

There appears to be some confusion between the functions of the Field Ambulances of the Territorial Force, and the Voluntary Aid Detachments which are to take the place of the clearing and stationary hospitals which do not exist in the Territorial Force.

One would have imagined that the Women's Detachments would not have been nearer the firing line than the stationary hospital zone; but it appears that the author's view (from remarks on p. 51) is that Women's Detachments will be employed in Field Hospitals.

The diagram on page 9 is rather vague, and would appear to introduce a new transport problem, in addition to that already connected with the moving of the clearing hospital.

W. J. L.

BRITISH RED CROSS SOCIETY.—Nursing Manual No. 2. By James Cantlie. London: Cassell and Co., Ltd. 1912. Pp. xv and 207. Price 1s. net.

Nursing Manual No. 2 of the British Red Cross Society is written as a guide to suit the requirements of the members of the Voluntary Aid Detachments of the British Red Cross Society.

It does not claim to be a systematic work on nursing, but as a manual for an untrained "nurse" (male and female) it appears to be too elaborate, and enters too much into medical details.

Much space is taken up with a description of simple duties which might be left to the common sense of the individual, and in places the directions for the performance of practical nursing work are insufficient, while methods are advocated which are hardly up to the modern standard.

Simple and direct instruction and avoidance of profuse detail are preferable in the instruction of the members of these Detachment. The advertisement on the first page is likely to attract buyers from among the Women's Detachments.

H.

Current Literature.

Hermann and Perutz Serum Reaction.—Porges found that syphilitic sera give precipitates when mixed with a watery solution of sodium glycocholate. Most experimenters, however, have obtained uncertain results with this method. Hermann and Perutz have thus modified the process (*Med. Klinik.*, 1911, No. 2).

They employ two solutions:—

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|---|---------|-------|-------|
| (1) Sodium glycocholate | | 2.0 | gram. |
| Cholesterin | | 0.4 | „ |
| Alcohol, 95 per cent | | 100.0 | „ |
| (2) A freshly prepared 2 per cent watery solution of sodium glycocholate. | | | |

The serum is inactivated by heating to 55° C. for half an hour; 0.4 c.c. of serum is mixed with 0.2 c.c. of (1) solution diluted with 19 times its bulk of distilled water, and 0.2 c.c. of (2) solution is added. The mixture is shaken vigorously, and is allowed to stand at laboratory temperature for twenty hours, when a precipitate of large or small

flocculi appears in specific sera. In only one of 89 non-syphilitic sera did a positive reaction occur; 108 of 134 syphilitic bloods answered to the test; 102 of these were examined by Wassermann's method, of which 72 were positive; 76, however, were positive to Hermann and Perutz' test.

Jensen and Feilberg (*Berl. klin. Woch.*, June 3, 1912, p. 1086) examined 63 non-specific sera by this process. They all re-acted negatively. The sera of 30 persons in whom syphilis was latent, were negative both to Wassermann and to the above-described method. The sera of 60 patients who were showing signs of syphilis were tested, 43 were positive and 17 negative. The Wassermann reaction was positive in all in which it was employed, 55 in number. Hence the Hermann-Perutz test is not so delicate as the Wassermann. The authors consider that a positive response is diagnostic of syphilis, but a negative reaction does not exclude the infection. The Wassermann test should be applied to such sera.

Gammeltoft (*Deut. med. Woch.*, October 10, 1912, p. 1934), following Hermann and Perutz technique, has made 200 examinations of the blood of 156 patients; 84 sera negative to Wassermann were negative to Hermann and Perutz; 49 positive to Wassermann were positive to Hermann and Perutz; five cases with a history of lues were positive to Hermann and Perutz, though negative to Wassermann. In three the contrary occurred. In only one instance (cancer of the liver) was a positive reaction observed with a non-luetic serum. Gammeltoft thinks that the method is worthy of trial on account of its simplicity.

C. B.

Wassermann Reaction.—Hahn (*Berl. klin. Woch.*, December 2, 1912, p. 2340) reports that 85 per cent of 1,200 syphilitic patients gave a positive reaction, six to twelve months after the disappearance of the last signs. A year later 82 per cent were still positive. Hahn says it is irrational to continue specific treatment until the serum reaction has become negative. He thinks, too, that it is bad practice to administer salvarsan in latent syphilis solely because the blood-reaction is positive.

C. B.

Chemical Examination of Cerebrospinal Fluid.—To obtain the Nonne-Apelt reaction, 1 c.c. of cerebrospinal fluid is mixed with a saturated watery solution of ammonium sulphate. In cerebrospinal syphilis a turbidity appears in a few minutes time, and a flocculent precipitate is deposited in twenty-four hours. In some normal fluids slight opacity may be observed, and in early specific cases the reaction may be negative. Lange (*Zeitschrift für Chemotherapie*, I., i., p. 44) tests the cerebrospinal fluid with colloid gold prepared according to Zsigmondy's method; 120 c.c. of pure distilled water are heated to boiling point in a Jenner flask; 25 c.c. of potassium chloraurate solution prepared by dissolving 6 grm. of "aurum crystallatum," Merck ($\text{AuCl}_4\text{H} \cdot 3\text{H}_2\text{O}$) in 1,000 c.c. of water containing 3 or 3.5 c.c. of 0.18 normal solution of pure potassium carbonate, are added. The flame is removed, and 3.5 c.c. of a dilution of 0.3 c.c. of formalin to 100 c.c. of water are poured in.

Under vigorous shaking the pale rose colour is soon transformed into the deep purple of the colloid gold. This colloid gold solution is a very delicate test for organic impurity of water. Hence special precautions must be taken in distillation, and in ensuring the purity of all vessels. Electrolytes precipitate colloid gold. If, for instance, a little sodium chloride be added, the fluid becomes colourless in the course of a few hours, the gold having been deposited as a black layer on the bottom of the vessel. Zsigmondy found that the presence of albuminous bodies prevents this precipitation, and that the action is quantitative. Each protein has a different value. Hence colloid gold is a means of their identification. A ten-fold dilution of the cerebrospinal fluid is made in 0.4 per cent sterile salt solution. From this 20-, 40-, 80-, &c., to 40,000 fold dilutions are prepared. One c.c. of each of these is placed in a tube, and 5 c.c. of the colloid gold fluid is added. The tubes are shaken. The results are noted next morning. Normal cerebrospinal fluid, if unmixed with blood, leaves the gold quite unchanged in all dilutions. Pathological cerebrospinal fluids precipitate the gold. The original purple-red colour is changed successively to lilac, dark blue, light blue, and at last, if the precipitation is complete, the fluid becomes colourless. It is a curious fact that this does not occur with the lowest dilutions. For example, in a case of incipient tabes, the 1 in 10 remained unchanged; the 1 in 20 was bluish red; the 1 in 40 light blue; the 1 in 80 colourless and clear, hence the reaction was complete; the 1 in 160 slightly blue; the 1 in 320 lilac; and so on. All the dilutions above 1 in 2,560 were unchanged. The strongest reactions occur in cerebrospinal syphilis, tabes, and general paralysis; that is, in cases in which the fluid gives a marked Wassermann response. Lange has examined the cerebrospinal fluid of manifest and latent syphilis in which the test was negative. He believes that it indicates a localization of the spirochætes in some part of the central nervous system. If this be correct, then that system is implicated in the early stage of syphilis much more frequently than is supposed. If headache is present the reaction is almost always positive. The presence of blood or pus in the cerebrospinal fluid changes the colloid gold, but the precipitation takes place only in the highest dilutions, 1 in 2,000, to 1 in 20,000, which distinguishes it from a specific reaction.

C. B.

Human Trypanosomiasis in Nyasaland (*Sleeping Sickness Bulletin*, No. 39, vol. iv, August, 1912).—The first case of human trypanosomiasis in Nyasaland was found in the West Nyasa District in October, 1908; 60,000 natives were then examined, but no infected persons discovered. In December, 1908, Captain Hardy, R.A.M.C., one of the medical officers who made the inspection, fell a victim. He believed that he contracted the disease near Lake Nyasa. Since then forty-seven cases have come to notice. The trypanosome concerned is *Trypanosoma rhodesiense*, which is a distinct species nearly related to *T. Brucei* and *T. gambiense*. It is transmitted by *Glossina morsitans*. The incubation of the human malady is seven to fourteen days. The course is more severe and rapid than the *T. gambiense* infection. The clinical picture of sleeping sickness is wanting. Salvarsan was used in five advanced cases without benefit. Atoxyl and soamin also failed

to cure. The difference in the habits of *G. palpalis* and *G. morsitans* modifies preventive measures. *Palpalis* haunts narrow belts near water. *Morsitans* migrates over large tracts of country.

The virulence of *T. gambiense* strains and human trypanosomiasis in Brazil are also subjects of interest reviewed in this Bulletin.

C. B.

Plague.—In the *Bulletin Office International d'Hygiène Publique* for September, 1912, there is a concise summary of recent work on plague, the outcome of the Manchurian epidemic. This outbreak began in November, 1910, and subsided in March, 1911. More than 40,000 persons perished. The fatality was 100 per cent. Starting from the north of Manchuria, it extended east and south, chiefly along the lines of commerce. The disease was of the pneumonic form exclusively. In fact, the distinction between it and pneumonia could be made only by a microscopical examination of the sputum. Its incubation period was two to five days. The cultures of the plague bacillus of these pneumonic cases resembled those of bubonic plague of other parts of the world, and induced the bubonic disease when inoculated beneath the skin of animals. Animals succumb to pneumonic plague if emulsions of the bubonic bacillus are introduced into their respiratory passages.

Dr. Wyzniekiewitsch infected himself in the plague laboratory of Kronstadt with a growth of the bubonic bacillus. He died of plague pneumonia.

Another worker in the same laboratory, Dr. Schreiber, succumbed to the pneumonic form, contracted by sucking up the contents of a pipette filled with a similar culture. Dr. Padlewsky cut his finger while performing the autopsy of the latter. An axillary bubo was the result.

Zabolotny pricked himself with the needle of a syringe which contained fluid aspirated from a lung of a pneumonic plague cadaver. Two days later he suffered from a bubo in the armpit and fever. Thereupon he received an injection of 70 c.c. of anti-plague serum. He recovered. The plague bacillus of Manchuria, however, was more virulent than other strains. The virulence was not destroyed by a night's exposure to a temperature of -30° C. The micro-organism has been recovered from corpses a year after interment in parts where the ground is frozen for many months. This is an important epidemiological fact, for the marmot which inhabits these districts, known in Siberia as the tarbagan, is sometimes carnivorous, and may be infected by feeding on a plague cadaver. Rats played no part in the Manchurian outbreak.

Andrew examined 3,000 rats (*Mus decumanus*) from the north of China. None were infected. More than 30,000 from the south of Manchuria were also free from plague. Six per cent of these were *Mus rattus*. Of recent years hunting the tarbagan has been a great source of profit on account of the enhanced value of its skin. Towards the third week in October, 1910, 10,000 tarbagan hunters were congregated at Manchuli and Khailar. The first case of pneumonic plague arose among these men at Manchuli on October 12, 1910. Twenty days later the disease declared itself at Kharbin among those who were returning to their homes. At this time of year the thermometer falls 40° below

zero; hence the people crowd together in the smallest possible space to ensure warmth. Now plague pneumonia is spread by the droplets of saliva and sputum ejected in the form of spray by the patient when he coughs or speaks. Zabolotny placed agar plates at a distance of half to one metre from a pneumonic plague patient who was coughing. Numerous colonies of *Bacillus pestis* developed. Martini caused rats to inspire an emulsion of infected rat liver in the form of a spray. They succumbed to plague. Zlatogoroff found living plague bacilli in sputum which had been dry for three weeks.

Hence those in close association with persons suffering from plague pneumonia must receive plague bacilli into their respiratory passages, unless these are protected by the use of a veil over the nose and mouth.

To recapitulate, the epidemic had its origin in an epizootic of plague in the tarbagans. The hunters became infected while skinning these diseased animals. It assumed the pneumonic form in these men. The dense overcrowding and total absence of ventilation in their winter dwellings explain the frightful rapidity with which the scourge spread from man to man. The domestic animals also contracted plague. A donkey and nine mules died of plague pneumonia. Three persons who had charge of them were attacked with fatal pneumonic plague. Horses, pigs, and dogs are said to have been infected. Klodnitzky thought that the camel is susceptible to the malady, and that it is able to transmit the disease to man. Schurupoff's experiments throw doubt on this. The three camels which he tested were quite refractory to very large quantities of plague cultures. The hibernating marmot acts as a reservoir of the plague bacillus. Du-Jardin-Beaumetz and Mosny find that this animal during its winter sleep may live one hundred and fifteen days before dying from the infection. This may be the reason why there are endemic areas in Mongolia and Astrachan, where these rodents occur.

It is possible that there are human plague carriers. Christie reported a case of a woman, who, though in good health, appeared to give the disease to her relatives.

Inoculation with anti-plague vaccine is not of so great prophylactic value against pneumonic as against bubonic plague. At the Plague Conference at Mukden, Fang-Chin reported 4 deaths from pneumonic plague in 439 inoculated. Uyama inoculated 1,923 soldiers. No cases occurred among them. Kasai observed eight attacks in 2,832 people inoculated. Worrell treated 80 persons with vaccine. They all escaped. Seven deaths from plague were recorded by Bogski in 8,865 inoculated. Haffkine injected a mixture of his prophylactic and anti-plague serum beneath the skin of 132 people at Kharbin; 22 contracted plague and died; 10 of these, however, were tuberculous. Prophylactic injections of anti-plague serum seemed effective in warding off the disease in four out of five people who had been exposed to infection by sleeping in the same room as a patient. The curative action of the serum in the Manchurian outbreak was not noted in any cases. According to Strong, when plague bacilli are present in the sputum, the time has passed for its administration.

At the beginning of the epidemic several physicians lost their lives from plague pneumonia. After Strong and Teague had shown that a veil of gauze covering the nose and mouth prevented the access of the

spray, scattered by the patient, to the respiratory passages of the attendant, and this precaution was adopted; the incidence among the hospital staff became much lessened. The patient should also wear a veil of three thicknesses of gauze, which must be kept dry. If it is moist it no longer arrests the droplets of sputum and saliva disseminated while coughing, &c. C. B.

Poliomyelitis transmitted by Stomoxys Calcitrans.—Rosenau (*Public Health Reports*, September 27, 1912, vol. xxvii, No. 39, p. 1593), allowed a number of the blood-sucking flies, *Stomoxys calcitrans*, to feed on monkeys suffering from anterior poliomyelitis in its various stages. He then caused these flies to bite healthy monkeys at different intervals. Six of these animals contracted the disease. The virus of anterior poliomyelitis appears to undergo elaboration in the stomoxys, for some period, less than twenty-one days, must elapse before the flies are capable of transmitting the infection.

C. B.

A Study of the Gases of Emmental Cheese.—William Mansfield Clark, Ph.D. (United States Department of Agriculture, Bureau of Animal Industry, 151, 1912) states it is well known that the "eyes" or cavities of Swiss or Emmental cheese are its chief characteristics, and that their size and spacing determine to a large extent the commercial value of the cheese.

To the biological chemist the subject is of great interest, because of a supposed localization of reactions generating considerable quantities of gas, and because of the production of a plasticity among the colloids of the cheese, which makes possible the peculiar mould formed in the cavities.

The experimental work described in this bulletin is concerned with the investigation of the gases which are immediately concerned in the process of the eye formation.

The method adopted of collecting the gases from the cavities is very ingenious, and briefly consists of a glass cylinder into which samples of cheese taken by a trier are introduced, the cylinder being connected to a mercury vacuum pump. The gases are then pumped from the cheese and delivered into the cylinder. The method is illustrated by a very clear diagram.

The author summarizes his results as follows:—

(1) The normal "eyes" in Emmental cheese are produced exclusively by carbon dioxide and nitrogen, and of these only the carbon dioxide is of significance.

(2) The nitrogen accompanying the carbon dioxide in normal eyes is that of air originally occluded in the curd at the time of manufacture.

(3) There sometimes occurs during the initial fermentation an evolution of gas characterized by the presence of hydrogen. This is believed to be due to the gaseous fermentation of sugar.

(4) The hydrogen from such an initial fermentation may sometimes linger to contaminate the gas of normal eyes.

(5) The two fermentations are distinct and are characterized by their

gaseous products. The one is detrimental, the other that demanded of a good Emmental cheese.

(6) High oxygen-absorbing power combined with low permeability of the cheese to air renders the interior thoroughly anaerobic, and consequently favourable to the growth of anaerobic bacteria.

(7) A comparison between the amount of carbon dioxide evolved and the total volatile fatty acids shows that the activity of the propionic bacteria of Von Freudenreich and Jensen is not sufficient to account for all the carbon dioxide found.

(8) It was found that cheese is capable of retaining a very large amount of carbon dioxide.

(9) The possibility is suggested that there are two phases in the formation of normal eyes; a saturation of the body with carbon dioxide and an inflation of eyes. The bearing of this hypothesis on the production of gas by a specific cause is discussed.

W. W. O. B.

Purification of Water by the Darnall Filter.—Lieutenant-Colonel Reichelderfer, Chief Surgeon, N.G.D.C. (*Military Surgeon*, September, 1912) gives an interesting sketch of the application of this method of purifying water in camp. The water-supply was derived from a main, but was found to be highly contaminated. A battery of Darnall filters was constructed as follows:—

Twelve empty whisky barrels were placed on the upper platform of a scaffold frame, on the middle platform immediately below the barrels a row of Darnall filters was placed, and on the lowest platform a row of whisky barrels for storage purposes. From the main the water was run by hose into the upper tier of barrels where alum was added and the water allowed to settle. A small pipe opening six inches above the floor of the barrel drew off the water into the Darnall filter, from which it was run into the storage barrels. The sediment from the upper barrels was drawn off by a hose and run into a soakage pit. A trained orderly and four fatigue men supervised the working of the plant, which could have supplied 3,500 to 4,000 men. The cost was about £21.

C. E. P.

Crude Carbolic Acid as a Larvicide.—Wise and Minett (*Journ. Trop. Med. and Hygiene*, December 2, 1912) report very favourably on the use of crude carbolic acid as a larvicide for pools which cannot be drained and are too small to be stocked with fish. They used one teaspoonful to each two cubic feet of water, which gives a strength of approximately 1 in 16,000; this was found sufficient to kill all larvæ and pupæ in three hours, without giving rise to the risk of poisoning cattle, as 12½ gallons of water only contained 1 dr. of the acid. Crude carbolic acid was found to be more efficient as well as cheaper than the purified acid.

C. E. P.

Motor Ambulance Wagons for Bulgaria.—The *Allgemeine Automobil-Zeitung* (No. 49, of December 8, 1912), states that Bulgaria had ordered ten 20 h.p. motor ambulance wagons from the Daimler Company, for immediate delivery.

The chassis is of the one-ton Daimler general utility type; the engine has four speeds and a reverse, the maximum speed on a fair level road is 20 miles per hour. The front wheels have pneumatic tyres and the back ones solid rubber tyres. The motor power is supplied by benzine, the consumption of which is calculated to be roughly $4\frac{1}{2}$ gallons for 65 miles; the reservoir has a capacity of 90 litres (nearly 20 gallons). The wagon is fitted with acetylene lights and also paraffin lamps. A supply of drinking water is carried in a tank. The wagon carries four stretchers, these are made of tubular steel and canvas and have specially designed springs. The wagon can carry four lying-down patients or four sitting-up and two lying-down. The sides are covered in with canvas curtains which can be rolled up.

C. E. P.

The Care of the Wounded. — Lieutenant-Colonel Boissonnet (*Revue Milit. Gén.*, July and August, 1912) gives a sketch of the medical arrangements and the condition of the wounded immediately after each of the principal battles during the war of 1870, and concludes that, in spite of the advance in scientific knowledge, the wounded were not so well looked after in 1870 as in 1806 and 1807. This was entirely due to the faulty medical organization. After the battle of Wörth the surrounding villages had from 200 to 4,800 wounded in each. All kinds of buildings, even stables and sheds, were crowded with wounded; but in many cases it was impossible to find any kind of shelter, and many of the wounded had to be left in the open. Dressings were deficient, and there was no food left in any of the villages. Some nourishment was obtained for the wounded by using portions of the horses killed in action. To add to the misery a heavy thunder storm broke during the night and drenched the wounded, even those under cover, as all the roofs had been more or less damaged during the fighting.

The conditions after the other battles were quite as bad, or even worse, than after the battle of Wörth. The number of medical officers and orderlies was insufficient to attend to the masses of wounded; dressings and blankets were everywhere deficient; the only transport available consisted of springless country carts with some straw on the floor. The wounded had to be packed into all available buildings, but the greatest suffering was caused by the impossibility of obtaining any kind of nourishment for the wounded.

Boissonnet then goes on to point out that in a future war the same aggregation of wounded is to be feared, with similar suffering and disastrous results. He insists on the necessity of having a well-organized system of transport, so that all wounded who can be moved may be sent off to a distance as soon as possible. Boissonnet says that the French army only possesses 50,000 stretchers, and that at least 200,000 should be provided, as he estimates that it will be necessary to evacuate this number of sick and wounded during the first month of hostilities. He thinks that a sick or wounded man once placed on a stretcher should not leave it till he reaches a bed in a properly equipped hospital. Each medical unit which admits a patient on a stretcher should issue a stretcher to the conducting party which brought the patient. A stretcher once used for a patient will not be available for re-issue for some time, probably a month, as it must be thoroughly cleaned and disinfected.

Only a few permanent hospital trains are available, and Boissonnet thinks that owing to the number of supply and ammunition trains which must be sent up even the "trains sanitaires improvisés" will not be forthcoming, so that the evacuation of wounded will have to be carried out by empty supply trains returning to the base.

General de Lacroix adds a note in which he concurs in Boissonnet's views and says that the number of hospital beds is quite insufficient. Including those provided by voluntary aid societies there are only some 30,000 available for the army in France, while he says at least 200,000 will probably be required.

C. E. P.

The Influence of Certain Camp Epidemics upon the Geographical Expansion, Political History and Military Policy of the United States.—Under the above title, Major E. L. Munson, Medical Corps, U.S.A., read an excellent paper at the Twenty-first Meeting of the Association of Military Surgeons (*The Military Surgeon*, November, 1912). He began by pointing out that the influence of camp disease upon military operations, as demonstrated in practically every conspicuous and momentous period of the world's history, has unquestionably never been clearly or fully understood, and has received little if any serious consideration from the standpoint of its military, political and national significance. Historians usually pass over the existence of epidemic diseases with merely a brief mention, and do not lay stress on the fact that in many cases the military weakness which influenced the commander's plans was the result of preventable disease.

He then briefly referred to a number of historical examples, e.g., the destruction of the Assyrian host under Sennacherib, which saved the Israelites; the dysentery which ravaged the armies of Xerxes and largely helped to save the Greeks; the typhus fever which forced the Spanish to abandon the siege of Metz in the sixteenth century; the cold which destroyed Napoleon's Grand Army in Russia.

The two campaigns which were decided by preventable disease and which exercised an immense and far-reaching influence on the future of the United States, were the Quebec expedition and the destruction of Napoleon's veterans in San Domingo.

The invasion of Canada was one of the earliest strategic moves in the war of the Revolution. Canada at the time only had a garrison of some 550 men; the French Canadians were not expected to make any resistance, while reinforcements could not be sent from England till the following spring.

Benedict Arnold was given command of a force of roughly 1,100 men and set out from Boston on September 21, 1775, with the idea of surprising Quebec, which had no garrison, but contained a large supply of war stores. On October 12, the force, through disease and exposure, was reduced to 950. Smallpox and dysentery attacked the force and obliged Arnold to halt and to send back a large number of sick with a strong escort. Only 510 men arrived in front of Quebec and these were in rags. Arnold's advance had also become known and Quebec had been placed in a fair condition to resist attack. The result was that the attack was repulsed. Thomas, who had assisted in capturing Montreal, arrived before Quebec

with only 700 efficient men and 900 sick out of a force which had originally numbered 5,000. The garrison of Quebec made a sortie and obliged him to make a hurried retreat, abandoning many sick and most of his stores. This ended the invasion of Canada. Had the American troops been healthy nothing could have prevented them from capturing Quebec and with it the whole of Canada.

Immediately after the peace of Amiens in 1802, Napoleon, wishing to establish a French Colonial Empire in the West, collected 20,000 veteran troops and despatched them to San Domingo, with the intention of annexing this island and then occupying Louisiana, in order to obtain possession of the mouths of the Mississippi, which had been ceded to France in 1800 by Spain. This force quickly subdued San Domingo and was about to move on to Louisiana when yellow fever appeared among the troops. Twenty generals died at once and the soldiers perished in thousands. A reinforcement of 10,000 men suffered most severely. Fifteen thousand men died in two months, and the survivors were unfit for active service. Being unable to hold Louisiana and fearing to lose it to the English, he sold it for £3,000,000 to the United States, which thus doubled its territory. The dream of founding a French-American Colonial Empire was thus shattered by an epidemic of yellow fever which ought to have been foreseen and might, even at that time, have been to a certain extent prevented.

C. E. P.

Paper Negatives for X-ray Pictures.—Stabsarzt Dr. Hufnagel (*Deutsch. militärärzt. Zeit.*, October 20, 1912) recommends bromide paper instead of plates for taking X-ray pictures. The exposure should be increased by about one half, as the paper is not quite so sensitive as a plate. The paper is used in exactly the same way as a plate, but is not quite so easy to manipulate. Paper has the advantage of being lighter, unbreakable and cheaper than plates.

C. E. P.

Fitting of Boots in the United States Army.—General Order, No. 26, August 16, 1912, gives very full directions as to how soldiers' boots are to be fitted. When being measured the soldier is to stand bare footed, with a 40 lb. load on his back and bearing the entire weight on the foot which is being measured. The length of the foot is taken by the usual form of sliding scale and 2 is added to obtain the size length of the boot. The circumference of the foot at the base of the great toe is next taken, and the result is referred to a table which shows the corresponding width of boot. The selected boot is then put on, tightly laced up and the soldier, carrying a 40-lb. load, bears his whole weight on each foot in turn. The fitting officer is then directed to press on the leather of the upper and to see that there is not less than $\frac{3}{4}$ in. of unoccupied space in front of the toes and that the leather does not wrinkle. A record of the proper size for each man will be kept. Special boot stretchers with adjustable knobs are supplied for fitting men who have bunions. If the boots are not quite comfortable they are to be wetted and then worn for an hour's walk. When taken off a little neat's-foot oil is to be rubbed into the leather to prevent its hardening and cracking.

C. E. P.

The Establishment of a Voluntary Aid Hospital.—Kom. Rat. Wildhagen (*Das Rote Kreuz*, October 13, 1912), President of the Kitzingen Branch of the Bavarian Red Cross Society, read a paper showing the difficulties which may be encountered when attempting to establish a Red Cross hospital on the outbreak of war. The Kitzingen branch had made certain preparations, and its Committee had reported to the Central Committee that they were prepared to open a hospital of thirty-five beds on the tenth day after mobilization. During 1911 the Committee decided to equip the hospital and get it ready for the reception of patients. Wildhagen was entrusted with the arrangements. On going into the matter he found that the bedding in store was insufficient, that funds were wanting, and that none of the contractors who had agreed to supply necessary articles could do so in the time specified. Wildhagen points out in his paper that the actual state of preparedness was very different to what the Committee believed it to be, and that in case of war, when railway traffic would be disorganized, it would be impossible to make up for lost time. In this case he was able to collect the necessary funds and equipment, but could not report the hospital ready for the reception of sick till long after the time fixed.

C. E. P.

Army Nursing Sisters in the German Army.—A press notice (*Der Tag*, November 28, 1912) states that during 1913 six nursing sisters are to be appointed. For the Prussian Army it is intended to have an establishment of sixty nursing sisters. In 1907, twenty were appointed at a salary of £20 a year. In 1908, sixteen were appointed and the salary was raised to £34 10s. with a grant of £7 10s. for outfit on first appointment. An increase in the establishment will probably be sanctioned next year. The introduction of nursing sisters has been followed by most satisfactory results in regard to the care of the sick.

C. E. P.

Correspondence.

REPORT ON THE METHOD OF FIXING DRESSINGS FOR DEEP SUTURES.

TO THE EDITOR OF "THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS."

SIR,—With reference to the article under the above heading published in the November Journal, I would venture to suggest that the following method, which has been in use in this Hospital for the past four years, is not only equally efficacious but at the same time simpler and quicker. It has the additional advantage of being applicable to any part of the body, which the method described apparently has not. The following is the method used here: The various layers are sutured in the ordinary way, and then a continuous subcuticular silk-worm gut suture is inserted