. The same evening we got our first demand, an urgent wire from the 3rd Division for socks ; but as my beloved store barge had arrived I was able to regard such requests with equanimity.

“On the 22nd March, one week after my arrival, the main part of my office arrived, as did the C.O.O. from Sheik Saad with the party he brought with him. The troops were still engaged in active operations north of Baghdad, and it was not until the occupation of Samarra towards the end of April that operations ceased and the troops went into summer quarters. With the troops so much on the move, it was not possible to do much in the way of renewals, and the month was spent principally in getting our own house in order and preparing for the extensive refitment which we knew would be necessary as soon as the troops came back to rest. Owing to the danger to be anticipated from Turkish explosives, I was able to get the whole of the Citadel allotted to me and put under my control, the squatters who had jumped accommodation there having to move out. The long

line of communications between Basrah and Baghdad made the getting up of stores a difficult matter, the round trip taking twenty-four days even if all went well; and the system of a weekly meeting of Directors with the Q.M.G. and C.G.S., to allot such tonnage as was available, was started at Baghdad."

One more incident recorded by Perry is worth quoting, namely that an Ordnance officer was the first of the Army to enter the city of Baghdad. "One of the Ordnance engineering officers, Captain Kemp, was following up behind the 13th Division and, coming to the city, went straight on under the impression that the division was still in front of him, while actually it had gone round on the outside and no troops had entered. He found the streets full and was greeted with cheers and handclapping; and passed right through without molestation. Going on beyond the city he failed to get into touch with the 13th Division so returned to Baghdad, which he then found occupied by a brigade of the 14th Division which had been behind him."

The capture of Baghdad was our first real success in the war, and once its security was assured, major operation in this theatre ceased for some time to come. The task was now to consolidate the ground gained and the troops settled down into camps stretching from the borders of Persia to the Arabian desert, with a spearhead thrust well to the north of Samarra. They were occupied in policing the country and quelling minor disturbances, for the perpetual feuds among the Arab and Kurdish tribes had been given full rein by the withdrawal of Turkish officials; and Nejef and Kerbala, the holy places of the Shiah, had always been hot-beds of intrigue.

This summer was a particularly busy time for the Ordnance. Besides housing the troops under canvas, all their equipment and transport needed overhaul and much of their clothing to be replaced. An extensive programme of gun repairs was drawn up and was adhered to despite the intense heat.

Little by little routine arrangements came into force

for supplying the troops. India had at last decided to reorganize its Ordnance Department on British lines and in the autumn obtained Perry's services for its newly created post of D.O.S. India to carry out this change. Sir Charles Mathew, who relieved him, had served both in France and Salonika and, under his guidance, arrangements were modelled on the same general lines as in those theatres.

Nevertheless certain distinctive features remained, chief among which was that work was carried out through a dual organization, half British and half Indian. The Indian Ordnance officer, however capable, had less chance of exercising initiative than his British confrère. Indian army regulations were enormously voluminous and intricate. They abounded with inhibitions and it was a simple matter for Army headquarters, sitting placidly at Simla some ten days or so distant by post, to find fault with any departure from routine action called for by some emergency. In such circumstances keenness to accept responsibility could not be expected. Once he found himself supported by his superiors, however, the officer of the Indian Ordnance Department soon adapted himself to the many unexpected situations that were bound to arise on active service.

The Staff officer again, was unused to having at his elbow an Ordnance officer to thrash out details for him, with the result that the A.D.O.S. of an Indian Corps was too apt to be treated as an executant. Initiative was not expected from him, and no duty but that of obtaining such stores as he was ordered to produce.

Another result due to the same cause was that there were dual scales and types of equipment, the effect of which was more far-reaching than would at first sight appear. As an illustration, take such a simple article as the surcingle-pad used to keep a horse rug in place. Not only did the Indian pad differ in shape from the British, so that the two were not interchangeable, but it was made of leather stuffed with wool (both incidentally materials of which there was a great shortage during the war) whereas the British pad was of

webbing stuffed with coir-fibre—cheaper and equally serviceable. Many thousands of both sorts passed through the workshops for repair so that, in place of one type of job, there were two. Each required different materials, different tools and different workmanship; and the very shiftless Armenian, Jewish or Arab women engaged on work of this sort had to be taught how to do two classes of repair instead of one. The expenditure of energy was increased probably by 50 per cent. As another instance, khaki clothing can be cited. The size rolls used in India and England were altogether different, so that a No. 1 jacket from home corresponded in no sense with a No. 1 jacket from India. They were undoubtedly instances where standardization would have been impracticable; but in numerous cases, of which the above are examples, there was nothing to warrant a divergence of pattern which increased heavily the difficulties of maintenance.

Another feature has already been mentioned, the intricacy of provision work with three possible sources of supply—India, Alexandria and England, and the very long forecasts necessary in framing demands for upkeep. Moreover, except for a few petty bazaar industries, there were no local resources that could be tapped. In this respect the Ordnance in Palestine were much more favourably situated, having the Levant base close in rear to provide for all its wants, with the splendid workshops of the Egyptian Government at its service.

Lastly the physical features of Mesopotamia have to be taken into account. The country consists of a fertile strip of alluvial soil, bounded on either side by the sands of the desert, through which meander the two great rivers—Euphrates and Tigris. The Euphrates is not navigable for craft of any size, but the Tigris forms a natural highway from north to south, and it was on this river that the troops depended for their supply services.

In the last chapter, General Bainbridge has referred to the predominating influence on the conduct of operations of the railway gradually pushed forward into

Palestine and how, every time an advance occurred, the troops 'ran away' from railhead, making it impossible for the time being to keep in contact with them. In Mesopotamia it was the Tigris that was the governing factor, but here the conditions were more favourable and, as Perry has recounted, it was possible to have barge loads of equipment, ammunition and mobile workshops at Baghdad within a few days of its occupation by our troops, despite the rapidity of their advance—in fact immediately it was safe to take supplies so far forward.

On the other hand, barge traffic on the Tigris was painfully slow in comparison with movement by rail. Owing to its sinuosities, two miles were covered for every mile advanced, some 500 miles of water with a strong current separated Baghdad from Basrah, and there were constant breakdowns. With every spring flood the river would carve itself out a fresh channel in the soft soil and then, when its level fell, new sand-banks and shoals would appear.

To compare the two campaigns once more. It will have been noted that in Palestine advanced Ordnance depots were on several occasions located at or near railhead, and that on each occasion they were soon after closed down and replaced by Kantara—right back on the Suez Canal—as a direct source of supply to the fighting troops, so expeditiously could consignments be sent forward, even with a single line of rails. But in Mesopotamia, even when our troops were below Kut, an advanced depot was needed at Sheik Saad ; and, with the advance to Baghdad, it would have been utterly impracticable to provide for their wants with no source of supply nearer than the base. We have indeed, in these two theatres, exact contrasts. On the one side a line of communications, slow in construction but rapid in operation, and on the other a line ready made, but tedious and uncertain in operation.¹

¹ It is true that a railway was constructed as soon as possible linking Basrah and Amara on the right bank on the Tigris and another on the left bank linking Baghdad and Kut ; but there remained a gap between Amara and Kut that could not be bridged by rail on account of the

Thus, owing to the time taken on the journey, it was found advisable, once Baghdad was fully secure, to instal there a very substantial Ordnance depot, with ample stocks of every kind and facilities for repair and salvage work almost on a par with those at Basrah. The depot at Sheik Saad on the other hand was closed, but a new depot was built at Kut to hold a reserve of ammunition, the base being so far in rear. This depot, like that at Amara, also looked after all troops in its vicinity.

The depot at Baghdad was in two halves. Most of the stores and clothing were at the site originally selected on the right bank of the river below the town, a tented city of peculiar construction, for under each block of canvas was dug a sunken space some four feet deep, with the tent poles standing on props—this semi-underground life being adopted for coolness. Here, among other institutions, was a laundry capable of very high class work managed by a temporary officer connected with Pullar's dye-works, manual work being carried out by chained convicts from the civil prison.

The other half, comprising the armoury, magazines, workshops and laboratory was situated in the Citadel of Baghdad, which deserves a description, both because it was the most important and interesting building in the city, and because its condition when taken over gives an idea of what a Turkish Ordnance depot was like. I quote once more from Sir Hugh Perry :

“Entering the Citadel by the south gate the first storehouse on the right was found to contain a collection of arms, swords of all sorts from old Arab swords to modern articles of the ‘tailor’s’ variety, revolvers of different descriptions, some automatic pistols and a fair number of rifles. The rest of the space was occupied by fleas. These were fairly plentiful all over the Citadel,

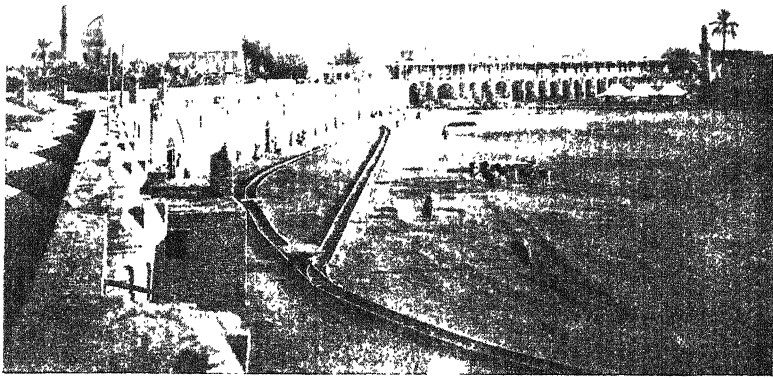
nature of the country. If use was made of these lines for the transport of stores, two transshipments *en route* had to be made and part of the journey was still performed by water, with the result that, except in a few cases of great urgency, direct barge traffic from Basrah to Baghdad remained the sole channel of supply.

but in no place did they swarm quite so badly as in this room. The disposal of the swords gave some trouble as there is nothing in regulations regarding such loot. Some were of real intrinsic interest, and all were of interest as souvenirs. After the Army Commander had selected the two or three he cared to keep the remainder were distributed among others. Among the stuff found were a number of what appeared to be pioneer axes ; they were modern, but the blades were ornamented with some Turkish figuring, and they were not unlike in shape to Saracen battle-axes. As such they were in much demand among the curio collectors.

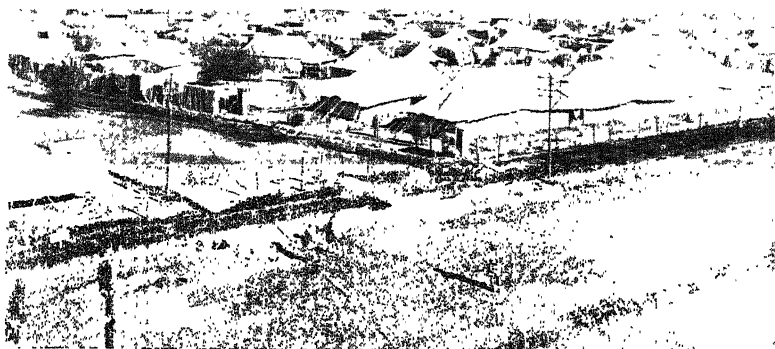
“The second store had apparently been a small ammunition store. It had been burnt out, and the floor was covered with a coating of lead, which was torn off in sheets, melted down and cast into ingots with ‘ Ordnance Baghdad ’ moulded on them. (This lead was eagerly sought after by the R.E. for making bridge foundations on account of its weight.)

“The next store was intact ; it had the usual miscellaneous assortment of stuff, cannon and small arm cartridges, rifles and smooth-bores. Here we also found the Turkish Ordnance officer’s ledgers. He must have been glad he had to skedaddle and lose them, they would never have passed audit. Here and in the other stores one had to be careful where one trod, the floor had been sown with detonators and caps ; and there were a few loose sticks of dynamite. It was in this store that we got a warning to be careful how we handled Turkish firearms. One of the old muzzle-loading muskets went off when it was being pulled off the stack and the lascar who had held of the muzzle had a narrow escape. We found that most of the old muskets were stored loaded, but to store one capped and at full cock seems rather careless even for a Turk.

“In the old Palace were some thousands of muzzle-loaders, some of them flintlocks of immense bore and length, and with fine inlay work on the stocks. Also, a contrast, two flammenwerfer which had not been unpacked, but were still in crates. The Palace is old, dating



THE CITADEL, BAGHDAD



RIGHT BANK ORDNANCE DEPOT, BAGHDAD

back probably to the fourteenth century. In her book *Amurath to Amurath* Miss Gertrude Bell describes the trouble she took to get permission to see this old Palace, and how the Turkish Commander refused on the ground that it was used as a military storehouse and strangers could not be allowed to go into it. As Miss Bell was working in Baghdad with the Political Officer, I arranged, as soon as the place was cleaned up, to take her over, and my information as to the date comes from her.

“The workshops had been fairly well destroyed, though whether all the damage done was by the Turks or some by our own aircraft is not known. All the machine tools had been damaged with a view to rendering them unserviceable, but as a rule they were not beyond repair; and, although old-fashioned, they were quite useful and made a welcome addition to our shop equipment. At the workshops we found a good many Kut captures. There were, I think, two 13-pdrs. and eighteen 18-pdrs., all of course rendered unserviceable before capture. Of the carriages either four or six were repaired and put to stock, and from the others many useful components were recovered. The only other buildings in the Citadel which need be mentioned were a Mosque and a prison. I am not sure whether the Mosque was used, but the prison certainly was and had a comparatively large population. We made full use of this population for repair work of the sort usually given out to such places, and the prisoners worked very well and were of considerable assistance.”

Baghdad was the terminus for barge traffic, the upper reaches of the Tigris being too shallow for river steamboats; but between Baghdad and Samarra lay the first section of the railway with which it had been the great ambition of Germany to link Europe with the Persian Gulf and obtain a place in the Oriental Sun. In their hasty retreat, the Turks left this railway practically intact and it was extended northwards as far as Tekri, in the direction of Mosul; while narrow gauge lines radiating from Baghdad to the Euphrates Valley on the

one side and to the borders of Persia and Kurdistan on the other, were constructed to serve the troops to the east and west. At, or in advance of, the various railheads on these lines, D.A.D.O.S.s had their dumps from which stores, obtained from Baghdad, were delivered to units by Indian transport carts or light motor-vans. Here were situated mobile workshops which, although gun repairs were infrequent compared with France, found plenty to do in tending other sorts of equipment. Here also were to be found ammunition dumps, replenished from the central magazine at Baghdad.

The contrast between climate in summer and winter was most extreme, ranging from 130° registered shade temperature to 10° of frost. During the summer, nothing could be borne beyond an open shirt and khaki shorts, with sun helmet, spine-pad, coloured glasses and even sometimes a parasol when out of doors; while in winter thick underclothes, service dress uniform, overcoats and blankets were essential; and the half-yearly exchange of all this, with the examination, repair, disinfection and washing for well over half a million of men, including Indian followers, was a particularly heavy job. Moreover the work, divided between Basrah and Baghdad, was at its highest pitch in the summer when men of other Corps were at rest in camp or on leave at some Indian hill station. This bore very heavily on the A.O.C. and I.O.D., for it was then that sickness was most rife, and a depleted staff had to work double tides to get through the job before the winter season opened once more. The climate of Basrah, at the head of the Persian Gulf, is particularly damp and pestilential, and it was this pressure of work that accounts for the percentage of Ordnance hands in hospital there being abnormally high.

A few special features of salvage operations deserve mention. A highly popular form consisted in the conversion of old bottles into tumblers by breaking off their necks and smoothing the edge; for these there was a constant demand from messes and canteens, glassware being unobtainable in the country. The repair of officers' watches was an industry that gave employment

to every watchmaker to be found in Baghdad, working under our own artificers. When visiting a division on the eve of an engagement, the G.O.C. told me that he and his A.D.C. had not a reliable watch between them wherewith to fix zero hour. It was a matter of serious difficulty to cope with the repair and adjustment of watches during this campaign.

Boot repairs were a far more serious matter. Owing to the extreme dry heat of the summer up country, it was with difficulty that boots could be worn if laid aside for forty-eight hours, so hard did the leather become. Men simply would not discard a comfortable pair except as the last extremity, with the consequence that what came in for repair at Baghdad was only fit for the rubbish heap. To remedy this, the central repair establishment was broken up into gangs which toured round from regiment to regiment. Each company's footwear would be inspected in turn and while a man's boots were being mended he received a soft easy pair, which he returned when he got back his own once more. The plan worked admirably, even though it involved the substitution of hand-tools for machinery; and the arrangement was very popular among the troops.

Another serious difficulty lay in the scarcity of wood or coal as fuel—everything having to be imported. The oil-fields furnished an abundance of crude oil, but this gave off such dense sticky smoke that it was impossible to use it for cooking. For a trench cooker, a very simple and ingenious arrangement was contrived to avoid this nuisance. The oil was slowly fed into an angle-iron under the camp-kettles, which were surrounded by muttie; and into the stream of oil water was dripped from a tin can. When the flow of the two liquids was properly adjusted the sole residue was a thin clear vapour. Many attempts were made to apply this arrangement to the travelling kitchen, but in vain. Seeing how little bulk is occupied by oil, the adaption of our field cookers to burn this type of fuel is a problem well worth solution.

The next events were due to the elimination of Russia

from the war. Russian troops, who had been engaged against the Turks in the Caucasus and North Persia, disappeared and left the road to Afghanistan and India open for German or Bolshevist emissaries to stir up trouble. It was consequently decided in the spring of 1918 to organize a small 'hush-hush' expedition, based on Baghdad, to operate in North Persia and counteract enemy intrigues. By degrees the strength of this force increased and a brigade, with field artillery, crossed the Caspian from Enzeli to Baku to assist the local Russian government in saving their town from capture by the Turks. At this time I relieved Mathew and can vouch for the difficulty of organizing a supply service over such a long straggling line, with small bodies of troops dispersed at intervals. The crux of the matter was transport. A short length of railway had been laid from Baghdad to Table Mountain; but beyond this much of the route, stretching some 600 miles to the Caspian shore, was over a very mountainous track, the immemorially old highway between east to west and really fit only for pack transport. Everything had to be carried either on camels and mules, which led to much going astray, or else on Ford box-cars, of which three-quarters of the capacity was occupied by petrol and oil for the outward and return journey.

Artificers were sent to the Caspian to mount guns for the naval force we formed on the Lake, and a laboratory party went to Baku with a view to adapting certain Russian ammunition for our use. Apart from this it is fortunate that there was no need to set up an Ordnance service at Baku as supply difficulties were so great. The Russians and Armenians were Bolshevist in method if not in name. They refused to fight and it was impossible for our small force to hold the great amphitheatre of hills guarding the town and its oil-wells. After a short stay, and in spite of opposition, we were compelled to withdraw and abandon such pusillanimous soldiers who would not defend themselves.

Neither was there any fighting in Persia apart from one or two sanguinary combats in the northern region whose inhabitants objected to our presence. Small blame seeing

how the country had been devastated in turn by Russians and Turks. It is difficult to justify our presence in this neutral State which was at peace with all the warring nations, though by furnishing work and wages we undoubtedly saved many from starving.

Thus demands were chiefly confined to clothing and domestic wants ; though even so stores accumulated at Table Mountain quicker than they could be removed. The headquarters of the force was at Kasvin, where in time a depot and workshop were formed ; while another depot was at the important centre of Hamadan. Headquarters of the line of communications from Baghdad were at Kermanshah, where an Ordnance officer looked after the conveyance of goods ; and, dispersed at intervals of 150 miles or so, were small dumps of essential articles such as clothing and boots wanted from day to day. Eventually, after the armistice with Turkey, and when our troops in the Caucasus reached Baku, the responsibility for providing for north Persia was transferred to that army to relieve the difficulty.

The last operation in Mesopotamia followed close on the heels of Allenby's victorious advance into Syria, by which time the strength of the force had been reduced to five divisions and a cavalry division. Largely owing to a brilliant turning movement by the cavalry, a very considerable Turkish force was routed, and Mosul, in the extreme north of the country, was occupied. Here the last new Ordnance depot, a small affair only, was opened shortly after the armistice with Turkey was signed on October 30th, 1918.

To cope with what was to be handed in on demobilization, for the returning troops were to take nothing with them but their personal equipment, large areas of 100 acres each were enclosed in the desert at Basrah and Baghdad, roads made, sheds built, and railway sidings constructed. These demobilization depots were in two parts, the reception portion where the equipment was taken over and roughly checked, and the storage portion

where the goods, after being examined, classified, cleaned and packed up, mostly by prisoners of war, were stacked. To these depots were transferred such stocks as were surplus to future requirements in so far as such requirements could be estimated; for, as in Palestine, the future policy of administering Iraq took long to settle.

In the spring of 1919, owing to trouble on the Afghan frontier, India thankfully took over from Mesopotamia a large number of surplus guns and ammunition with other war-like stores, affording a welcome relief; but unfortunately India also wanted for her campaign many of the by now depleted staff of the A.O.C. besides those of the I.O.D. Demobilization of Ordnance personnel had to be temporarily stopped, causing grave discontent among the rank and file of the Corps, who felt they were being overlooked in this far-distant theatre; and trouble was only averted by the tact with which the senior officers of the A.O.C. and I.O.D., Colonel McVittie at Basrah, and Lt. Colonel Fanshawe I.O.D. at Baghdad, handled a difficult situation.

The method of disposal of surplus stores in this arena differed in some ways from elsewhere.

Ammunition was in a very bad condition owing to the fact that much remained, manufactured in the early days of the war, that had been stored in the country for several years exposed to the most intense heat. There had been more than one spontaneous explosion of long-travelled rounds in gun limbers when jolting over the country. The usually recognized principle, that everything is serviceable unless proved to be otherwise, was therefore abandoned, and the reverse assumed. Every round of ammunition that could not be definitely pronounced serviceable was classed as unserviceable. Ammunition Units visited all forward dumps and units in Mesopotamia and Persia, they set aside what was most evidently good, and all the rest they collected into big dumps in the desert which were fired; the same principle being adopted at the large depots in the rear. In this way thousands of tons of doubtful explosives, then such

a drug on the market, and much of which were in a dangerous state, were blown into space without troubling the War Office, whose officials were no doubt glad to be relieved from having to give decisions at such a troublous time.

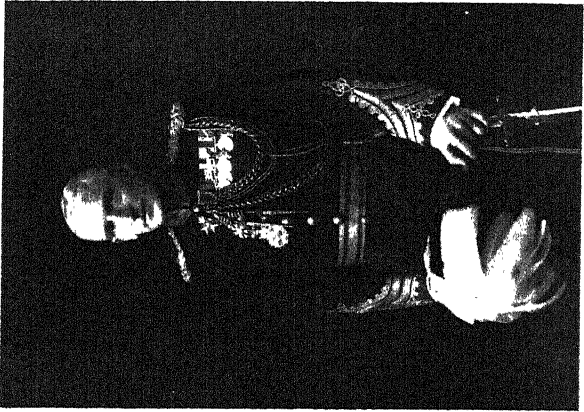
To deal with surplus goods a Sales Board was formed with the D.O.S. as president, the members being other Directors, such as those of Supply and Transport, Railways and Inland Water Transport, the Financial Adviser and representatives of the Civil Government. Each Director was responsible for the details of his own work, the Civil Commissioner had the first call at a valuation on anything that was to be got rid of, and the Board as a whole co-ordinated methods of procedure and dealt with matters of policy. Qualified temporary officers were appointed as auctioneers and rubbish, such as old boots, waterproof-sheets and pots and pans, sold like wild-fire. But there the matter ended. The small local market was quickly glutted and there was no outlet for the large surplus stocks of articles of real intrinsic value. The remedy appeared simple. After handing over to the Civil Government anything wanted for developing the country, mainly railways, wharves and river craft, the Sales Board could have disposed of the balance under instructions from the Disposals Board in London, either by shipment elsewhere or by destruction.

But the Disposals Board thought otherwise. It replaced the Sales Board, which cost the taxpayer nothing, by a large and expensive staff of its own, with Commissioners and Deputy Commissioners, auctioneers and clerks whose salaries amounted, if I remember aright, to some £10,000 a year, and who had not the intimate knowledge of the goods to be dealt with possessed by the members of the Sales Board. The Disposals Board itself was so alarmed at the cost of its establishment in Mesopotamia that, some time after my return to England, I was sent for and questioned as to the need of all this staff. I could only reply that in my opinion the expense was not justified. This matter is worth noting for, while it was no doubt essential in England and France to

relieve the army of the task of disposing of the enormous mass of buildings and materials left over after the war, an organization constituted similarly to the Sales Board in Mesopotamia seemed admirably adapted to deal with the situation in this smaller theatre of operations.



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D.O.S. MESOPOTAMIA



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