needless to add we all went ashore. My experience of three visits to this station are favourable, and I am not at all sure that I would dislike a tour of service there. Certainly it is a small station in Arabia, but visitors arrive daily from every part of the known world, and there is proximity to the wonders of the mysterious land. The difficulty until twenty years or so ago was water, for Aden is practically rainless, but when an occasional storm breaks, it is a heavy downpour, which the natives catch and store. A mile or so above Steamer Point and the native town are fifteen huge tanks, built, according to traditions, by the order of King Solomon. They were nearly empty when I saw them, and the water left was of a most uninviting quality. Cholera was once frequent, but of later years has almost disappeared in the presence of improved sanitation and a pure water supply derived by condensation from sea water.

It was hot whenever I visited Aden, but less than I expected. It is not the heat so much as the oppressiveness, ennui, and staleness that are so trying to the residents. The harbour is much infested by sharks, yet the Somali boys dive into the sea without fear. I saw one youngster whose leg had been bitten off by a shark, and he was again shrieking "Hab a dive, hab a dive."

An American on a liner is reported to have approached another passenger leaving Aden, and said, "Stranger, if I owned hell and Aden do you know what I would do?" "Indeed I do not," replied the other. "Well, sir, I would live in hell and rent Aden." Notwithstanding the Yank's opinion, many think otherwise and they may be right.

On the fifth morning after leaving Aden we woke up to find our ship running into harbour, passing Colaba lighthouse on the left, and a rocky shore on the right, as we approach Bombay. This is India, the land of regrets, in which I have to spend many years. The ship slows down in speed, and at 7 a.m. we anchor in mid-stream opposite the town.

Current Literature.

The Supply of Cooked Food in the Field. Major C. T. Beckett, M.C. R.A. *Journal of the Royal United Service Institution.* May, No. 498.

For the past ten years numerous trials have been made regarding the supply of food to troops in the field. The first problem arose out of the question of the most economical fuel for use under active service conditions. In most eastern countries likely to become a theatre of war it is difficult to obtain coal or wood as a local supply and the importation of these bulky commodities requires the appropriation of considerable shipping and rolling stock. Shipping of petrol does not present great difficulties and sources of supply are often conveniently placed for possible theatres of war.

In 1922 experiments were carried out at Aldershot with the object of adapting existing cooking vehicles to the combustion of heavy fuel oil. It was found that horse-drawn cooking vehicles could not be adapted economically. Attempts were then made to achieve combustion of heavy oil on a trailer behind a mechanically propelled vehicle, but though the results were promising many technical difficulties were found with a vehicle of the trailer type. A prime mover was then tried with considerable success. But before these experiments were finished the development of mechanization made it certain that petrol would be in the possession of every unit and formation.

Experiments with petrol as the fuel supply for cookers were tried on two lines: (*a*) to atomize the petrol and present it as a gas mixture of which ninety-five per cent would be air; (*b*) to mix the petrol with air just before ignition, the petrol being ignited under pressure. The first method proved too expensive, but the second seemed likely to be efficient in the hands of troops and experiments with it are being continued.

The trailer has been accepted now as the most suitable vehicle, because when in store it does not immobilize an engine which might be used for a general service vehicle. Three sizes of cooking stoves are suggested for use: (1) A single-burner stove with which every armoured fighting vehicle would be equipped, to be used during operations when separated from Echelon B vehicles. It can cook for ten men. (2) A two-burner stove for Infantry Brigade H.Q., Cavalry Brigade H.Q. and Artillery Brigade H.Q., for whom no apparatus has been provided in the past. These stoves are designed also for carriage in pack so that they may be issued in convenient multiples for larger units where special conditions would make the general service type inappropriate. They are designed to cook for fifty men. (3) A general service type which is designed to cook for 250 men, but with the use of insulated cooking its output may be doubled. This type may be used as a stationary cooking range on the lines of communication or, mounted on a trailer, may be issued in multiples to mobile fighting forces.

Each of the stoves cooking for fifty men and for 250 men is provided with an oven, so that half the complement may receive roast, while the other have boiled or stewed.

While the cooking apparatus was in process of evolution experiments were made to determine the best manner in which food can be cooked and delivered in convenient quantities to the troops.

Tests were made with the hay-box cooking—now known as insulated cooking—at Aldershot in 1924. The crude haybox was found unsuitable and after many experiments boxes made of metal-faced 3-ply wood, known as plymax, and insulated with kapok wool, were found the most suitable form of insulator. The heat to which these boxes were subjected and the long periods that they were exposed to the corrosive action of the food which they contained, made the introduction of "staybrite" stainless steel imperative. Aluminium was found to be unsatisfactory in the shape and form in which it was required, while the saving in weight was inappreciable.

The size of the container in which the food was to be cooked and delivered was discussed for some time and it was finally decided that a one-gallon container and a six-gallon container were the most suitable volumes in which to issue the food, the one-gallon containers to be issued in pairs so that two kinds of food might be sent at the same time to the small parties for which they were intended.

The maximum quantity of hot food to be delivered to each man was settled at two meals, each of two pints, per day.

The kitchen trailers with their tractor vehicles will normally be brigaded under the Brigade Transport Officer with the other "B" Echelon vehicles. The location of the vehicles and their distance from the troops will depend on the military situation. They may conceivably stay with their units. When they are at rest the food will be cooked at any convenient time and then be placed in the insulated boxes to continue cooking when necessary. For ordinary insulated cooking it is only necessary to bring the food to the boil and its cooking, therefore, continues in the box. The food continues hot (140° F.) for ten to seventeen hours according to the size of the box; this system allows a very wide discretion as to when it shall be despatched to the troops. The food can remain in the boxes until the tactical situation, or the absence of congestion on the roads, permits it to be delivered to the unit.

DE LANGEN, C. D. **Stone Formation and Diet.** *Meded. Dienst. d. Volksgezondheid in Nederl.-Indie.* 1929, v. 18, 315-33. 1 diagram. [Dept. of Internal Diseases, Med. Univ., Batavia.]

The author finds that if rats are fed on a vitamin A-deficient or a vitamin A-, Ca- and protein-deficient diet stones develop in the following order, bladder, kidney and biliary; whereas FUJIMAKI states that on the latter diet the order of appearance of the stones is reversed. On these diets the urine very soon becomes alkaline and shows numerous leucocytes and bacteria. The stones show a great resemblance to the inflammatory stones of human pathology. Bladder stones are frequent in the tropics. Data from the Netherlands East Indies show that 67 per cent. of bladder stones occur in the age period 1-15 years, but in most cases symptoms are referred back to early childhood, and probably 80-90 per cent. of cases begin at this time. The sexes are affected in the rough relation of 7 males to 1 female. The nuclei of these stones consist of Ca and Mg phosphates, leucocytes and blood and resemble those produced experimentally. Keratomalacia is endemic in Java, but it cannot be definitely correlated with the diet of the country. The vitamin A content of the average diet in Java is sufficient. The source of vitamin A in the native population differs from that of the Europeans and Americans in being chiefly from vegetable sources. Intestinal disease is frequent in the tropics; and in sickness, especially in alimentary disorders, the only food given to the infant is pap food without any milk, so there is little vitamin A present. Cases of kerato-

malacia seen had all suffered from intestinal disorders for a long time. These infants receive a diet not only deficient in "A" but also in protein and phosphorus. One is struck with the bad nutrition of infants with keratomalacia or bladder stones, and in other cases the urine complaints can be traced back to a period when the child suffered from diarrhœa, etc., for a long time. These findings are made in patients from all over Java and explain the endemic distribution of bladder stone better than any theory of the distribution of vitamin A-containing substances in the food of the district. The intestinal disorders affect the absorption of the little vitamin A in the diet and also interfere with the water metabolism, so that the urine becomes concentrated and therefore liable to primary crystallization. The improvement of infants' diet in Europe and America, particularly in the greater use of fresh cow's milk, has caused a gradual disappearance of bladder stones in these regions. The incidence of stones in the tropics should be made to diminish by acting on these principles.

H. N. H. GREEN.

Reprinted from "Bulletin of Hygiene," Vol. 5, No. 5.

PILLAT, A. **The Frequency of Deficiency Diseases of the Eye due to Lack of Vitamin A in a Military Camp north of Peiping.** *Nat. M. J. China.* 1929, v. 15, 585-91. [3 refs.]. [Peiping Union Med. College, Peiping, China.]

Of 3,000 soldiers in a military camp north of Peiping, 209 were found to be suffering from some form of eye disease, the high incidence of which was considered to be due chiefly to the lack of vitamin A in the camp diet, although the severity of the northern winter for soldiers from the south was probably a contributory factor. "Nightblindness, pigmentation of the semilunar fold and of the fornix conjunctiva, Bitot's spots and wrinkling of bulbar conjunctiva, prexerosis of the cornea and real keratomalacia were found. The high number of keratomalacia cases, 13 per cent. of the total number with deficiency diseases, is remarkable. . . . Prophylaxis by a diet of green vegetables, fat or cod-liver oil would be easy."

A. F. WATSON.

Reprinted from "Bulletin of Hygiene," Vol. 5, No. 5.

BOASE, A. J. **Report on the Incidence of Pellagra in Uganda.** *Uganda Protectorate Ann. Med. & San. Rep. for Year ended 31st Dec.*, 1928. Appendix No. V. 89-94, 4 figs. on 2 pls.

The scale of diet for native prisoners in Uganda laid down in the Prisons Ordnance is as follows: maize flour, ground and sifted, or rice unpolished, 24 oz., beans, 4 oz., ground-nuts or sim-sim, 2 oz., salt, ½ oz. In addition, a weekly issue of 2 lb. of fresh vegetables or germinated beans, or two lemons or limes. Pellagra and xerophthalmia occurred in certain prisons in which the diet was in accordance with the authorized scale, though neither disease was reported from the prisons where food supplies

depended largely on local produce and where fresh vegetables largely replaced maize flour in the diet. An experimental diet, of which the chief features were the introduction of a meat ration and insistence on a daily issue of fresh vegetables, led to the disappearance of pellagra and xerophthalmia in the two prisons in which it was instituted. It is claimed, therefore, that the dietetic advantages of local produce, notably sweet potatoes, over imported maize flour are clearly established. The utilization of local foodstuffs should therefore be encouraged, and, if revision of the scale of diet is contemplated, a greater latitude of choice should be allowed to local authorities. In this connexion it appears that each prison should be made self-supporting and that the first claim on prison labour should be for purposes of food cultivation.

[The simultaneous occurrence of both pellagra and xerophthalmia and the cure of both diseases by fresh vegetables receive explanation in recent work of E. MELLANBY (see *Kenya M. J.*, in press, and *Brit. M. J.*, 1930, Apr. 12th, 677), which shows the condition of sub-acute combined degeneration of the spinal cord associated with pellagra (and accentuated by high cereal diets) and infective conditions of the type leading to xerophthalmia are cured by supplying adequate amounts of vitamin A in the diet.]

DOUGLAS C. HARRISON.

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Reviews.

MEDICAL ANNUAL FOR 1930. Bristol: J. Wright and Son. 1930. Pp. viii + 676. Price 17s. 6d.

Surgery.—This volume, as usual, gives a most interesting and useful survey of the advances in surgery for the past year.

Amongst the many subjects dealt with, the following are possibly of special interest to those practising surgery in the Service.

(1) Carcinoma. The improved methods of dealing with malignant disease by radium are described and quite promising results are recorded for growths of the tongue, mouth, tonsil, larynx and breast. In cancer of the rectum the results are much less certain. Reference is also made to the treatment by lead, with the warning that it should not be used before radium, or the activity of the growth may be enhanced.

(2) Burns. A good practical account is given of the treatment by tannic acid which appears to have superseded the older methods. Another treatment suggested is by spraying on horse-serum, which is said to lead to less scarring.

(3) Fractures. A valuable paper giving the end-results of a long series of fractures is summarized.